The Effect of Work Place Spirituality, Self Efficacy and Knowledge Sharing towards Academics Research Productivity

Michael Ananda[1], Hafid Abbas[2], Mahmuddin Yasin[3]

[1,2,3] *Postgraduate Program, Universitas Negeri Jakarta, Indonesia*
ninomafosta@outlook.com

Abstract

This research aims to find out more about how self-efficacy and workplace spirituality can have a direct or indirect influence on lecturers who consider themselves productive in conducting research, through knowledge sharing as a mediator that should be considered as a critical supporting element. Knowledge sharing behavior has been proven by previous experts to be able to contribute to the creation of new knowledge and collective intelligence that can increase individual and group productivity. Self-efficacy in this study consists of knowledge self-efficacy – which includes the willingness for lecturers to share knowledge both explicitly and tacitly with colleagues and also the institution where they are sheltered – and research self-efficacy, which influences lecturers to be more productive in conducting research. In the work environment at higher education institutions, spirituality in the workplace describes the daily life of lecturers as educators who feel that their work provides a positive boost from a sense of self-worth, and meaning in their work. This research was conducted at two higher education institutions in the city of Baubau, Southeast Sulawesi, namely the University of Dayannu Ikhsanuddin and the University of Muhammadiyah Buton. The sample included 194 permanent lecturers, and the Partial Least Squares approach through SmartPLS was used as an analytical tool. The results show that knowledge self-efficacy and spirituality in the workplace have a direct and significant effect on knowledge sharing. Knowledge sharing and research self-efficacy also have a direct effect on research productivity. In addition, knowledge self-efficacy and workplace spirituality have a significant indirect effect on lecturer research productivity.

I. Introduction

Good knowledge management by the organization will allow individuals in it to always be motivated to be able to update, use and share their knowledge(Kianto, Vanhala, & Heilmann, 2016). Therefore, it is very important to share knowledge with each other. Because by sharing knowledge, organizations are likely to be able to develop competitive advantages which are certainly expected to be able to overcome the complexities of a dynamic environment through increasing intellectual capital, through the process of exchange and creation of knowledge.(Phung, Hawryszkiewycz, Chandran, & Ha 2019). This is reinforced by the opinionAbu-Shanab & Subaih (2019)that knowledge can enrich and increase its competitive status if the organization is able to manage its knowledge appropriately and efficiently to answer challenges and optimize opportunities that arise from the local and global environment.

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Currently, Indonesia as a nation is required to mobilize all the potential of existing human resources to maintain its existence in the midst of intense competition against other nations. According to data released by the Organization for Economic Cooperation and Development (OECD) in 2019 which is shown in Figure 1.1 below, Indonesia's ranking in terms of reading ability, numeracy and scientific ability is below the set standards. Indonesia is ranked 74th out of 79 countries surveyed. As it is known that the OECD set the number 489 as the standard score for the assessment. Meanwhile, Indonesia received a score of 371 for reading, 379 for mathematics, and 396 for science ability(OECD, 2019).
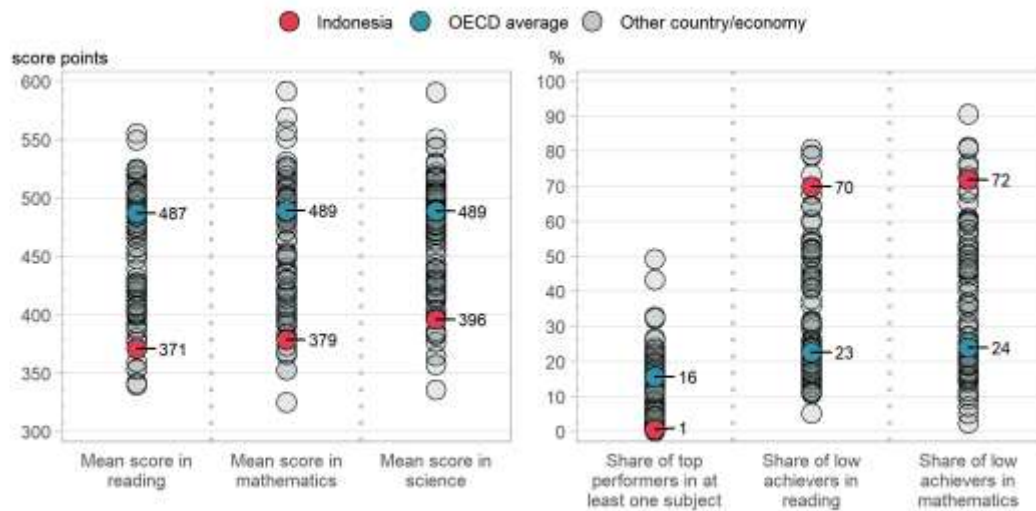
Source: OECD (2019)
Figure 1. *Snapshot of reading, math and science performance*

Seeing this phenomenon, like a big nation, we must realize that this fact is an alarm 'wake up call' for the reflection of the quality of education in Indonesia in general. So it is deemed necessary to create a sustainable educational environment system that is a concern in an important strategy in placing a competitive position(Knapp, 2010). Developing knowledge is a critical factor in an effort to answer these challenges, considering that Indonesian human knowledge is determined by a good education system. It is a shared obligation for us, especially academics, to work together to improve educational standards so that they are in line with what is expected in order to achieve national competitiveness, considering that knowledge is considered as the only resource that determines excellence which is crucial to competitiveness.(Suppiah & Sandhu, 2011).

