

Effect of Hard Skills, Soft Skills, Organizational Learning and Innovation Capability on Islamic University Lecturers' Performance

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ABSTRACT

The purpose of this research was to measure the effect of hard skills, soft skills, organizational learning, and innovation capability on the lectures performance of an Islamic University in Indonesia. Data collection was done by simple random sampling to 261 population an Islamic University in Indonesia. The returned and valid questionnaire results were 244 samples. SEM method with SmartPLS 3.0 software is used for data processing. The findings of the study reveal that hard skills, soft skills, organizational learning, and innovation capability have a direct positive and significant effect on the lecturer's performance. Besides, soft skills have the greatest influence on lecturer performance among other variables. This research proposed a model for building the lecture's performance among the lecturers of an Islamic University in Indonesia through enhancing hard skills, soft skills, organizational learning, and innovation capability. This research could pave the way to improve the lecturer readiness in facing the 4.0 education era.

Keywords: *Hard skills, organizational learning, performance, soft skills, lecturers' innovation capability*

INTRODUCTION

Dramatic changes that come from industrial revolution 4.0 become a new challenge for education. This industrial revolution requires qualified, agile, adaptive, and responsive human resources against a rapid change. The world of education is facing rapid economic, social, political, and technological change. Therefore, universities must be flexible to be able to adapt to changing situations and contexts. An environment that continues to grow positive and conducive is needed for schools and other educational institutions to compete in global human resources. Therefore, the synergy between lecturers and the work environment is needed by universities to make continuous improvements in innovation and performance. The point is that innovation and flexibility in the era of economic knowledge are needed by the community as energy to survive the competition. Increasing knowledge resources is the

strategic development of educational institutions in the future, especially lecturers, which provide space for innovation and growth.

To ensure that educational institutions, lecturers need to be directed and involved in pumping university performance so that universities can be competitive and adaptive. Lecturers must be powered and empowered. As a result, universities must manifest in real organizational learning. Organizational learning that empowers lecturers as one of the main elements of university transformation, as well as lecturers as instruments of civilization. The form of universities as organizational learning is very important for educational institutions that operate in environments with rapid and unexpected changes. So that, absolute condition for the creation of human resources is the speed of response to change, becomes a requirement to, students who are competitive and win global human resources competition.

Intellectual capital consisting of the knowledge of each lecturer and university will become a new icon that illustrates the economic value of a university. This is the new paradigm adapted from industrial revolution 4.0. Major future investment contributions no longer depend on traditional productive assets such as buildings, constructions, land, and other tangible assets. Lecturer knowledge is an intangible asset that is productive and sustainable in the future. This research seeks to understand and explain the effect of lecturers' hard skills and soft skills on their 'lecturers' innovation capability', then, to measure the effectiveness of the organizational learning mediation on the relationship between hard skills, soft skills, and lecturers' innovation in Indonesia.

LITERATURE REVIEW AND HYPOTHESES

Hard Skills

Hard skills are one type of knowledge that is easily documented and formed (Choi & Lee, 2003; Sousa & Rocha, 2019; Borrego et al, 2019; Wokcik et al, 2019; Cifariello, Ferragina&Ponza, 2019; Che et al, 2018; Tang et al, 2016; Bashir &Farooq, 2019; Attia&Salama, 2018), easily articulated (Haamann&Basten, 2018) and usually constitute knowledge that inherent in universities (Afsar, Masood&Umrani, 2019). Besides, hard skills can be created, written, and transferred between university activity units (Lombardi, 2019). The transfer of hard skills among lecturers is easier to be encouraged by a conducive university mechanism and culture.

Hard skills can be described in general and are also based on the specific context in which these skills are used. Rainsbury et al. (2002) define hard skills as skills that are related to technical aspects for carrying out several tasks at work. Therefore, hard skills are cognitive and are affected by intellectual quotient (IQ) (Muhammad et al., 2019; Kenayathulla, Ahmad &Idris, 2019; Tsotsotso et al., 2017; Fan, Wei & Zhang, 2017). Contextually, some researchers use the concept of hard skills in particular the state of management. Azim et al. (2010) generally refers to hard skills in the context of project management as processes, procedures, tools, and techniques (Gale et al, 2017; Laker & Powell, 2011)

Behavior and skills that can be seen is a picture of hard skills (explicit). Hard skills are the main skills that produce something that can be seen and directly. Technical or

practical tests can assess hard skills. Intelligence thinking that has indicators for calculating, analyzing, designing, broad insights and knowledge, modeling, and critical are elements of hard skills. Mastery of science, technology, and technical skills related to the part of knowledge related the hard skills. A lecturer must have expertise in opening lessons, managing classes, designing group discussions, arranging rooms, and writing well (Muqowim, 2012). Hard skills are relatively easy skills to measure. Widoyoko distinguishes between two hard skills, namely their academic and vocational skills. Academic skills are the ability to master various concepts in the field of research, such as skills to define, count, explain, describe, classify, identify, describe, predict, analyze, compare, differentiate, and draw conclusions from various concepts, data, and facts related to the subject (Widoyoko, 2009).

Soft Skills

Two types of knowledge classification are soft skills and hard skills (Polanyi, 1966). The knowledge that is still in the human mind and is very personal is the definition of soft skills (Chen et al, 2018; Holford, 2018; Khoshorour&Gilaninia, 2018; Zebal, Ferdous& Chambers, 2019; Agyemang&Boateng, 2019; Perez-Fuillerat et al, 2018), it is difficult to be formulated and divided naturally (Deranek, McLeod & Schmidt, 2017; Wang & Liu, 2019; Asher & Popper, 2019) personal interaction is needed by transformation (Lee, 2019). A person's actions and experiences, including idealism, values, and emotions are the roots of soft skills (Boske&Osanloo, 2015; Kawamura, 2016; Hartley, 2018).

Based on its understanding, personal knowledge or in other words knowledge obtained from individuals or personal are categorize soft skills(Nonaka& Toyama, 2015; Munoz et al, 2015; Stewart et al, 2017; Razmerita et al, 2016; Jaleel&Verghis, 2015; Wang et al., 2016; Serna et al., 2017; Jou et al., 2016; Rothberg & Erickson, 2017). Each lecturer gets a different experience based on situations and conditions that cannot be predicted. Soft skills are not easily articulated and converted into hard skills (Mohajan, 2016; Prasarnphanich et al, 2016; Addis, 2016; Cairo Battistutti, 2017; Zang et al, 2015; Spraggon&Bodolica, 2017). However, the process of knowledge spiral or SECI Model can empower by soft skills (Li, Liu & Zhou, 2018; Nonaka& Hirose, 2018; Chatterjee et al, 2018; Sasaki, 2017; Lievre & Tang, 2015; Stanica&Peydro, 2016; Norwich et al., 2016; Hodgins&Dadich, 2017; Balde et al., 2018; Okuyama, 2017; Huang et al., 2016).

Lecturer soft skills must be used to encourage them to share knowledge and keep learning for each university's educational institution. University educational institutions like this will become more creative, innovative, and lead in the era of education 4.0. Management and use of tacit knowledge that is outside the awareness stored in the subconscious mind of each lecturer with an embedding and sharing approach can be facilitated by universities(Ma et al, 2018; Ferreira et al, 2018; Borges et al, 2019; Ferraris et al, 2018; Guo et al, 2018; Tsai & Hsu, 2019; Swierczek, 2019; Cantwell & Zaman, 2018).

Organizational Learning

Crises will more resilient to good organizational learning (Starbuck, 2017). Organizational learning present as important elements of the dimensions such as desire, discipline, decision making, and alignment (Wetzel & Tint, 2019; Urban & Gaffurini, 2018). An important performance indicator for evaluating overall organizational performance is organizational learning (Qi & Chau, 2018) which can help build the knowledge resources needed to maintain university growth and continuity. The distinguishing factor between one university and another is the ability to access knowledge. The strong knowledge base possessed by each individual from a university education institution is very significantly related to the success of the university education institution's strategy.

Lecturers' Innovation Capability

Lecturer innovation skills are needed in the industrial era 4.0 as a competitive advantage in universities (Malik, 2019; Muscio & Ciffolili, 2019; Durana et al, 2019; Lund & Karlsen, 2019; Haseeb et al, 2019; Jakhar et al, 2018; Hamada, 2019; 2019), competitive strategy (Culot, Orzes & Sartor, 2019), the key to face industry era 4.0 (Stachova et al, 2019) part of the quality of 21st-century management (Gunasekaran, Sabramanian & Ngai, 2019), has many advantages business (Zambon et al., 2019; Parida, Sjodin & Reim, 2019). One of the most important internal resources that can produce superior university educational institution performance recognizes as an innovation capability (Zouaghi et al, 2018; Santoro et al, 2017; Castela et al, 2018; Ruiz-Torres et al, 2018; Huesig & Endres, 2019). Innovation is an important aspect of quality education (Klaeijnsen, Vermeulen, & Martens, 2017).

Lecturers' Performance

According to Campbell (1990), a series of individual actions and behaviors that are relevant to the organization's goals are a reference to individual performance. "The extent to which work is done well" is one of the simplest definitions of individual performance (Campbell et al., 1993). Not only to ensure better university management but also to facilitate services to the development of science required employee performance appraisal. Thus, good individual performance means the lecturer has completed work-related responsibilities to a satisfactory extent or the extent expected by university management.

The Effect of Hard Skillson Lecturers' Performance

Increasingly fierce competition, sustainability remains a concern, and important issues mark the current industry 4.0 era. Business sustainability is driven by lecturers' innovation capability. The culture of knowledge that exists in organizations influences a performance. Knowledge consists of tacit and hard skills. Lecturer innovation abilities that are influenced by leadership are discussed by many researchers (Samsir, 2018; Schuckert et al, 2018; Villaluz & Hechanova, 2019), employee involvement climate (Naqshbandi, Tabche & Choudhary, 2019) knowledge sharing (Kim & Shim, 2018) knowledge search (Wang, Chen & Chang, 2019) collaborative culture (Yang, Nguyen & Le, 2018) and knowledge process (Imran et al, 2018). This research will evaluate the effect of hard and soft skills regarding lecturer innovation competencies in university educational institutions to deal with the industrial revolution 4.0. The positive and significant effect of hard and soft skills on lecturers' innovation capability has been proven by previous researchers (Ganguly et al, 2019; Aulawi, 2018; Rumanti et al, 2018 & 2019; Torres & Liang, 2016; Li et al, 2019).

More specifically, soft skills have a positive and significant effect on the ability of lecturer innovation this was concluded by many researchers (Perez-Luno et al, 2018). All of them are within the scope of business organizations. However, some researchers state that formal & informal learning affects lecturers' innovation capability of lecturers in universities (Lecat, Beausaert, & Raemdonck, 2018). Based on the above literature, the following hypotheses are arranged:

H¹: Soft skills have a positive and significant effect on lecturers' performance

The Effect of *Soft Skills* on Lecturers' Performance

One strategy for organizations to study the dynamics of the business environment is in learning organization (Senge, 1990; Zhu et al., 2018; Kasim et al., 2018; Darwish et al., 2018). Learning routines will produce a collection of knowledgeable individuals, both hard and soft skills were managed by universities (Hussain et al, 2018). The organizational learning is affected by collaborative culture and knowledge sharing is concluded by some researchers (Nugroho, 2018). Very significant predictors for the development of organizational learning find soft skills (Muthuveloo, Shanmugam & Teoh, 2017). Based on the above literature, the hypotheses to be examined are as follows:

H²: *Hard skills* have a positive and significant effect on lecturers' performance

The Effect of the Organizational Learning on Lecturers' Performance

Organizational learning will trigger and spur lecturer innovation abilities and organizational performance was conditioned by knowledge creation (Asbari, Purwanto & Santoso, 2019; Vijande & Sanchez, 2017; Lin & Lee, 2017). Learning culture that adds value will be sustainable when based on university innovation. All lecturers interact with each other so that their current knowledge and new knowledge acquired can be effectively transferred, exchanged, and combined into university intelligence and knowledge of the university was used as a learning culture (Lin & Lee, 2017; Lee et al, 2016; Chang & Lin, 2015). An organizational environment that provides excitement at work is an important factor in creating lecturers' innovation capability of the organizational members (Bani-Melhem, Zeffane & Albaity, 2018). Furthermore, based on the above literature, the hypotheses to be examined are as follows:

H³: Organizational learning has a positive and significant effect on lecturers' performance

The Effect of Lecturers' Innovation Capability on Lecturers' Performance

Organizations need to increase their flexibility, responsiveness, and efficiency, and innovation to respond to challenges that are faced in local and global competition (Asbari et al, 2019; Asbari et al., 2020; Purwanto et al., 2020). This is due to the rapidly increasing need for innovative product and service capabilities as well as internal processes and behavior of all members of the organization. In addressing this issue, previous researches emerged that has explored shifting from an efficiency view to innovation. The need for more knowledge about how individuals can be coordinated is to improve innovation and performance at the organizational level (Sopa et al, 2020). Besides, Asbari et al (2020) argue that internal

processes should create innovations that contribute to improving performance. While Prameswari et al (2020) show that employee innovation indirectly affects the value of the organization through its effect on the market and financial position. Nevertheless, according to Sopa et al. (2020) mention that innovation is very important for improving lecturers' performance and they show that universities that focus on lecturers' innovation will be more productive and competitive in the global education market. Therefore, we hypothesize:

H⁴: *Lecturers' innovation capability* has a positive and significant effect on lecturers' performance

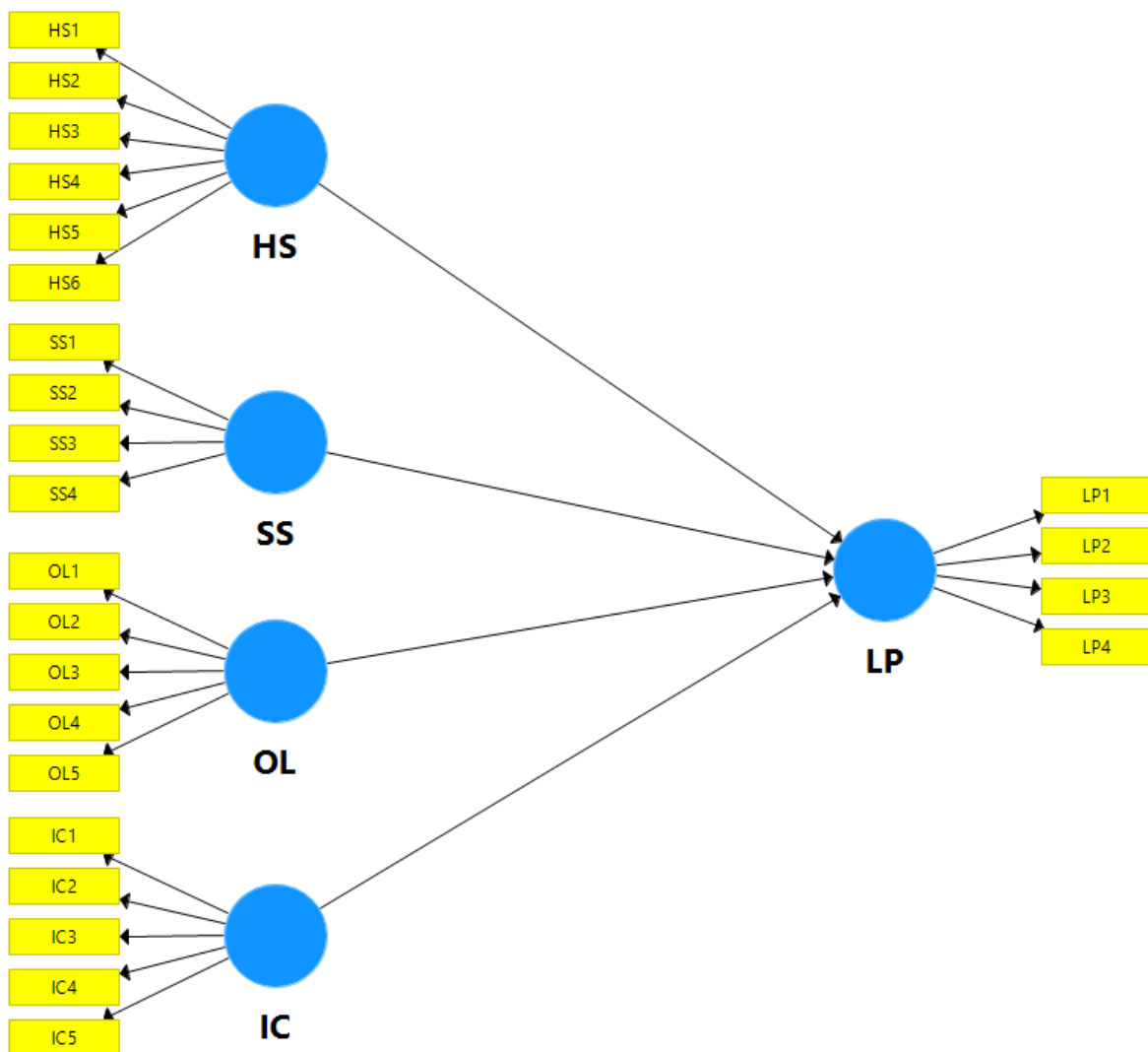


Figure 1. Research Model

METHODS

Definition of Operational Variables dan Indicators

In this research is quantitative method was used as the method. Data was collected by distributing questionnaires to all lecturers of university education institutions. To measure hard skills was used the instrument adapted from Hendarman&Cantner (2017) using six items. Soft skills were also adapted from Hendarman&Cantner (2017) using four items. Instruments adapted from Jiménez-Jiménez and Sanz-Valle (2011) measure organizational learning using five items. Lee & Choi (2003) adapted lecturers' innovation capability using five items. Lecturers' performance was adapted from Grace et al (2016) using four items. For questions/statements about the respondent's identity in the form of a semi-open questionnaire designed by a closed questionnaire. Five answer options give each closed question/statement item given, namely: strongly agree (SS) score 5, agree (S) score 4, less agree (KS) score 3, disagree (TS) score 2, and strongly disagree (STS) score 1. PLS and SmartPLS software version 3.0 are used as a method for processing data.

Population and Sample

Data collection was done by simple random sampling to 251 population of the lecturers in five private senior high universities di Indonesia. The returned and valid questionnaire results were 244 samples (88.05 percent).

RESULTS AND DISCUSSION

Description of Sample

Table 1. Information descriptive of the sample

Criteria	Total	%	
Age	< 30 years	50	20.4%
	30 - 40 years	114	46.6%
	> 40 years	80	33.0%
Service period as lecturer	< 5 years	77	31.7%
	5-10 years	118	48.5%
	> 10 years	48	19.8%
Highest education	Bachelor degree	19	8.0%
	Master degree	196	80.2%
	Doctoral degree	29	11.8%

Validity and Reliability Test Result of Research Indicator

Convergent validity, discriminant validity, and composite reliability testing are the measurement models used in the testing phase. To test the research hypothesis if all the indicators in the PLS model have met the requirements of convergent validity, discriminant validity and reliability testing can use the results of the PLS analysis.

1. Convergent Validity Test

To see the loading factor value of each indicator, do a convergent validity test. For most references, latent constructs are considered to have sufficiently strong validation explained through a factor weighting of 0.5 or more (Chin, 1998; Hair et al, 2010; Ghozali, 2014). AVE requirements for each construct > 0.5 are accepted as the minimum loading factor size in this study (Ghozali, 2014).