At the individual level, spirituality can be seen as an affective and cognitive experience: an employee feels and believes in a spiritual connection with work and the workplace.(Petchsawang & Duchon, 2012). That's why spiritual transformation is so important, not only because of its collaboration with employees' personal growth, but also because of its ability to build a psychological contract between employers and employees and make employees feel valued, both on and off the job.(Mohamed & Ruth, 2016). Spirituality does not directly shape knowledge sharing behavior but can have an impact on the perspective of every educator to accept and respect the institutional culture(Rahman, Fatah, Hassan, & Haque 2020).

A lecturer as an educator is required to have the highest academic qualifications to carry out the tridharma of higher education (Education, Research, and Community Service) to the fullest. However, for one reason or another, not all lecturers are able to do it optimally. Perhaps the obstacle is that he is busy in teaching, so he no longer has time to

carry out research and community service activities. As a result, many lecturers are not able to reach the maximum rank and reach the highest functional position.

Seeing all the obstacles and obstacles that exist, in order to realize the ideals of Indonesia Gold in 2045, it requires enthusiasm, synergistic solidarity between all elements and the hard work of all the nation's children. The character of an educator is the ability that is manifested explicitly or implicitly in the behavior of someone who is willing to consciously try to be sincere and selfless in sharing his knowledge as a form of gratitude for his own good and for the common good. Or in other words, self-meaning is the effort of those who have strong beliefs to try to manage the surrounding environment with tenacity, seriousness and intelligence, as an effort to seize limited opportunities, but still have strong belief in themselves,(Bandura, 1998). Meanwhile, according to Lee, et al (2011) the benefits of self-efficacy are increased awareness to share tacit knowledge, including through the experiences of others who have succeeded in sharing knowledge as happened to themselves.

It is not impossible to build a fully Indonesian human being in dire need of a spiritual touch.Rajput, Sharma & Jyotsna (2020)defines spirituality as the extreme tendency of humans as beings who want to live sincerely, through the essential power that exists and the ultimate truth. As the origin of the word spiritual is spirit, it can be interpreted as a spirit for self-meaning, through intelligent, trustworthy and dignified behavior.

This research provides a horizon of knowledge for researchers to better understand how factors of spirituality in the workplace, and self-efficacy in sharing knowledge affect the productivity of academics to conduct research. Where until now there is still no research on productivity to conduct research using the composition of the three variables above and with data analysis techniques using PLS SEM on university lecturers in Baubau City, Southeast Sulawesi. This distinguishes this research from previous research. On the practical side, this study validates several important factors that contribute to productivity to research.

II. Research Method

In collecting data for this study, an instrument in the form of a questionnaire was used, which was then translated into instruments derived from all the variables proposed in the study, namely: spirituality at work (X1), knowledge self-efficacy (X2), knowledge sharing (X1). X3), researching self-efficacy (Y1) and researching productivity (Y2).

The scale used in this study is the Likert scale. The Likert scale is designed to examine how strongly the subject agrees or with questions in a five-point scale arrangement (Sekaran, 2006, p. 31).

In this study, all measurement items were adapted based on the literature review. For knowledge sharing and research productivity, measurement items were adapted fromFauzi et al, (2019). Furthermore, for spirituality in the workplace, the measurement items were adapted from(Rahman et al., 2016)and finally on the construction of self-efficacy which consists of two sub-dimensions (knowledge sharing and research productivity), the measurement items are adapted fromLin (2007), Bock, Zmud, Kim, & Lee (2005), andAdedokun, Bessenbacher, Parker, Kirkham, & Burgess (2013), as well asKim & Lee, (2012).

III. Result and Discussion

3.1 Results

The model in this study was tested using SEM-PLS (Partial Least Square) with the help of SmartPLS 2.0 software. SEM-PLS can work effectively on small sample sizes with complex models (Abdillah & Hartono, 2015). Tests on PLS were carried out on the measurement model (outer model) and structural model (inner model).

Measurement Model

Tests on the measurement model consist of validity and reliability tests. The validity test consists of convergent validity and discriminant validity. Convergent validity is used to assess the correlation between two measures of the same concept. The factor loading value calculates the convergent validity of the reflective construct and the Average Variance Extracted (AVE), which is the number of standardized factor squares divided by the number of measurement items. The rule of thumb for loading factor values is above 0.7; and the AVE value must be higher than 0.5 (Hair et al., 2014). Meanwhile, discriminant validity was measured by comparing the AVE values of the two constructs with the square of the correlation between the two constructs tested. Discriminant validity is used to assess how different a construct is from another construct.

The reliability test is used to determine the consistency of the measurement results if the measurement is carried out twice or more on the same symptoms with the same measuring instrument. The critical point of reliability testing that meets the criteria of composite reliability, and Cronbach's alpha must be higher than 0.7; and if the result is 0.6 it is still acceptable (Hair et al., 2014).

Structural Model

The structural model in this study was conducted to predict causality between latent variables. The parameter used for testing the model is the value of R-Square (R^2). A high R^2 value reflects a better research model. The level of significance in hypothesis testing is indicated by the path coefficient value (inner model). The path coefficient value indicated by the t-statistic value must be greater than 1.96 for the one-way hypothesis in hypothesis testing using 5% alpha (Hair et al., 2012).