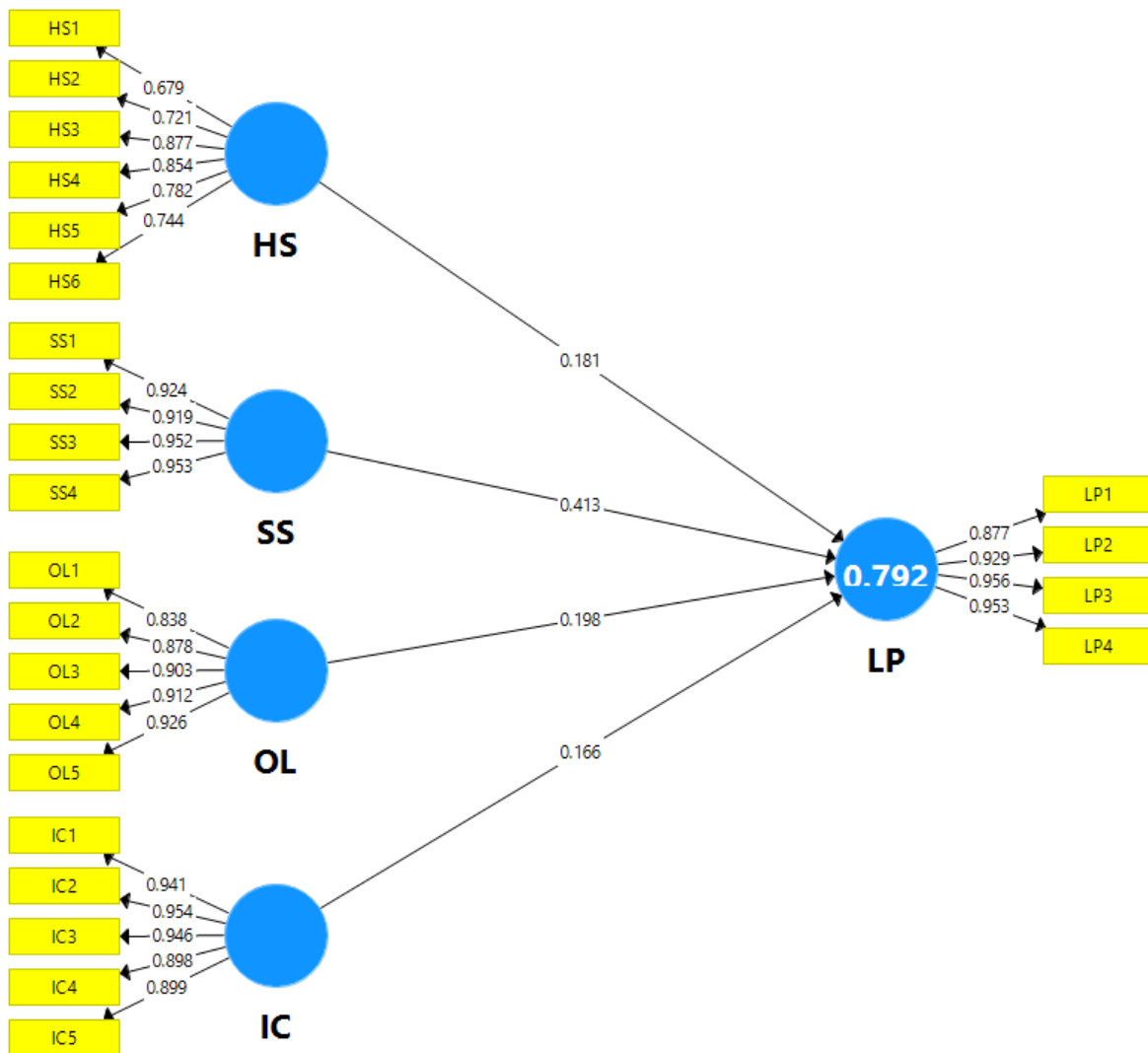


Figure2. Estimation valid model

All indicators have a loading factor value above 0.5 so that the model meets the convergent validity requirements, which is based on the estimation results of the PLS model in the picture above. Convergent validity is assessed from the AVE value in each construct, besides that it is also seen from the value of the loading factor on each indicator. AVE value for each construct of this research is above 0.5. So the convergent validity of this research model meets the requirements. In table 2 below can see the loading value, Cronbach's alpha, composite reliability, and AVE of each construct:

Table2. Items, Loadings, Cronbach's Alpha, Composite Reliability, and Average Variance Extracted (AVE)

Variables	Items	Loadings	Cronbach's Alpha	Composite Reliability	AVE
Hard Skills (HS)	HS1	0.715	0.870	0.902	0.607
	HS2	0.760			
	HS3	0.881			
	HS4	0.864			
	HS5	0.761			
	HS6	0.723			
Soft Skills (SS)	SS1	0.838	0.954	0.966	0.878
	SS2	0.887			
	SS3	0.887			
	SS4	0.929			
Organizational Learning (OL)	OL1	0.940	0.936	0.951	0.796
	OL2	0.956			
	OL3	0.945			
	OL4	0.911			
	OL5	0.911			
Innovation Capability (IC)	TIC1	0.910	0.959	0.969	0.861
	TIC 2	0.899			
	TIC 3	0.943			
	TIC 4	0.950			
	TIC 5	0.883			
Lectures' Performance (LP)	TP1	0.869	0.947	0.962	0.864
	TP2	0.922			
	TP3	0.957			
	TP4	0.951			

2. Discriminant Validity Test

To ensure that each concept of each latent variable is different from other latent variables do discriminant validity. If the AVE squared value of each exogenous construct (diagonal value) exceeds the correlation between construct and another construct (values below the diagonal) it can be interpreted that the model has good discriminant validity (Ghozali, 2014). AVE squared value is used as a result of the discriminant validity test by looking at the Fornell-Larcker Criterion Value obtained as follows:

Table3. Discriminant Validity

Variables	HS	IC	LP	OL	SS
HS	0.779				
IC	0.750	0.928			
LP	0.776	0.803	0.929		
OL	0.772	0.847	0.834	0.892	
SS	0.771	0.810	0.857	0.864	0.937

The results of the discriminant validity test in table 3 above can conclude that the model meets the discriminant validity show by all constructs that have AVE square root values above the correlation value with other latent constructs (through the Fornell-Larcker criteria).

3. Construct Reliability Test

The value of Cronbach's alpha and composite reliability of each construct can assess construct reliability. The recommended composite reliability and Cronbach's alpha values are more than 0.7. (Ghozali, 2014). All constructs have composite reliability and Cronbach's alpha value greater than 0.7 (> 0.7) is indicated by the reliability test results in table 2 above. In conclusion, the required reliability have been met all constructs.

Hypothesis Test

The inner model test was called the hypothesis test in PLS. A test of the significance of direct and indirect effects and measurement of the magnitude of the effect of exogenous variables on endogenous variables are included in this test. A direct effect test is taken to determine the effect of tacit and hard skills sharing on organizational learning and lecturers' innovation capability. The t-statistic test in the partial least squared (PLS) analysis model using the help of SmartPLS 3.0 software perform using the direct effect test. The table below obtain the bootstrapping technique, R Square values, and significance test values:

Table4. R Square Value

	R Square	R Square Adjusted
LP	0.792	0.789

Table5. Hypothesis Test

Hypothesis	Relationship	Beta	SE	T Statistics	P-Values	Decision
H1	HS ->LP	0.181	0.068	2.674	0.008	Supported
H2	SS ->LP	0.413	0.094	4.395	0.000	Supported
H3	OL ->LP	0.198	0.089	2.213	0.027	Supported
H4	IC ->LP	0.166	0.068	2.365	0.018	Supported

According to Table 4 above, the R Square lecturers' performance (LP) value of 0.792 which means that the lecturers' performance variable (LP) can be explained by hard skills

(HS), soft skills (SS), organizational learning (OL) and the lecturers' innovation capability (IC) variable by 79.2%, while other variables explain the remaining 20.8% (not discussed in this research). While Table 5 displays the effect between the research variables that have been mentioned are showed the T Statistics and P-Values .

Discussion

Based on the results of the research, hard skills, soft skills, organizational learning, and innovation capability have a positive and significant impact on lecturers' performance. This means that the more positive hard skills and soft skills possessed by lecturers, the lecturers' performance will also increase. This is by the findings of previous research which states that hard skills and soft skills have a positive and significant effect on performance (Asbari, Purwanto, Fayzhall, et al., 2020; Asbari, Purwanto, Maesaroh, et al., 2020; Fikri et al., 2020; Hutagalung et al., 2020; Putra et al., 2020; Sopa et al., 2020a, 2020b). Likewise, this study found evidence that the organizational learning of lecturers had a positive and significant effect on lecturer performance. This is following the findings of previous research which states that organizational learning is antecedents of employee performance (H. ur R. Khan et al., 2018; Li et al., 2018; Mus et al., 2017; Yamali, 2018). Besides, the innovation capability of lecturers also had a positive and significant effect on lecturer performance. This is following the findings of previous research which state that innovation capability is antecedents of employee performance (Asbari et al., 2019; Asbari, Wijayanti, Hyun, et al., 2020; Khadim et al., 2016; M. A. Khan et al., 2020; Masood & Afsar, 2017). Based on the results of the research, soft skills have the greatest influence on the teaching performance of lecturers. This is interesting. Therefore, it is confirming that many experts and researchers said that soft skills are more important than other skills to improve performance in the current knowledge era (Morrell et al., 2020; Munro, 2017; Ng, 2020; Rebele & Pierre, 2019; Sriruecha & Buajan, 2017; Szilárd et al., 2018; Tang, 2018).

CONCLUSIONS AND SUGGESTIONS

Conclusions

To add the role of hard skills, soft skills, organizational learning, and innovation capability as a predictor of lecturers' performance, Islamic university management needs to provide autonomy and breadth to share knowledge with the lecturers. Therefore, organizational learning as a positive environment that drives the competence and engagement of individual lecturers in college education institutions is created by the university. If the performance of each lecturer is in good condition knowledge management will run effectively in university institutions (Manaf et al., 2017).

Knowledge as an important university resource is learned by researchers. Both hard skills and soft skills can significantly improve university performance. Individual knowledge into university knowledge is transformed by organizational learning. Organizational learning acts as a catalyst for the process of knowledge creation among lecturers in the university is concluded by this research. Because, in fact, the lecturer who carries the obligation to prepare their students to learn and work in this knowledge society.

Managerial Implications

Based on the conclusions of this research, the maximum involvement of all lecturers to continuously improve their hard skills and soft skills was build by the management of Islamic universities. The key performance indicators of each lecturer were tailored by lecturer training in each section of the university is a necessity with the level of intensity, content, and context. In essence, team learning behavior created in the university environment will be a driving force for lecturers' innovation (Widmann& Mulder, 2018).

The process of improving skills to build lecturers' innovation capability of university education institutions should not only limit to the internal processes of the university. However, the process of building this innovation through efforts to absorb, articulate, utilize, and manage knowledge sourced from external university partners such as parents, government, communities, and other educational institutions are expanded by university management. University management can activate learning from others when assigning their lecturers to attend training, seminars, workshops, visits to other universities, meet with university committees and other strategic partners. Because external knowledge, such as those from trainers, coaches, students' parents, the government, the community, and other educational institutions support the lecturers' innovation capability of university education institutions.

Besides, things that need to be considered are the commitment to learning and the seriousness to be involved in managing the learning environment. The learning process is enjoyed by all members of university education institutions because university education institutions can become learning organizations. University culture that encourages innovation is used as a learning process. Trust, open communication, high involvement, the presence of industry challenges, and a creative work atmosphere are key factors of organizational learning. Facilitate the fulfillment of these key factors is the task of university management.

Limitation

Some limitations are owned by this research. First, the effect of hard skills, soft skills, organizational learning, and innovation ability on lecturers' performance analyzed by this research. Searching, exploring, and analyzing it is suggested by the author because there may be several other variables that affect lecturers' performance. Second, the environment of the higher educational institution is the place where this research was conducted and may not be generalized to other industries. Therefore recommended on this topic in other industries can carry out strongly research.

REFERENCES

- Albandea, I. and Giret, J. (2018), "The effect of soft skills on French post-secondary graduates' earnings", *International Journal of Manpower*, Vol. 39 No. 6, pp. 782-799. <https://doi.org/10.1108/IJM-01-2017-0014>
- Al-Kurdi, O., El-Haddadeh, R., & Eldabi, T. (2018). *Knowledge sharing in higher education institutions: a systematic review*. *Journal of Enterprise Information Management*, 31(2), 226–246. doi:10.1108/jeim-09-2017-0129

- Asbari, M., Purwanto, A., Fayzhall, M., Winanti, Purnamasari, D., & Firdaus, R. A. (2020). Hard skills or soft skills: Which are more important for Indonesian teachers innovation. *Test Engineering and Management*, 83(2836), 2836–2854. <http://www.testmagazine.biz/index.php/testmagazine/article/view/4087>
- Asbari, M., Purwanto, A., Maesaroh, S., Hutagalung, D., Mustikasiwi, A., Ong, F., & Andriyani, Y. (2020). Impact of Hard Skills, Soft Skills and Organizational Culture : Lecturer Innovation Competencies As Mediating. *EduPsyCouns: Journal of Education, Psychology and Counseling*, 2(1), 142–155. <https://ummaspul.ejournal.id/Edupsyscouns/article/view/419>
- Asbari, M., Santoso, P., & Purwanto, A. (2019). Influence of Leadership, Motivation, Competence, Commitment and Culture on ISO 9001:2015 Performance in Packaging Industry, *Scholars Journal of Economics, Business and Management*, 6(12): 577-582.
- Asbari, M., Santoso, P., and Purwanto, A. (2019). Influence of Leadership, Motivation, Competence, Commitment and Culture on ISO 9001:2015 *Performance* in Packaging Industry, *Scholars Journal of Economics, Business and Management*, 6(12): 577-582. DOI: 10.36347/sjebm.2019.v06i12.005
- Asbari, M., Santoso, P., and Purwanto, A. (2019). Pengaruh kepemimpinan dan budaya sekolah terhadap perilaku inovatif pada industri 4.0. *JIM UPB (Jurnal Ilmiah Manajemen Universitas Putera Batam)*, 8(1), 7-15. doi:10.33884/jimupb.v8i1.1562
- Asbari, M., Wijayanti, L. M., Hyun, C. C., Purwanto, A., Santoso, B., & Article, H. (2019). Effect of Tacit and Explicit Knowledge Sharing on Teacher Innovation Capability. *Dinamika Pendidikan*, 14(2), 227–243. <https://doi.org/10.15294/dp.v14i2.22732>
- Asbari, M., Wijayanti, L., Hyun, C. C., Purwanto, A., & Santoso, P. B. (2020). How to build innovation capability in the RAC industry to face industrial revolution 4.0? *International Journal of Psychosocial Rehabilitation*, 24(6), 2008–2027. <https://doi.org/10.37200/IJPR/V24I6/PR260192>
- Asbari, M., Wijayanti, L.M., Hyun, C.C., Purwanto, A., Santoso, P.B., Bernarto, I., Pramono, R., Fayzhall, M. (2020). The Role of Knowledge Transfer and Organizational Learning to Build Innovation Capability: Evidence from Indonesian Automotive Industry. *International Journal of Control and Automation*.13(1).19-322
- Asbari, M., Wijayanti, L.Hyun, C.C, Purwanto, A, Santoso, P.B.(2020). How to Build Innovation Capability in the RAC Industry to Face Industrial Revolution 4.0?. *International Journal of Psychosocial Rehabilitation*. 24(6). 2008-2027. DOI: 10.37200/IJPR/V24I6/PR260192
- Asher, D., & Popper, M. (2019). *Soft skills* as a multilayer phenomenon: the “onion” model. *The Learning Organization*. doi:10.1108/tlo-06-2018-0105
- Assyane N. (2019) Hard Competencies Satisfaction Levels for Software Engineers: A Unified Framework. In: Hyrynsalmi S., Suoranta M., Nguyen-Duc A., Tyrväinen P., Abrahamsson P. (eds) *Software Business. ICSOB 2019. Lecture Notes in Business Information Processing*, vol 370. Springer, Cham. https://doi.org/10.1007/978-3-030-33742-1_27

- Attia, A. and Salama, I. (2018), "Knowledge management capability and supply chain management practices in the Saudi food industry", *Business Process Management Journal*, Vol. 24 No. 2, pp. 459-477. <https://doi.org/10.1108/BPMJ-01-2017-0001>
- Aulawi, H. (2018). *Improving Lecturer innovation capability Trough Creativity and Knowledge Sharing Behavior. IOP Conference Series: Materials Science and Engineering*, 434, 012242. doi:10.1088/1757-899x/434/1/012242
- Azim, S., Gale, A., Lawlor-Wright, T., Kirkham, R., Khan, A., & Alam, M. (2010). *The importance of soft skills in complex projects. International Journal of Managing Projects in Business*, 3(3), 387–401. doi:10.1108/17538371011056048
- Baldé, M., Ferreira, A. and Maynard, T. (2018), "SECI driven creativity: the role of team trust and intrinsic motivation", *Journal of Knowledge Management*, Vol. 22 No. 8, pp. 1688-1711. <https://doi.org/10.1108/JKM-06-2017-0241>
- Bani-Melhem, S., Zeffane, R. and Albaity, M. (2018), "Determinants of employees' innovative behavior", *International Journal of Contemporary Hospitality Management*, Vol. 30 No. 3, pp. 1601-1620. <https://doi.org/10.1108/IJCHM-02-2017-0079>
- Bashir, M. and Farooq, R. (2019), "The synergetic effect of knowledge management and business model innovation on firm competence: A systematic review", *International Journal of Innovation Science*, Vol. 11 No. 3, pp. 362-387. <https://doi.org/10.1108/IJIS-10-2018-0103>
- Boadu, F., Xie, Y., Du, Y.-F., & Dwomo-Fokuo, E. (2018). *MNEs Subsidiary Training and Development and Firm Innovative Performance: The Moderating Effects of Tacit and Hard skills Received from Headquarters. Sustainability*, 10(11), 4208. doi:10.3390/su10114208
- Borges, R., Bernardi, M. and Petrin, R. (2019), "Cross-country findings on soft skills sharing: evidence from the Brazilian and Indonesian IT workers", *Journal of Knowledge Management*, Vol. 23 No. 4, pp. 742-762. <https://doi.org/10.1108/JKM-04-2018-0234>
- Borrego, G., Morán, A. L., Palacio, R. R., Vizcaíno, A., & García, F. O. (2019). Towards a reduction in architectural knowledge vaporization during agile global software development. *Information and Software Technology*. doi:10.1016/j.infsof.2019.04.008
- Boske, C. and Osanloo, A. (2015), "Conclusion – Preparing all University Community Leaders to Live their Work", *Living the Work: Promoting Social Justice and Equity Work in Universities around the World (Advances in Educational Administration, Vol. 23)*, Emerald Group Publishing Limited, pp. 405-426. <https://doi.org/10.1108/S1479-366020140000023032>
- Cairó Battistutti, O. & Bork, D. Cogn Process (2017) 18: 461. <https://doi.org/10.1007/s10339-017-0825-6>
- Campbell, J. (1990), "Modeling the performance prediction problem in industrial and organizational psychology", in Dunnette, M. and Hough, L. (Eds.), *Handbook of Organizational and Industrial Psychology*, Consulting Psychologists Press, Palo Alto, CA, pp. 687-732.
- Campbell, J. (1990), "Modeling the performance prediction problem in industrial and organizational psychology", in Dunnette, M. and Hough, L. (Eds.), *Handbook*