Measurement Model Testing

Based on convergent validity and reliability testing, all items have met the requirements. All items in the variable have a loading factor value above 0.7 and an AVE value higher than 0.5. Meanwhile, the reliability test showed the value of composite reliability and Cronbach's alpha > 0.7 on all constructs (Hair et al., 2014). Thus it can be stated that all variables in this study are valid and reliable. The results of the validity and reliability tests are presented in Table 2.

Table 2. Convergent Validity and Reliability

Variable	Indicator	outer Loading	AV	Cronbach's Alpha	Composite Reliability
Knowledge Self Efficacy (X1)	EP1	0.945	0.8	0.869	0.939
	EP2	0.936			
Spirituality at Work (X2)	STK1	0.720	0.6	0.860	0.900

Variable	Indicator	outer Loading	AV	Cronbach's Alpha	Composite Reliability
	STK2	0.833			
	STK3	0.719			
	STK4	0.862			
	STK5	0.867			
Researching Self Efficacy (X3)	EM1	0.807	0.6	0.880	0.913
	EM2	0.794			
	EM3	0.850			
	EM4	0.831			
	EM5	0.828			
Knowledge Sharing (Y1)	BP1	0.803	0.6	0.853	0.900
	BP2	0.830			
	BP3	0.866			
	BP4	0.829			
Productivity in Research (Y2)	PDM1	0.807	0.7	0.790	0.878
	PDM2	0.883			
	PDM3	0.828			

Source: Data processed, 2022

In addition, based on discriminant validity testing, it shows that all constructs in this research model have met the requirements. In the Fornell-Larcker criteria for each construct tested, the square root value of AVE is higher than the correlation between constructs. Likewise, the cross-loading value of each construct indicator is higher than the cross-loading indicator value of the other constructs. This shows that the discriminant validity of both the construct and the indicators is achieved. The results of discriminant validity testing can be seen in Tables 3 and 4.

Table 3. Discriminant Validity

Variable	X1	X2	X3	Y1	Y2
Knowledge Self Efficacy (X1)	**0.940**				
Spirituality at Work (X2)	0.745	**0.803**			
Researching Self Efficacy (X3)	0.653	0.731	**0.823**		
Knowledge Sharing (Y1)	0.728	0.744	0.616	**0.833**	
Productivity in Research (Y2)	0.594	0.764	0.674	0.699	**0.840**

Source: Data processed, 2022

Table 4. Cross-Loading

	X1	X2	X3	Y1	Y2
X1.1	0.944507	0.749623	0.621557	0.706850	0.616214
X1.2	0.936301	0.648869	0.605657	0.661144	0.496967
X2.1	0.605172	0.720647	0.516732	0.546348	0.609066
X2.2	0.607882	0.833050	0.621488	0.634210	0.605936
X2.3	0.462669	0.718439	0.488561	0.532795	0.470738
X2.4	0.632355	0.861915	0.679579	0.646998	0.712559
X2.5	0.672093	0.866523	0.607670	0.615595	0.652099
X3.1	0.554910	0.579359	0.806971	0.479241	0.502312
X3.2	0.440394	0.541330	0.794226	0.420763	0.540373
X3.3	0.593899	0.649384	0.850434	0.542198	0.603553
X3.4	0.519497	0.612810	0.831154	0.534398	0.555430
X3.5	0.571489	0.616346	0.828475	0.548442	0.562057
Y1.1	0.493329	0.502979	0.454842	0.803072	0.545725
Y1.2	0.528179	0.591490	0.484647	0.830239	0.591775
Y1.3	0.673436	0.640114	0.534079	0.866411	0.563367
Y1.4	0.701164	0.716511	0.563086	0.829224	0.620894
Y2.1	0.508740	0.656505	0.566083	0.539501	0.806602
Y2.2	0.495349	0.660530	0.561023	0.602237	0.882940
Y2.3	0.492750	0.608975	0.570338	0.616254	0.828168

Source: Data processed, 2022

3.2 Structural Model Testing

The results of the structural model test show that the adjusted R2 value on knowledge sharing is 62.1%. Meanwhile, the adjusted R2 value on productivity in research is 58.4%. This shows that the research model is good. Based on the results of statistical tests carried out by bootstrap analysis, the overall hypothesis proposed is proven and can be accepted. These constructs directly affect knowledge sharing and productivity in research, namely the effect of self-efficacy and spirituality in the workplace.

The effect of self-efficacy knowledge (0.391) and spirituality at work (0.453) had a significant positive effect on knowledge sharing with p-values <0.05; so H1 and H2 are accepted. Meanwhile, research self-efficacy (0.392) and knowledge sharing (0.4458) had a significant positive effect on research productivity. Therefore, this study supports H3 and H4.

Furthermore, this study finds empirical evidence that there is a significant effect of knowledge self-efficacy and spirituality at work, respectively, on knowledge sharing, which in turn increases research productivity, so this study supports H5 and H6. Statistically, the results of hypothesis testing using bootstrap can be seen in Table 5.