- of Organizational and Industrial Psychology*, Consulting Psychologists Press, Palo Alto, CA, pp. 687-732.
- Campbell, J.P., McCloy, R.A., Oppler, S.H. and Sager, C.E. (1993), "A theory of performance", in Schmitt, N. and Borman, W. (Eds.), *Personnel Selection in Organizations*, Jossey-Bass, San Francisco, CA, pp. 35-70.
- Campbell, J.P., McCloy, R.A., Oppler, S.H. and Sager, C.E. (1993), "A theory of performance", in Schmitt, N. and Borman, W. (Eds.), *Personnel Selection in Organizations*, Jossey-Bass, San Francisco, CA, pp. 35-70.
- Cantwell, J. and Zaman, S. (2018), "Connecting local and global technological knowledge sourcing", *Competitiveness Review*, Vol. 28 No. 3, pp. 277-294. <https://doi.org/10.1108/CR-08-2017-0044>
- Castela, B., Ferreira, F., Ferreira, J. and Marques, C. (2018), "Assessing the *lecturer innovation capability* of small- and medium-sized enterprises using a non-parametric and integrative approach", *Management Decision*, Vol. 56 No. 6, pp. 1365-1383. <https://doi.org/10.1108/MD-02-2017-0156>
- Chang, C. and Lin, T. (2015), "The role of organizational culture in the *knowledge management process*", *Journal of Knowledge Management*, Vol. 19 No. 3, pp. 433-455. <https://doi.org/10.1108/JKM-08-2014-0353>
- Chang, W.-J., Liao, S.-H., & Wu, T.-T. (2017). *Relationships among organizational culture, knowledge sharing, and innovation capability: a case of the automobile industry in Taiwan*. *Knowledge Management Research & Practice*, 15(3), 471–490. doi:10.1057/s41275-016-0042-6
- Chatterjee, A., Pereira, A. and Sarkar, B. (2018), "Learning transfer system inventory (LTSI) and *knowledge creation* in organizations", *The Learning Organization*, Vol. 25 No. 5, pp. 305-319. <https://doi.org/10.1108/TLO-06-2016-0039>
- Che, T., Wu, Z., Wang, Y. and Yang, R. (2019), "Impacts of *knowledge sourcing* on employee innovation: the moderating effect of information transparency", *Journal of Knowledge Management*, Vol. 23 No. 2, pp. 221-239. <https://doi.org/10.1108/JKM-11-2017-0554>
- Che, T., Wu, Z., Wang, Y., & Yang, R. (2018). Impacts of *knowledge sourcing* on employee innovation: the moderating effect of information transparency. *Journal of Knowledge Management*. doi:10.1108/jkm-11-2017-0554
- Chen, H., BaptistaNunes, M., Ragsdell, G., & An, X. (2018). Extrinsic and intrinsic motivation for experience grounded *soft skills* sharing in Chinese software organisations. *Journal of Knowledge Management*, 22(2), 478–498. doi:10.1108/jkm-03-2017-0101
- Chin, WW. (1998). *The Partial Least Squares Approach to Structural Equation Modeling*. Modern Methods for Business Research, In: G. A. Marcoulides, Ed., Lawrence Erlbaum Associates Publisher, New Jersey, pp. 295-336.
- Cifariello, P., Ferragina, P., & Ponzani, M. (2019). Wisier: A semantic approach for expert finding in academia based on entity linking. *Information Systems*, 82, 1–16. doi:10.1016/j.is.2018.12.003

- Culot, G., Orzes, G., & Sartor, M. (2019). Integration and scale in the context of Industry 4.0: the evolving shapes of manufacturing value chains. *IEEE Engineering Management Review*, 1–1. doi:10.1109/emr.2019.2900652
- Darwish, T. K., Zeng, J., RezaeiZadeh, M., & Haak-Saheem, W. (2018). *Organizational learning of Absorptive Capacity and Innovation: Does Leadership Matter? European Management Review*. doi:10.1111/emre.12320
- Deranek, K., McLeod, A., & Schmidt, E. (2017). ERP Simulation Effects on Knowledge and Attitudes of Experienced Users. *Journal of Computer Information Systems*, 1–11. doi:10.1080/08874417.2017.1373610
- Durana, Kral, Stehel, Lazaroiu, & Sroka. (2019). Quality Culture of Manufacturing Enterprises: A Possible Way to Adaptation to Industry 4.0. *Social Sciences*, 8(4), 124. doi:10.3390/socsci8040124
- Escrig-Tena, A. B., Segarra-Ciprés, M., García-Juan, B., & Beltrán-Martín, I. (2018). *The impact of hard and soft quality management and proactive behaviour in determining innovation performance. International Journal of Production Economics*, 200, 1–14. doi:10.1016/j.ijpe.2018.03.011
- Fan, C.S., Wei, X., and Zhang, J. (2017). Soft Skills, Hard Skills, and The Black/White Wage Gap. Wiley Online Library. 55(2):1032-1052. Doi: <https://doi.org/10.1111/ecin.12406>
- Ferraris, A., Santoro, G. and Scuotto, V. (2018), "Dual relational embeddedness and knowledge transfer in European multinational corporations and subsidiaries", *Journal of Knowledge Management*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/JKM-09-2017-0407>
- Ferreira, J., Mueller, J. and Papa, A. (2018), "Strategic knowledge management: theory, practice and future challenges", *Journal of Knowledge Management*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/JKM-07-2018-0461>
- Fikri, M. A. A., Asbari, M., Purwanto, A., Nugroho, Y. A., Waruwu, H., Fauji, A., Shobihi, A. W., Singgih, E., Sudiyono, R. N., Agistiawati, E., & Dewi, W. R. (2020). A Mediation Role of Organizational Learning on Relationship of Hard Skills, Soft Skills, Innovation and Performance: Evidence at Islamic School. *EduPsyCouns: Journal of Education, Psychology and Counseling*, 2(1), 398–423. <https://ummaspul.ejournal.id/Edupsyscouns/article/view/498>
- Gale, A. J., Duffey, M. A., Park-Gates, S., & Peek, P. F. (2017). *Soft Skills versus Hard Skills: Practitioners' Perspectives on Interior Design Interns. Journal of Interior Design*, 42(4), 45–63. doi:10.1111/joid.12105
- Ganguly, A., Talukdar, A. and Chatterjee, D. (2019), "Evaluating the role of social capital, soft skills sharing, knowledge quality and reciprocity in determining lecturer innovation capability of an organization", *Journal of Knowledge Management*, Vol. 23 No. 6, pp. 1105-1135. <https://doi.org/10.1108/JKM-03-2018-0190>
- Ghozali, I. *Structural Equation Modeling, Metode Alternatif dengan Partial Least Square (PLS)*, Edisi 4. Semarang: Badan Penerbit Universitas Diponegoro. 2014.
- Grace, P., Mustamu, R. H., Bisnis, P. M., Manajemen, P. S., Petra, U. K., & Siwalankerto, J. (2016). Pengaruh Employee Engagement terhadap Kinerja Karyawan pada Perusahaan

- KeluargaProdusenSenapanAngin, 4(2), 101–107.
<http://publication.petra.ac.id/index.php/manajemen-bisnis/article/view/4738>
- Gunasekaran, A., Subramanian, N., & Ngai, E. (2018). Quality Management in the 21st Century Enterprises: Research pathway towards Industry 4.0. *International Journal of Production Economics*. doi:10.1016/j.ijpe.2018.09.005
- Guo, Y., Jasovska, P., Rammal, H. and Rose, E. (2018), "Global mobility of professionals and the transfer of *soft skills* in multinational service firms", *Journal of Knowledge Management*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/JKM-09-2017-0399>
- Haamann, T., & Basten, D. (2018). The role of information technology in bridging the knowing-doing gap: an exploratory case study on *knowledge* application. *Journal of Knowledge Management*. doi:10.1108/jkm-01-2018-0030
- Hair, J. F., Black, W. C., Babin, B. J.; and Anderson, R. E. (2010), *Multivariate Data Analysis*, 7th ed. New Jersey: Pearson Prentice Hall.
- Hamada, T. (2019). Determinants of Decision-Makers' Attitudes toward Industry 4.0 Adaptation. *Social Sciences*, 8(5), 140. doi: 10.3390/socsci8050140
- Hartley, J. (2018), "Ten propositions about public leadership", *International Journal of Public Leadership*, Vol. 14 No. 4, pp. 202-217. <https://doi.org/10.1108/IJPL-09-2018-0048>
- Haseeb, M., Hussain, H. I., Ślusarczyk, B., & Jermisittiparsert, K. (2019). Industry 4.0: A Solution towards Technology Challenges of Sustainable Business Performance. *Social Sciences*, 8(5), 154. doi:10.3390/socsci8050154
- Hodgins, M. and Dadich, A. (2017), "Positive emotion in *knowledge* creation", *Journal of Health Organization and Management*, Vol. 31 No. 2, pp. 162-174. <https://doi.org/10.1108/JHOM-06-2016-0108>
- Holford, W.D. (2018). The future of human creative *knowledge* work within the digital economy. *Futures*. doi:10.1016/j.futures.2018.10.002
- Holste, J. S., & Fields, D. (2010). Trust and *soft skills* sharing and use. *Journal of Knowledge Management*, 14(1), 128–140. doi:10.1108/13673271011015615
- Honeycutt, Jerry. (2000). *Knowledge Management Strategies: Strategi Manajemen Pengetahuan*. Jakarta : PT. Alex Media Komputindo.
- Hong, J. (1999). Structuring for organizational learning. *The Learning Organization*, Vol. 6 No. 4, pp. 173-186. <https://doi.org/10.1108/09696479910280631>
- Huang, F., Gardner, S. and Moayer, S. (2016), "Towards a framework for strategic *knowledge* management practice: Integrating soft and hard systems for competitive advantage", *VINE Journal of Information and Knowledge Management Systems*, Vol. 46 No. 4, pp. 492-507. <https://doi.org/10.1108/VJKMS-08-2015-0049>
- Huesig, S. and Endres, H. (2019), "Exploring the digital innovation process: The role of functionality for the adoption of innovation management software by innovation managers", *European Journal of Innovation Management*, Vol. 22 No. 2, pp. 302-314. <https://doi.org/10.1108/EJIM-02-2018-0051>