Table 5. Hypothesis Testing

Hypothesis	Path Coefficient	t-stat	p-value	Information	AdjustedR2
H1: X1→Y1	0.391	2,615***	0.004	Support the hypothesis	
H2: X2→Y1	0.453	3,457***	0.000	Support the hypothesis	**0.621**
H3: X3→Y2	0.392	4043***	0.000	Support the hypothesis	
H4: Y1→Y2	0.458	5.475***	0.000	Support the hypothesis	**0.584**
H5: X1→Y1→Y2	0.179	2,328**	0.011	Support the hypothesis	
H6: X2→Y1→Y2	0.207	2,889***	0.002	Support the hypothesis	

Source: Data processed, 2022
*Notes:*X1= Knowledge Self-Efficacy; X2= Spirituality at Work; X3= Researching Self Efficacy; Y1= Knowledge Sharing; Y2= Productivity in Research. *= Significant at 1% level; *** Significant at 5% level.
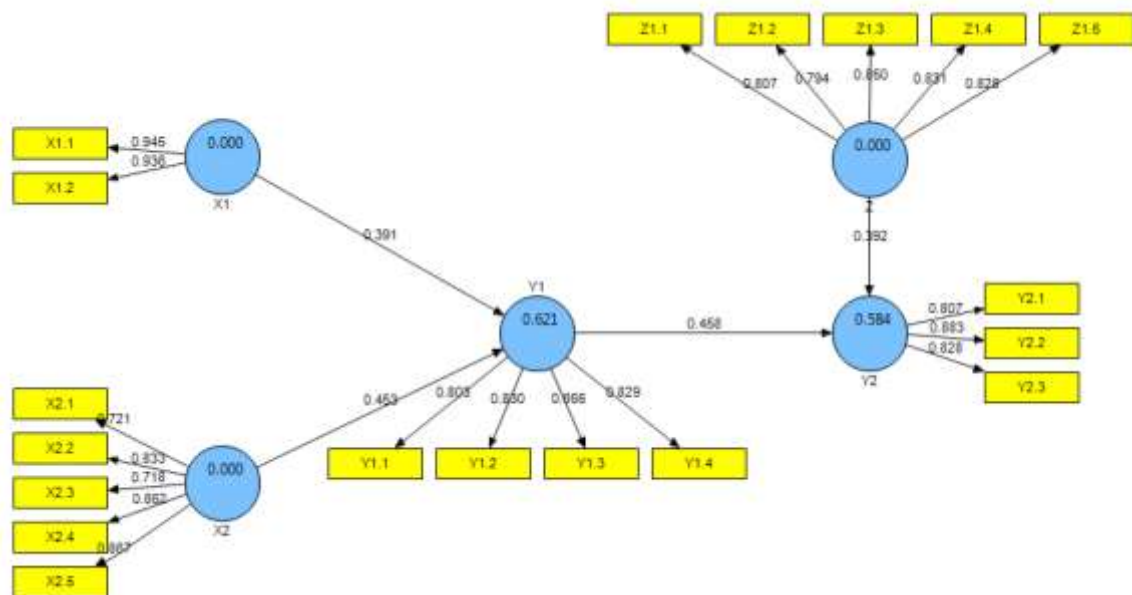
Figure 2. *Full Structural Model of Productivity in Research*

3.3 Discussion
a. Knowledge Self Efficacy

Belief in one's own ability to succeed in certain situations, can also one's possession of certain skills, is self-efficacy.(Kwahk & Park, 2016). Competence shows an efficacy during working time or the extent to which a person can carry out his service duties skillfully when doing it(Al-Abdullat & Dababneh, 2018). In an organization, people who have high self-efficacy will have an influence on their performance. This good

performance will have an impact on improving organizational performance(De Clercq et al., 2018; Hu & Zhao, 2016).

Individuals who have high self-efficacy will influence their behavior so that they can complete the tasks given well(Kwahk & Park, 2016). Thus, individuals will gain confidence if they have the ability to complete certain tasks(Pasupathy & Siwatu, 2014).

Based on the results of the SEM analysis, it shows that the indicator "sharing knowledge in institutions" as a measure of the knowledge self-efficacy variable gives the largest contribution and then other indicators are followed, namely happy to share knowledge with colleagues. It means, the indicator of "sharing knowledge in institutions" dominates as a measure of knowledge self-efficacy compared to other indicators. The results of the study indicate that the indicator of "sharing knowledge in institutions" is the best reflection of the knowledge self-efficacy variable.

Based on the results of the study, it was proven that the effect of knowledge self-efficacy (0.391) (0.453) had a significant positive effect on knowledge sharing with p-value <0.05; so H1 is accepted. This is in line with previous research which proves that research self-efficacy has been found to positively influence knowledge contribution and knowledge gathering behavior(Chen & Hung, 2010).

b. Spirituality at Work

According to expert opinion, spirituality is different from religion. Spirituality is more universal(Karakas, 2010; Rahman et al., 2020), and is personal and connotes being part of a just individual, inalienable or separable(Rastegar & Moradi, 2016). While religion is an institution with different names and labels.

The great transformation of the spirituality movement according toAshmos & Duchon (2000)is where the organization provides space for the spiritual dimension for individuals to carry out their work with meaning and a sense of togetherness. The workplace becomes a community for many individuals, in line with the intensity of work, so some organizations incorporate spiritual values and principles into their strategies as a form of social responsibility to contribute to society.(Karakas, 2010).

According toSorakraikitikul & Siengthai (2014)believes that spirituality in the workplace has four dimensions, including: (1) inner life; (2) meaningful work; (3) a sense of togetherness; and (2) integration of independent work. Inner life as a representation of one's divine understanding and self-respect.(Ashmos & Duchon, 2000); Meaningful work is the extent to which a person has a deep understanding of the meaning and purpose of his work(Ashmos & Duchon, 2000; Milliman et al., 2003); A sense of community is based on how people see themselves and their relationships with others which includes support, freedom of expression and genuine care(Ashmos & Duchon, 2000; Milliman et al., 2003); Self-work integration is a strong sense of alignment between personal values towards work and organizational values(Altaf & Atif, 2011; Milliman et al., 2003).

Based on the results of the SEM analysis, it shows that the indicator of "happiness at work" as a measure of the knowledge self-efficacy variable gives the largest contribution and then other indicators are followed in succession, namely contribution to society, harmony with co-workers, inner life, and harmony between values. organizational and individual values. This means that the indicator of "happiness at work" dominates as a measure of spirituality at work compared to other indicators. The results showed that the indicator of "happiness at work" was the best reflection of the spirituality variable at work.

Based on the results of the study, it was proven that spirituality at work (0.453) had a significant positive effect on knowledge sharing with p-values <0.05; so H2 is accepted. This is in line with previous researchentitled an integrated understanding of academics

knowledge sharing behavior a comparative study on HLIs, has explained that a sense of spirituality, emotional intelligence and perceptions of the work environment affect knowledge sharing behavior among higher education academic staff through comparative investigations. a sense of spirituality has a positive impact on the knowledge-sharing behavior of Bangladeshi and Malaysian academic staffRahman, Fatah, Hassan, & Haque (2020). In addition, the influence of spirituality in the workplace will create a culture that enhances feelings of complementarity among staff, enhances a sense of association and influences them to share valuable knowledge with one another.(Rego & Cunha, 2008).

c. Researching Self Efficacy

Research self-efficacy is an individual's belief in his or her ability to successfully perform the tasks associated with conducting research(Forester, Kahn, & McInnis, 2004)and academic confidence in their research abilities have been found to be positively correlated with research productivity(Kahn & Scott, 1997).

Increased research self-efficacy leads to active involvement in research and increases productivity (Kozhakhmet et al., 2020). Academics in faculties with higher levels of research self-efficacy tend to be more productive in their research (Kozhakhmet et al., 2020). This means that faculty members as academics with high research self-efficacy are more productive when compared to those who are less confident in their research abilities (Pasupathy & Siwatu, 2014).

Stajkovic & Luthans (1998)stated that the strength of the relationship between self-efficacy and task performance was weaker for more complex tasks, although the relationship was usually still significant across levels of task complexity. In this case it is assumed to be related to research productivity. So that academics as individuals conducting research need to develop effective task strategies to deal with complex tasks(Callaghan & Coldwell, 2014)

Based on the results of the SEM analysis, it shows that the indicator "interest related to research" as a measure of the self-efficacy variable in research provides the largest contribution and then other indicators are followed in succession, namely understanding of research procedures, ability to solve problems, self-confidence and persistence in conducting research. It means, the indicator of "interest related to research" dominates as a measure of self-efficacy in researching compared to other indicators. The results showed that the indicator of "interest in research" was the best reflection of the research self-efficacy variable.

Based on the results of the study, it was proven that research self-efficacy (0.392) had a significant positive effect on research productivity. Therefore, this study supports H3. The results of this study are in line with the results of research conducted by Pasupathy & Siwatu (2014) with the title an investigation of research self-efficacy beliefs and research productivity among faculty members at an emerging research university in the USA. This study proves the influence of faculty member research self-efficacy and its effect on research productivity(Pasupathy & Siwatu, 2014).

d. Sharing knowledge

The key factor for achieving sustainable innovation at both the individual and organizational level is organizational knowledge(Phung et al., 2019).In addition, knowledge is an important organizational resource because it is a differentiator and is crucial for organizations to maintain their competitive advantage(Suppiah & Sandhu, 2011). Meanwhile, knowledge sharing is one of the knowledge managements processes

which are divided into five types, namely: knowledge acquisition, knowledge sharing, knowledge creation, knowledge codification and knowledge retention.

Knowledge sharing is an act of providing valuable information and knowledge to help others they work with in answering questions, developing new ideas, and implementing actions.Cummings (2004). Although knowledge sharing is very important for organizations to achieve success, every knowledge sharing practice that occurs in an organization between its employees will always be based on knowledge sharing and knowledge acceptance.(Phung et al., 2019).

Based on the results of the SEM analysis, it shows that the indicator "knowledge sharing support activities" as a measure of the knowledge sharing variable gives the largest contribution and then other indicators are followed in succession, namely sharing work results, sharing thoughts and sharing valuable experiences. This means that the indicator of "knowledge sharing support activities" dominates as a measure of knowledge sharing compared to other indicators. The result of the research shows that the indicator of "knowledge sharing support activities" is the best reflection for the knowledge sharing variable. This result is in accordance with the opinion that bKnowledge sharing itself can be interpreted as the exchange of experiences, facts, knowledge and skills throughout the organization(Nonaka & Krogh, 2009), and the social interactions that occur create new knowledge as collective intelligence(Nonaka et al., 2008).

Furthermore, this study finds empirical evidence that there is a significant effect of knowledge self-efficacy and spirituality at work, respectively, on knowledge sharing, which in turn increases research productivity, so this study supports H5 and H6. This is in line with previous research. A number of studies have found that there are many benefits and advantages that organizations derive from sharing knowledge(Ipe, 2003; Kianto et al., 2016; P. Lee et al., 2006; Nonaka & Takeuchi, 1996; Phung et al., 2019; Stewart, 2012). In essence, knowledge sharing is the action of staff and organizational systems to process and disseminate knowledge to other people or staff in the organization(Abzari & Teimouri, 2009).

e. Academic productivity in research

Most governments in the world have implemented mechanisms to support research productivity, the aim of which is to improve research and the quality of higher education institutions(Wills et al., 2013). This is related to the reputation of the university which is assessed from academic output as one of the significant weights(Fauzi et al., 2019).