- Hussain, S. T., Lei, S., Akram, T., Haider, M. J., Hussain, S. H., & Ali, M. (2018). Kurt Lewin's change model: A critical review of the role of leadership and employee involvement in organizational change. *Journal of Innovation & Knowledge*, 3(3), 123–127. doi:10.1016/j.jik.2016.07.002
- Hutagalung, D., Sopa, A., Asbari, M., Cahyono, Y., Maesaroh, S., & Chidir, G. (2020). Influence of Soft Skills, Hard Skills and Organization Learning on Teachers' Performance through Innovation Capability as Mediator. *Journal of Critical Reviews*, 7(19), 54–66. <http://www.jcreview.com/?mno=101978>
- Hyun, C.C., Wijayanti, L.M., Asbari, M., Purwanto, A., Santoso, P.B., IGAK Wardani, Bernarto, I., Pramono, R., (2020). Implementation of Contextual Teaching and Learning (CTL) to
- Ibrahim, R., Boerhannoeddin, A. and Bakare, K. (2017), "The effect of soft skills and training methodology on employee performance", *European Journal of Training and Development*, Vol. 41 No. 4, pp. 388-406. <https://doi.org/10.1108/EJTD-08-2016-0066>
- Imran, M., Ilyas, M., Aslam, U. and Fatima, T. (2018), "Knowledge processes and firm performance: the mediating effect of employee creativity", *Journal of Organizational Change Management*, Vol. 31 No. 3, pp. 512-531. <https://doi.org/10.1108/JOCM-10-2016-0202>
- Jakhar, S. K., Mangla, S. K., Luthra, S., & Kusi-Sarpong, S. (2018). When stakeholder pressure drives the circular economy. *Management Decision*. doi:10.1108/md-09-2018-0990
- Jaleel, S. and Verghis, A.M. (2015). *Knowledge Creation in Constructivist Learning*. *Universal Journal of Educational Research* 3(1): 8-12. doi: 10.13189/ujer.2015.030102.
- Jiménez-Jiménez, D., & Sanz-Valle, R. (2011). Innovation, organizational learning, and performance. *Journal of Business Research*, 64(4), 408–417. doi:10.1016/j.jbusres.2010.09.010
- Jou, M. Lin, Y. and Wu, D. (2016) Effect of a blended learning environment on student critical thinking and knowledge transformation, *Interactive Learning Environments*, 24:6, 1131-1147, DOI: [10.1080/10494820.2014.961485](https://doi.org/10.1080/10494820.2014.961485)
- Kasim, A., Ekinici, Y., Altinay, L. and Hussain, K. (2018) Impact of market orientation, organizational learning and market conditions on small and medium-size hospitality enterprises, *Journal of Hospitality Marketing & Management*, 27:7, 855-875, DOI: [10.1080/19368623.2018.1438955](https://doi.org/10.1080/19368623.2018.1438955)
- Kawamura, K. (2016), "Kristine Marin Kawamura, PhD interviews Ikujiro Nonaka, PhD", *Cross Cultural & Strategic Management*, Vol. 23 No. 4, pp. 613-632. <https://doi.org/10.1108/CCSM-06-2014-0056>
- Kenayathulla, H., Ahmad, N. and Idris, A. (2019), "Gaps between competence and importance of employability skills: evidence from Malaysia", *Higher Education Evaluation and Development*, Vol. 13 No. 2, pp. 97-112. <https://doi.org/10.1108/HEED-08-2019-0039>
- Khadim, R. A., Asghar, M., Khan, R., Farooq, O., & Afzal, M. (2016). Determining the Role of Transformational Leadership on Firm Performance through Organizational

- Innovation and Technological Innovation Capabilities. *European Online Journal of Natural and Social Sciences*, 5(4), 951–965. <http://www.european-science.com>
- Khan, H. ur R., Ali, M., Olya, H. G. T., Zulqarnain, M., & Khan, Z. R. (2018). Transformational leadership, corporate social responsibility, organizational innovation, and organizational performance: Symmetrical and asymmetrical analytical approaches. *Corporate Social Responsibility and Environmental Management*, 25(6), 1270–1283. <https://doi.org/10.1002/csr.1637>
- Khan, M. A., Ismail, F. B., Hussain, A., & Alghazali, B. (2020). The Interplay of Leadership Styles, Innovative Work Behavior, Organizational Culture, and Organizational Citizenship Behavior. *SAGE Open*, 10(1). <https://doi.org/10.1177/2158244019898264>
- Khoshsorour, A., Gilaninia, S. 2018. Kuwait Chapter of the Arabian. *Journal of Business and Management Review; Kuwait City* 7(3): 1-4. doi: 10.12816/0048627
- Kim, N. and Shim, C. (2018). Social capital, *knowledge* sharing and innovation of small- and medium-sized enterprises in a tourism cluster. *International Journal of Contemporary Hospitality Management*, Vol. 30 No. 6, pp. 2417-2437. <https://doi.org/10.1108/IJCHM-07-2016-0392>
- Klaeijnsen, A., Vermeulen, M., & Martens, R. (2017). Lecturers' Innovative Behaviour: The Importance of Basic Psychological Need Satisfaction, Intrinsic Motivation, and Occupational Self-Efficacy. *Scandinavian Journal of Educational Research*, 62(5), 769–782. doi:10.1080/00313831.2017.1306803
- Laker, D. R., & Powell, J. L. (2011). *The differences between hard and soft skills and their relative impact on training transfer*. *Human Resource Development Quarterly*, 22(1), 111–122. doi:10.1002/hrdq.20063
- Lecat, A., Beusaert, S. & Raemdonck, I. (2018). On the Relation Between Lecturers' (In)formal Learning and Innovative Working Behavior: the Mediating Role of Employability. *Vocations and Learning* 11, 529–554. doi:10.1007/s12186-018-9199-x
- Lee, J.-C., Shiue, Y.-C., & Chen, C.-Y. (2016). *Examining the impacts of organizational culture and top management support of knowledge sharing on the success of software process improvement*. *Computers in Human Behavior*, 54, 462–474. doi:10.1016/j.chb.2015.08.030
- Lee, Peter. (2019). *Soft skills and University-Industry Technology Transfer*. *Research Handbook on Intellectual Property and Technology Transfer (2019, Forthcoming); UC Davis Legal Studies Research Paper Forthcoming*.doi: <http://dx.doi.org/10.2139/ssrn.3417933>
- Li, M., Liu, H. and Zhou, J. (2018), "G-SECI model-based *knowledge* creation for CoPS innovation: the role of grey *knowledge*", *Journal of Knowledge Management*, Vol. 22 No. 4, pp. 887-911. <https://doi.org/10.1108/JKM-10-2016-0458>
- Li, Song, Wang, & Li. (2019). *Intellectual Capital, Knowledge Sharing, and Innovation Performance: Evidence from the Chinese Construction Industry*. *Sustainability*, 11(9), 2713. doi:10.3390/su11092713
- Li, W., Bhutto, T. A., Nasiri, A. R., Shaikh, H. A., & Samo, F. A. (2018). Organizational innovation: the role of leadership and organizational culture. *International Journal of Public Leadership*, 14(1), 33–47. <https://doi.org/10.1108/ijpl-06-2017-0026>

- Liebowitz, J. and Chen, Y. 2001. Developing *knowledge-sharing* proficiencies. *Knowledge Management Review* 3(6): 12-15. https://www.researchgate.net/publication/285908349_Developing_knowledge-sharing_proficiencies_Building_a_supportive_culture_for_knowledge-sharing
- Lievre, P. and Tang, J. (2015), "SECI and inter-organizational and intercultural *knowledge* transfer: a case-study of controversies around a project of co-operation between France and China in the health sector", *Journal of Knowledge Management*, Vol. 19 No. 5, pp. 1069-1086. <https://doi.org/10.1108/JKM-02-2015-0054>
- Lin, C.-P. (2006). To Share or Not to Share: Modeling *Soft skills* Sharing, Its Mediators and Antecedents. *Journal of Business Ethics*, 70(4), 411–428. doi:10.1007/s10551-006-9119-0
- Lin, H., Lee, Y. (2017). A Study of The Influence of *Organizational learning* on Employees' Innovative Behavior and Work Engagement by A Cross-Level Examination. *Eurasia Journal of Mathematics, Science and Technology Education*, 13(7), 3463-3478. <https://doi.org/10.12973/eurasia.2017.00738a>
- Lombardi, R. (2019). *Knowledge* transfer and organizational *performance* and business process: past, present and future researches. *Business Process Management Journal*, 25(1), 2–9. doi:10.1108/bpmj-02-2019-368
- Lund, H. B., & Karlsen, A. (2019). The importance of vocational education institutions in manufacturing regions: adding content to a broad definition of regional innovation systems. *Industry and Innovation*, 1–20. doi:10.1080/13662716.2019.1616534
- Ma, Q., Mayfield, M. and Mayfield, J. (2018), "Keep them on-board! How organizations can develop employee embeddedness to increase employee retention", *Development and Learning in Organizations*, Vol. 32 No. 4, pp. 5-9. <https://doi.org/10.1108/DLO-11-2017-0094>
- Malik, A. (2019). Creating competitive advantage through source basic capital strategic humanity in the industrial age 4.0. *International Research Journal of Advanced Engineering and Science* 4(1): 209-215. www.irjaes.com/pdf/V4N1Y18-IRJAES/IRJAES-V4N1P195Y19.pdf
- Manaf, H. A., Armstrong, S. J., Lawton, A., & Harvey, W. S. (2017). *Managerial Soft skills, Individual Performance, and the Moderating Role of Employee Personality*. *International Journal of Public Administration*, 1–13. doi:10.1080/01900692.2017.1386676
- Martínez-Costa, M., Jiménez-Jiménez, D., & Dine Rabeh, H. A. (2018). *The effect of organisational learning on interorganisational collaborations in innovation: an empirical study in SMEs*. *Knowledge Management Research & Practice*, 1–14. doi:10.1080/14778238.2018.1538601
- Masood, M., & Afsar, B. (2017). Transformational leadership and innovative work behavior among nursing staff. *Nursing Inquiry*, 24(4). <https://doi.org/10.1111/nin.12188>
- Mohajan, Haradhan (2016): *Sharing of Soft skills in Organizations: A Review*. Published in: *American Journal of Computer Science and Engineering*, Vol. 3, No. 2 (1 July 2016): pp. 6-19. <https://mpira.ub.uni-muenchen.de/id/eprint/82958>