Based on the results of the SEM analysis, it shows that the indicator "dedication to research" as a measure of the productivity variable of academics in researching provides the largest contribution and then other indicators are followed in succession, namely activity related to research, and satisfaction in conducting research. This means that the indicator of "dedication to research" dominates as a measure of academic productivity in researching compared to other indicators. The results of the study indicate that the indicator of "dedication to research" is the best reflection of the academic productivity variable in research.

This study finds empirical evidence that there is a significant effect of knowledge self-efficacy and spirituality at work, respectively, on knowledge sharing, which in turn increases research productivity, so this study supports H5 and H6. This is in line with previous researchwhich is conducted byJameel & Ahmad (2020)with the title Factors impacting research productivity of academic staff at the Iraqi higher education system. The results of this previous study show funding as the most important factor to encourage academic staff to increase their publications. However, collaboration between academic

staff in general, both nationally and internationally will be able to increase research productivity.

f. Novelty
Based on the results of research and data analysis as well as a discussion of research findings, the novelties found in this study are as follows:
- This study found a model for developing lecturer productivity through the variable of Knowledge Self-Efficacy construct with the indicator "Sharing Knowledge with Colleagues" as the highest loading factor, namely 0.945.
- This research is a research on academic productivity that examines the factors of spirituality in the workplace, self-efficacy in sharing knowledge and research self-efficacy. In Indonesia, as far as the researcher is concerned, no similar research has been found.
- The population of this research is university lecturers in Baubau City, Southeast Sulawesi. This distinguishes this research from previous research.
- The results showed that the hypothesis test of the influence between variables was perfect so that it would be very helpful for campus managers to pay attention to the factors that encourage academics to be productive in research.
- This study resulted in a new empirical research model related to the productivity of academics conducting research, as follows

IV. Conclusion

Based on the results of research on the influence of spirituality in the workplace, knowledge self-efficacy, research self-efficacy and knowledge sharing on academic productivity in conducting research, it can be concluded that:

Knowledge self-efficacy and spirituality at work have a significant positive effect on knowledge sharing. Meanwhile, research self-efficacy and knowledge sharing have a significant positive effect on research productivity. Furthermore, this study finds empirical evidence that there is a significant effect of knowledge self-efficacy and spirituality at work, respectively, on knowledge sharing, which in turn increases research productivity.

Theoretically, this research contributes knowledge about the productivity model of academic researchers through analysis of spirituality in the workplace, knowledge self-efficacy, researching self-efficacy and knowledge sharing. For future researchers, it is recommended to conduct further research by developing and using similar or other variables that can affect the productivity of academics in research, including their contribution to the reputation of the institution.

For further research, it can be considered using a qualitative research approach related to the productivity of academics in research. With a qualitative research approach, it is hoped that more in-depth and detailed exploration of respondents' perceptions, especially regarding the variables that have a major influence on the productivity of academics in research, is expected.

Further research is suggested to cover a wider area and scope. Thus, the number of research samples increased proportionally from the population. It is hoped that with a larger number of samples, the research results achieved will be easily generalized more broadly.

References

Abu-Shanab, E., & Subaih, A. (2019). The role of knowledge sharing and employees' satisfaction in predicting organizational innovation. Journal of Information and Knowledge Management, 18(3), 1–25. https://doi.org/10.1142/S0219649219500266

Abzari, M., & Teimouri, H. (2009). The challenges and success factors of management development in the third millennium. International Journal of Knowledge, Culture and Change Management, 9(1), 75–89. https://doi.org/10.18848/1447-9524/cgp/v09i01/50721

Adedokun, OA, Bessenbacher, AB, Parker, LC, Kirkham, LL, & Burgess, WD (2013). Research skills and STEM undergraduate research students' aspirations for research careers: Mediating effects of research self-efficacy. Journal of Research in Science Teaching, 50(8), 940–951. https://doi.org/10.1002/tea.21102

Al-Abdullat, B., & Dababneh, A. (2018). The mediating effect of job satisfaction on the relationship between organizational culture and knowledge management in Jordanian banking sector. https://doi.org/10.1108/BIJ-06-2016-0081

Altaf, A., & Atif, M. (2011). Moderating Affect of Workplace Spirituality on the Relationship of Job Overload and Job Satisfaction. 93–99. https://doi.org/10.1007/s10551-011-0891-0

Ashmos, DP, & Duchon, D. (nd). Ashmos, DP, & Duchon, D. (2000). Spirituality at Work. Journal of Management Inquiry.pdf.

Bandura, A. (1998). Anxiety Research : An International Self-efficacy conception of anxiety SELF-EFFICACY CONCEPTION OF ANXIETY. Anxiety Research: An International Journal, April 2012, 77–98.

Cadez, S., Dimovski, V., & Zaman Groff, M. (2017). Research, teaching and performance evaluation in academia: the salience of quality. Studies in Higher Education, 42(8), 1455–1473. https://doi.org/10.1080/03075079.2015.1104659

Callaghan, CW, & Coldwell, D. (2014). Job Satisfaction and Job Performance: The Case of Research Productivity. Journal of Economics, 5(1), 97–113. https://doi.org/10.1080/09765239.2014.11884988

Chen, CJ, & Hung, SW (2010). To give or to receive? Factors influencing members' knowledge sharing and community promotion in professional virtual communities. Information and Management, 47(4), 226–236. https://doi.org/10.1016/j.im.2010.03.001

Chugh, R. (2017). Barriers and enablers of tacit knowledge transfer in australian higher education institutions. International Journal of Education and Learning Systems, 2(November), 272–276.