- Morrell, B. L. M., Eukel, H. N., & Santurri, L. E. (2020). Soft skills and implications for future professional practice: Qualitative findings of a nursing education escape room. *Nurse Education Today*, 104462.
- Moustaghfir, K. and Schiuma, G. (2013), "Knowledge, learning, and innovation: research and perspectives", *Journal of Knowledge Management*, Vol. 17 No. 4, pp. 495-510. <https://doi.org/10.1108/JKM-04-2013-0141>
- Muhammad, A., Ariyani, E.D., Sadikin, S., Sujana, D. (2019). Factor Analysis of the Companies Demands to the Polytechnic Graduates in Indonesia. *Advanced Science Letters*, Volume 25, Number 1, January 2019, pp. 117-121(5)DOI: <https://doi.org/10.1166/asl.2019.13199>
- Muñoz, C.A., Mosey, S. and Binks, M.(2015)The *tacit* mystery: reconciling different approaches to *soft skills*.*Knowledge Management Research & Practice*,13:3,289-298,DOI: [10.1057/kmrp.2013.50](https://doi.org/10.1057/kmrp.2013.50)
- Munro, E. (2017). Building soft skills in the creative economy: Creative intermediaries, business support and the ‘soft skills gap’. *Poetics*, 64, 14–25.
- Muqowim (2012). *Pengembangan Soft Skills Guru*. Yogyakarta: Pedagogia
- Mus, R., Nujum, S., & Sukmawati, S. (2017). The Influence of Competency and Organizational Culture on Performance Lecturer Kopertisregion IX Employed On PTS in Makassar. *Journal of Research in Business and Management*, 5(2), 7–12.
- Muscio, A., & Ciffolilli, A. (2019). *What drives the capacity to integrate Industry 4.0 technologies? Evidence from European R&D projects. Economics of Innovation and New Technology*, 1–15. doi:10.1080/10438599.2019.1597413
- Muthuveloo, R., Shanmugam, N., & Teoh, A. P. (2017). The impact of *soft skills* management on organizational performance: Evidence from Malaysia. *Asia Pacific Management Review*, 22(4), 192–201. doi:10.1016/j.apmr.2017.07.010
- Naqshbandi, M., Tabche, I. and Choudhary, N. (2019), Managing open innovation: The roles of empowering leadership and employee involvement climate, *Management Decision*, Vol. 57 No. 3, pp. 703-723. <https://doi.org/10.1108/MD-07-2017-0660>
- Ng, L. K. (2020). The perceived importance of soft (service) skills in nursing care: A research study. *Nurse Education Today*, 85, 104302.
- Nonaka I., Hirose Nishihara A. (2018) Introduction to the Concepts and Frameworks of *Knowledge-Creating Theory*. In: Hirose Nishihara A., Matsunaga M., Nonaka I., Yokomichi K. (eds) *Knowledge Creation in Community Development*. Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-319-57481-3_1
- Nonaka I., Toyama R. (2015) The *Knowledge-creating Theory Revisited: Knowledge Creation as a Synthesizing Process*. In: Edwards J.S. (eds) *The Essentials of Knowledge Management. OR Essentials Series*. Palgrave Macmillan, London. https://doi.org/10.1057/9781137552105_4
- Norwich, B., Koutsouris, G., Fujita, T., Ralph, T., Adlam, A. and Milton, F. (2016), "Exploring *knowledge* bridging and translation in lesson study using an inter-professional team", *International Journal for Lesson and Learning Studies*, Vol. 5 No. 3, pp. 180-195. <https://doi.org/10.1108/IJLLS-02-2016-0006>

- Nouri, B.A., &Ghorbani, R. (2017). The Effect of Knowledge Management on Organizational Innovation with the Mediating Role of Organizational Learning (Case Study : Agricultural Bank in Iran). *Journal of Applied Economics and Business Research JAEBR*, 7(3): 194-211. <https://www.semanticscholar.org/paper/The-Effect-of-Knowledge-Management-on-Innovation-of-Nouri-Ghorbani/fb9eb1df37e4a47c9b3ac2bbf0bbc4f4907b80a2>
- Nugroho, M. (2018), "The effects of collaborative cultures and *knowledge* sharing on *organizational learning*", *Journal of Organizational Change Management*, Vol. 31 No. 5, pp. 1138-1152. <https://doi.org/10.1108/JOCM-10-2017-0385>
- Okuyama, R. (2017), "Importance of *soft skills* in incremental innovation: Implications from drug discovery cases", *Journal of Strategy and Management*, Vol. 10 No. 1, pp. 118-130. <https://doi.org/10.1108/JSMA-02-2016-0016>
- Parida, V., Sjödin, D., &Reim, W. (2019). *Reviewing Literature on Digitalization, Business Model Innovation, and Sustainable Industry: Past Achievements and Future Promises. Sustainability*, 11(2), 391. doi:10.3390/su11020391
- Pérez-Fuillerat, N., Solano-Ruiz, M. C., &Amezcu, M. (2018). *Conocimientotácito: características en la prácticaenfermera. Gaceta Sanitaria*. doi:10.1016/j.gaceta.2017.11.002
- Pérez-Luño, A., Alegre, J., & Valle-Cabrera, R. (2018). *The role of soft skills in connecting knowledge exchange and combination with innovation. Technology Analysis & Strategic Management*, 1–13. doi:10.1080/09537325.2018.1492712
- Pérez-Luño, A., Alegre, J., & Valle-Cabrera, R. (2018). *The role of soft skills in connecting knowledge exchange and combination with innovation. Technology Analysis & Strategic Management*, 1–13. doi:10.1080/09537325.2018.1492712
- Polanyi, M. (1966). *The Tacit dimension*. New York: Doubleday & Co.
- Prameswari, M., Asbari, M., Purwanto, A., Ong, F., Kusumaningsih, S.W., Mustikasiwi, A., Chidir, G., Winanti, Sopa, A. (2020). The Impacts of Leadership and Organizational Culture on Performance in Indonesian Public Health: The Mediating Effects of Innovative Work Behavior. *International Journal of Control and Automation*, 13(02), 216 - 227. Retrieved from <http://sersc.org/journals/index.php/IJCA/article/view/7630>
- Prasarnphanich, P., Janz, B. and Patel, J. (2016), "Towards a better understanding of system analysts' *soft skills*: A mixed method approach", *Information Technology & People*, Vol. 29 No. 1, pp. 69-98. <https://doi.org/10.1108/ITP-06-2014-0123>
- Purwanto, A., Wijayanti, L.M., Hyun, C.C., Asbari, M. (2020). The Effects of Transformational, Transactional, authentic, Authoritarian Leadership style Toward Lecture Performance of Private University in Indonesia. *Dinasti International Journal of Digital Business Management (DIJDBM)*, 1(1), 29-42. DOI:<https://doi.org/10.31933/dijdbm.v1i1.88>
- Putra, A. S., Novitasari, D., Asbari, M., Purwanto, A., Iskandar, J., Hutagalung, D., &Cahyono, Y. (2020). Examine Relationship of Soft Skills, Hard Skills, Innovation and Performance: the Mediation Effect of Organizational Learning. *International Journal of Science and Management Studies (IJSMS)*, 3(3), 27–43. <http://www.ijmsjournal.org/2020/volume-3 issue-3/ijms-v3i3p104.pdf>

- Qi, C. and Chau, P.Y.K.(2018)Will enterprise social networking systems promote *knowledge management and organizational learning*? An empirical study, *Journal of Organizational Computing and Electronic Commerce*,28:1,31-57,DOI: [10.1080/10919392.2018.1407081](https://doi.org/10.1080/10919392.2018.1407081)
- Rainsbury, E., Hodges, D., Burchell, N. & Lay, M. C. (2002). Ranking workplace competencies: Student and graduate perceptions. *Asia-Pacific Journal of Cooperative Education*, 3(2), 8-18. <https://hdl.handle.net/10289/3219>
- Razmerita L., Phillips-Wren G., Jain L.C. (2016) *Advances in Knowledge Management: An Overview*. In: Razmerita L., Phillips-Wren G., Jain L. (eds) *Innovations in Knowledge Management*. Intelligent Systems Reference Library, vol 95. Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-662-47827-1_1
- Rebele, J. E., & Pierre, E. K. S. (2019). A commentary on learning objectives for accounting education programs: The importance of soft skills and technical knowledge. *Journal of Accounting Education*, 48, 71–79.
- Rothberg, H. and Erickson, G. (2017), "Big data systems: *knowledge transfer or intelligence insights*?", *Journal of Knowledge Management*, Vol. 21 No. 1, pp. 92-112. <https://doi.org/10.1108/JKM-07-2015-0300>
- Ruiz-Torres, A., Cardoza, G., Kuula, M., Oliver, Y. and Rosa-Polanco, H. (2018), "Logistic services in the Caribbean region: An analysis of collaboration, innovation capabilities and process improvement", *Academia Revista Latinoamericana de Administración*, Vol. 31 No. 3, pp. 534-552. <https://doi.org/10.1108/ARLA-03-2017-0078>
- Rumanti, A. A., Samadhi, T. M. A. A., Wiratmadja, I. I., & Sunaryo, I. (2018). A systematic literature review on *knowledge sharing for innovation: Empirical study approach*. *5th International Conference on Industrial Engineering and Applications (ICIEA)*. doi:10.1109/iea.2018.8387153
- Rumanti, A. A., Wiratmadja, I. I., Sunaryo, I., Ajidarma, P., & Ari Samadhi, T. M. A. (2019). *Firm Lecturer innovation capability through Knowledge Sharing at Indonesian Small and Medium Industries: Impact of Tacit and Hard skills Perspective*. *2019 IEEE 6th International Conference on Industrial Engineering and Applications (ICIEA)*. doi:10.1109/iea.2019.8714947
- Samsir, S. (2018), The effect of leadership orientation on innovation and its relationship with competitive advantages of small and medium enterprises in Indonesia, *International Journal of Law and Management*, Vol. 60 No. 2, pp. 530-542. <https://doi.org/10.1108/IJLMA-01-2017-0005>
- Santoro, G., Vrontis, D., Thrassou, A., &Dezi, L. (2017). *The Internet of Things: Building a knowledge management system for open innovation and knowledge management capacity*. *Technological Forecasting and Social Change*. doi:10.1016/j.techfore.2017.02.034
- Sasaki, Y. (2017), "A note on systems intelligence in *knowledge management*", *The Learning Organization*, Vol. 24 No. 4, pp. 236-244. <https://doi.org/10.1108/TLO-09-2016-0062>
- Schuckert, M., Kim, T., Paek, S. and Lee, G. (2018), "Motivate to innovate: How authentic and transformational leaders influence employees' psychological capital and service

- innovation behavior", *International Journal of Contemporary Hospitality Management*, Vol. 30 No. 2, pp. 776-796. <https://doi.org/10.1108/IJCHM-05-2016-0282>
- Serna M., E., Bachiller S., O., & Serna A., A. (2017). *Knowledge meaning and management in requirements engineering*. *International Journal of Information Management*, 37(3), 155–161. doi:10.1016/j.ijinfomgt.2017.01.005
- Sopa, A., Asbari, M., Purwanto, A., Budi Santoso, P., Mustofa, Hutagalung, D., Maesaroh, S., Ramdan, M., & Primahendra, R. (2020a). Hard skills versus soft skills: Which are more important for Indonesian employees innovation capability. *International Journal of Control and Automation*, 13(2), 156–175. <http://sersec.org/journals/index.php/IJCA/article/view/7626>
- Sopa, A., Asbari, M., Purwanto, A., Budi Santoso, P., Mustofa, Hutagalung, D., Maesaroh, S., Ramdan, M., & Primahendra, R. (2020b). Hard skills versus soft skills: Which are more important for Indonesian employees innovation capability. *International Journal of Advanced Science and Technology*, 29(3), 6431–6453. <http://sersec.org/journals/index.php/IJAST/article/view/7233>
- Sopa, A., Asbari, M., Purwanto, A., Santoso, P.B., Mustofa, Hutagalung, D., Maesaroh, S., Ramdan, M., Primahendra, R. (2020). Hard Skills versus Soft Skills: Which are More Important for Indonesian Employees Innovation Capability. *International Journal of Control and Automation*, 13(02), 156 - 175. Retrieved from <http://sersec.org/journals/index.php/IJCA/article/view/7626>
- Sousa, M. J., & Rocha, Á. (2019). *Strategic Knowledge Management in the Digital Age*. *Journal of Business Research*, 94, 223–226. doi:10.1016/j.jbusres.2018.10.016
- Spraggon, M. and Bodolica, V. (2017), "Collective *soft skills* generation through play: Integrating socially distributed cognition and transactive memory systems", *Management Decision*, Vol. 55 No. 1, pp. 119-135. <https://doi.org/10.1108/MD-05-2015-0173>
- Sriruecha, C., & Buajan, S. (2017). Leadership soft skills of the director that affects the performance of the subordinate at sub district health promoting hospitals. *Procedia-Social and Behavioral Sciences*, 237, 1341–1346.
- Stachová, K., Papula, J., Stacho, Z., & Kohnová, L. (2019). *External Partnerships in Employee Education and Development as the Key to Facing Industry 4.0 Challenges*. *Sustainability*, 11(2), 345. doi:10.3390/su11020345
- Stanica, S. and Peydro, J. (2016), "How does the employee cross-training lean tool affect the *knowledge* transfer in product development processes?", *VINE Journal of Information and Knowledge Management Systems*, Vol. 46 No. 3, pp. 371-385. <https://doi.org/10.1108/VJIKMS-11-2015-0061>
- Starbuck, W. (2017), "*Organizational learning and unlearning*", *The Learning Organization*, Vol. 24 No. 1, pp. 30-38. <https://doi.org/10.1108/TLO-11-2016-0073>
- Stewart, C., Schiavon, L.M. and Bellotto, M.L. (2017) *Knowledge, nutrition and coaching pedagogy: a perspective from female Brazilian Olympic gymnasts*, *Sport, Education and Society*, 22(4): 511-527, DOI: [10.1080/13573322.2015.1046428](https://doi.org/10.1080/13573322.2015.1046428)

- Swierczek, A. (2019), "Manufacturer structural embeddedness and the network rent: the intervening role of relational embeddedness in the triadic supply chains", *Supply Chain Management*, Vol. 24 No. 3, pp. 334-354. <https://doi.org/10.1108/SCM-06-2018-0232>
- Szilárd, S., Benedek, A., & Ionel-Cioca, L. (2018). Soft skills development needs and methods in micro-companies of ICT sector. *Procedia-Social and Behavioral Sciences*, 238, 94–103.
- Tang, K. N. (2018). The importance of soft skills acquisition by teachers in higher education institutions. *Kasetsart Journal of Social Sciences*.
- Tang, V., Yanine, F. and Valenzuela, L. (2016), "Data, information, *knowledge* and intelligence: The mega-nano hypothesis and its implications in innovation", *International Journal of Innovation Science*, Vol. 8 No. 3, pp. 199-216. <https://doi.org/10.1108/IJIS-07-2016-0022>
- Terhorst, A., Lusher, D., Bolton, D., Elsum, I., & Wang, P. (2018). *Soft skills Sharing in Open Innovation Projects*. *Project Management Journal*, 49(4), 5–19. doi:10.1177/8756972818781628
- Torres, O. J. J., & Liang, D. (2016). *Knowledge Sharing and the Lecturer innovation capability of Chinese Firms: The Role of Guanxi*. *2016 International Conference on Industrial Engineering, Management Science and Application (ICIMSA)*. doi:10.1109/icimsa.2016.7504015
- Tsai, F. and Hsu, I. (2019), "The effects of social capital on *knowledge* heterogeneity", *Management Decision*, Vol. 57 No. 5, pp. 1237-1253. <https://doi.org/10.1108/MD-12-2016-0909>
- Tsotsotso, K., Montshiwa, E., Tirivanhu, P., Fish, T., Sibiya, S., Mlangeni, T., Moloi, M. and Mahlangu, N. (2017), "Determinants of skills demand in a state- intervening labour market: The case of South African transport sector", *Higher Education, Skills and Work-Based Learning*, Vol. 7 No. 4, pp. 408-422. <https://doi.org/10.1108/HESWBL-08-2017-0050>
- Urban, B. and Gaffurini, E. (2018), "Social enterprises and *organizational learning* in South Africa", *Journal of Entrepreneurship in Emerging Economies*, Vol. 10 No. 1, pp. 117-133. <https://doi.org/10.1108/JEEE-02-2017-0010>
- Vijande M.L.S., Sánchez J.Á.L. (2017) The Effects of *Organizational learning* on Innovation and *Performance* in Kibs: An Empirical Examination. In: Campbell C.L. (eds) *The Customer is NOT Always Right? Marketing Orientations in a Dynamic Business World*. *Developments in Marketing Science: Proceedings of the Academy of Marketing Science*. Springer, Cham. https://doi.org/10.1007/978-3-319-50008-9_227
- Villaluz, V. and Hechanova, M. (2019), "Ownership and leadership in building an innovation culture", *Leadership & Organization Development Journal*, Vol. 40 No. 2, pp. 138-150. <https://doi.org/10.1108/LODJ-05-2018-0184>
- Viviers, H., Fouché, J. and Reitsma, G. (2016), "Developing soft skills (also known as pervasive skills): Usefulness of an educational game", *Meditari Accountancy Research*, Vol. 24 No. 3, pp. 368-389. <https://doi.org/10.1108/MEDAR-07-2015-0045>

- Wang, C., Chen, M. and Chang, C. (2019), "The double-edged effect of *knowledge* search on innovation generations", *European Journal of Innovation Management*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/EJIM-04-2018-0072>
- Wang, J., & Liu, L. (2019). *Study on the mechanism of customers' participation in knowledge sharing*. *Expert Systems*, e12367. doi:10.1111/exsy.12367
- Wang, X., Arnett, D. and Hou, L. (2016), "Using external *knowledge* to improve organizational innovativeness: understanding the *knowledge* leveraging process", *Journal of Business & Industrial Marketing*, Vol. 31 No. 2, pp. 164-173. <https://doi.org/10.1108/JBIM-04-2014-0064>
- Wang, Z., & Wang, N. (2012). *Knowledge sharing, innovation and firm performance*. *Expert Systems with Applications*, 39(10), 8899–8908. doi:10.1016/j.eswa.2012.02.017
- Wetzel R., Tint B. (2019) *Using Applied Improvisation for Organizational learning in the Red Cross Red Crescent Climate Centre*. In: Antonacopoulou E., Taylor S. (eds) *Sensuous Learning for Practical Judgment in Professional Practice*. Palgrave Studies in Business, Arts and Humanities. Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-319-99049-1_3
- Widmann, A. and Mulder, R. (2018), "Team learning behaviours and innovative work behaviour in work teams", *European Journal of Innovation Management*, Vol. 21 No. 3, pp. 501-520. <https://doi.org/10.1108/EJIM-12-2017-0194>
- Widoyoko, E.P. (2009). *Evaluasi Program Pembelajaran Panduan Praktis bagi Pendidik dan Calon Pendidik* (Yogyakarta: Pustaka
- Wójcik, M., Jeziorska-Biel, P., & Czapiewski, K. (2019). Between words: A generational discussion about farming *knowledge* sources. *Journal of Rural Studies*, 67, 130–141. doi:10.1016/j.jrurstud.2019.02.024
- Xu, M., David, J. M., & Kim, S. H. (2018). The Fourth Industrial Revolution: Opportunities and Challenges. *International Journal of Financial Research*, 9(2), 90. doi:10.5430/ijfr.v9n2p90
- Yamali, F. R. (2018). Effect of Compensation, Competencies and Organizational Culture on Organizational Commitment its Implications on Experts Performance of Construction Services Company in Jambi Province. *International Journal of Advances in Management and Economics*, 7(2), 29–42.
- Yang, Z., Nguyen, V. and Le, P. (2018), *Knowledge* sharing serves as a mediator between collaborative culture and *lecturer innovation capability*: an empirical research, *Journal of Business & Industrial Marketing*, Vol. 33 No. 7, pp. 958-969. <https://doi.org/10.1108/JBIM-10-2017-0245>
- Zambon, I., Cecchini, M., Egidi, G., Saporito, M. G., & Colantoni, A. (2019). Revolution 4.0: Industry vs. Agriculture in a Future Development for SMEs. *Processes*, 7(1), 36. doi:10.3390/pr7010036
- Zebal, M., Ferdous, A., & Chambers, C. (2019). An integrated model of marketing *knowledge* – a *soft skills* perspective. *Journal of Research in Marketing and Entrepreneurship*. doi:10.1108/jrme-03-2018-0018

- Zhang, C., Xiao, H., Gursoy, D. and Rao, Y.(2015).*Soft skills* spillover and sustainability in destination development.*Journal of Sustainable Tourism*.23(7):1029-1048,DOI: [10.1080/09669582.2015.1032299](https://doi.org/10.1080/09669582.2015.1032299)
- Zhu, Q., Krikke, H. and Caniëls, M. (2018), Supply chain integration: value creation through managing inter-organizational learning.*International Journal of Operations & Production Management*. 38(1): 211-229. <https://doi.org/10.1108/IJOPM-06-2015-0372>
- Zouaghi, F., Sánchez, M., &Martínez, M. G. (2018). Did the global financial crisis impact firms' innovation *performance*? The role of internal and external *knowledge* capabilities in high and low tech industries. *Technological Forecasting and Social Change*. 132: 92–104. doi:10.1016/j.techfore.2018.01.011