Clausen, S.-E. (1987). from the SAGE Social Science Collections . All Rights. Hispanic Journal of Behavioral Sciences, 9(2), 183–205.

Cummings, JN, & Cummings, JN (2004). Work Groups , Structural Diversity , and Knowledge Sharing in a Global Organization Work Groups , Structural Diversity , and Knowledge Sharing in a Global Organization. August 2014. https://doi.org/10.1287/mnsc.1030.0134

De Clercq, D., Haq, IU, & Azeem, MU (2018). Self-efficacy to spur job performance: Roles of job-related anxiety and perceived workplace incivility. Management Decisions, 56(4), 891–907. https://doi.org/10.1108/MD-03-2017-0187

Fauzi, MA, Nya-Ling, CT, Thursamy, R., & Ojo, AO (2019). Knowledge sharing: Role of academics towards research productivity in higher learning institutions. VINE Journal of Information and Knowledge Management Systems, 49(1), 136–159.

https://doi.org/10.1108/VJIKMS-09-2018-0074

Forester, M., Kahn, JH, & Hesson-McInnis, MS (2004). Factor Structures of Three Measures of Research Self-Efficacy. Journal of Career Assessment, 12(1), 3–16. https://doi.org/10.1177/1069072703257719

Fullwood, R., Rowley, J., & Delbridge, R. (2013). Knowledge sharing amongst academics in UK universities. Journal of Knowledge Management, 17(1), 123–136. https://doi.org/10.1108/13673271311300831

Gaskin, J., & Lowry, PB (2014). Partial Least Squares (PLS) Structural Equation Modeling (SEM) For Building And Testing Behavioral Causal Theory: When To Choose It And How To Use It. IEEE Transactions on Professional Communication, 57(2), 123–146.

Hair, Joe F., Sarstedt, M., Hopkins, L., & Kuppelwieser, VG (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. European Business Review, 26(2), 106–121. https://doi.org/10.1108/EBR-10-2013-0128

Hair, Joseph F., Hult, GTM, Ringle, CM, Sarstedt, M., & Thiele, KO (2017). Mirror, mirror on the wall: a comparative evaluation of composite-based structural equation modeling methods. Journal of the Academy of Marketing Science, 45(5), 616–632. https://doi.org/10.1007/s11747-017-0517-x

Hemmings, BC, Kay, R., Sharp, J., & Taylor, C. (2012). A transnational comparison of lecturer self-efficacy. Journal of Further and Higher Education, 36(3), 291–307. https://doi.org/10.1080/0309877X.2011.614932

Hu, B., & Zhao, Y. (2016). Creative self-efficacy mediates the relationship between knowledge sharing and employee innovation. Social Behavior and Personality, 44(5), 815–826. https://doi.org/10.2224/sbp.2016.44.5.815

Ipe, M. (2003). Knowledge Sharing in Organizations: A Conceptual Framework. Human Resource Development Review, 2(4), 337–359. https://doi.org/10.1177/1534484303257985

Jameel, AS, & Ahmad, AR (2020). Factors Impacting Research Productivity of Academic Staff at the Iraqi Higher Education system. International Business Education Journal, 13(1), 108–126. https://doi.org/10.37134/ibej.vol13.1.9.2020

Caracas, F. (2010). Spirituality and Performance in Organizations : A Literature Review. 89–106. https://doi.org/10.1007/s10551-009-0251-5

Kianto, A., Vanhala, M., & Heilmann, P. (2016). The impact of knowledge management on job satisfaction. https://doi.org/10.1108/JKM-10-2015-0398

Kim, T., & Lee, G. (2012). A modified and extended Triandis model for the enablers-process-outcomes relationship in hotel employees' knowledge sharing. Service Industries Journal, 32(13), 2059–2090. https://doi.org/10.1080/02642069.2011.574276

Knapp, D. (2010). The Thessaloniki Declaration: A Wake-Up Call for Environmental Education ? November 2014, 37–41. https://doi.org/10.1080/00958960009598643

Kozhakhmet, S., Moldashev, K., & Yenikeyeva, A. (2020). Studies in Higher Education How training and development practices contribute to research productivity : a moderated mediation model. Studies in Higher Education, 0(0), 1–13. https://doi.org/10.1080/03075079.2020.1754782

Krogh, G. Von. (2009). Tacit Knowledge and Knowledge Conversion : Controversy and Advancement in Organizational. 20(3), 635–652. https://doi.org/10.1287/orc.1080.0412

Kwahk, KY, & Park, DH (2016). The effects of network sharing on knowledge-sharing

activities and job performance in enterprise social media environments. Computers in Human Behavior, 55, 826–839. https://doi.org/10.1016/j.chb.2015.09.044

Lee, M., Steven, E., Sanjib, PE, Intakhab, KC, Endres, ML, Endres, SP, Chowdhury, SK, & Alam, I. (2011). Tacit knowledge sharing, self-efficacy theory, and application to the Open Source community. https://doi.org/10.1108/13673270710752135

Lee, P., Gillespie, N., & Mann, L. (2006). Leadership and trust : Their effect on knowledge sharing and team performance. https://doi.org/10.1177/1350507610362036

Lin, HF (2007). Knowledge sharing and firm innovation capability: An empirical study. International Journal of Manpower, 28(3–4), 315–332. https://doi.org/10.1108/01437720710755272

Lucas, CJ, & Murry, JW (nd). Faculty Third Edition.

Milliman, J., Czaplewski, AJ, & Ferguson, J. (2003). Workplace spirituality and employee work attitudes An exploratory empirical assessment. https://doi.org/10.1108/09534810310484172

Mohamed, M., & Ruth, A. (2016). Workplace spirituality and organizational commitment : A study on the public schools teachers in Menoufia (Egypt). African Journal of Business Management, 10(10), 247–255. https://doi.org/10.5897/ajbm2016.8031

Muthuveloo, R., Shanmugam, N., & Teoh, AP (2017). Asia Pacific Management Review The impact of tacit knowledge management on organizational performance: Evidence from Malaysia. Asia Pacific Management Review. https://doi.org/10.1016/j.apmrv.2017.07.010

Nonaka, I., & Takeuchi, H. (1996). A theory of organizational knowledge creation lkujiro Nonaka and Hirotaka Takeuchi Katsu hiro Umemoto. IJTM, Special Publication on Unlearning and Learning, 11(7/8), 833–845.

Nonaka, I., Toyama, R., & Hirata, T. (2008). Managing flow: A process theory of the knowledge-based firm. Managing Flow: A Process Theory of the Knowledge-Based Firm, 1–252. https://doi.org/10.1057/9780230583702

OECD. (2019). Program for international student assessment (PISA) results from PISA 2018. Oecd, 1–10.

Orces, SOSF, & Kim, Y. (2015). Behavioral Intention Formation in Knowledge Sharing : Examining the Roles of Extrinsic Motivators , Social-Psychological Forces , and Organizational Climate B EHAVIORAL I NTENTION F ORMATION IN K NOWLEDGE S HARING : E XAMINING THE ROLES OF E XTRINSIC M O. 29(September), 87–111.

Ozmen, F. (2010). The capabilities of the educational organizations in making use of tacit knowledge. Procedia - Social and Behavioral Sciences, 9, 1860–1865. https://doi.org/10.1016/j.sbspro.2010.12.414

Pasupathy, R., & Siwatu, KO (2014). An investigation of research self-efficacy beliefs and research productivity among faculty members at an emerging research university in the USA. Higher Education Research and Development, 33(4), 728–741. https://doi.org/10.1080/07294360.2013.863843

Petchsawang, P., & Duchon, D. (2012). Journal of Management , Spirituality & Workplace spirituality , meditation , and work performance. Journal of Management, Spirituality & Religion, 9(2), 189–208.

Phung, VD, Hawryszkiewycz, I., Chandran, D., & Ha, BM (2019). Promoting knowledge sharing amongst academics: A case study from Vietnam. Journal of Information and Knowledge Management, 18(3), 1–25. https://doi.org/10.1142/S0219649219500321

Quimbo, MAT, & Sulabo, EC (nd). Studies in Higher Education Research productivity and its policy implications in higher education institutions. January 2015, 37–41.

https://doi.org/10.1080/03075079.2013.818639

Rahman, MS, Abdel, F., & Abdel, M. (2020). An integrated understanding of academics knowledge sharing behavior A comparative study on HLIs. https://doi.org/10.1108/GKMC-10-2019-0122

Rahman, MS, Mat Daud, N., Hassan, H., & Osmanani, AM (2016). Effects of workplace spirituality and trust mediated by perceived risk towards knowledge sharing behaviour. In VINE Journal of Information and Knowledge Management Systems (Vol. 46, Issue 4, pp. 450–468). https://doi.org/10.1108/VJIKMS-06-2015-0033

Rajput, N., Sharma, J., & Jyotsna, M. (2020). an Empirical Study of Workplace Spirituality on Commitment, Job Satisfaction and Work Performance in Academic Institutions. Solid State Technology, December.

Rastegar, M., & Moradi, S. (2016). On the Relationship between EFL Teachers' Job Satisfaction, Self-Efficacy, and Their Spiritual Sense of Well-Being. February, 1–12.

Rego, A., & Pina E Cunha, M. (2008). Workplace spirituality and organizational commitment: An empirical study. Journal of Organizational Change Management, 21(1), 53–75. https://doi.org/10.1108/09534810810810847039

Sorakraikitikul Monthon & Siengthai Sununta. (2014). Organizational learning culture and workplace spirituality. https://doi.org/10.1108/TLO-08-2011-0046

Stajkovic, AD, & Luthans, F. (1998). Self-Efficacy and Work-Related Performance: A Meta-Analysis. Psychological Bulletin, 124(2), 240–261. https://doi.org/10.1037/0033-2909.124.2.240

Stewart, T. (2012). Knowledge sharing. Behavior and Information Technology, 31(11), 1055–1056. https://doi.org/10.1080/0144929X.2012.745277

Suppiah, V., & Sandhu, MS (2011). Organizational culture's influence on tacit knowledge-sharing behavior. In Journal of Knowledge Management (Vol. 15, Issue 3, pp. 462–477). https://doi.org/10.1108/13673271111137439

Tabachnick, BG, & Fidell, LS (2017). Using Multivariate Statistics ليس المستحدم . Journal of Applied Psychology, 87(4), 611–628.

Wills, D., Ridley, G., & Mitev, H. (2013). Research productivity of accounting academics in changing and challenging times. Journal of Accounting & Organizational Change, 9(1), 4–25. https://doi.org/10.1108/18325911311307186