

# SCRUTINIZING ISLAMIC HIGHER EDUCATION INSTITUTIONS IN INDONESIA

#### Nizar Alam Hamdani

Universitas Garut Jl. Raya Samarang, No.52 Garut , Indonesia, 44151. Email: nizar\_hamdani@uniga.ac.id

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#### ABSTRACT

In the era of globalization, Islamic higher education institutions (HEI) encounter obstacles concerning human resources, infrastructure, and technological proficiency. Based on the existing literature, empirical evidence and theoretical insights show that dynamic capability can enhance the performance of higher education in the era of digital transformation. The aim of this study is to examine Islamic HEI in Indonesia by comprehensively scrutinizing dynamic capacity, knowledge management, and information technology in improving the institutions' performance. The research methodology employed is a quantitative approach utilizing descriptive and verification methods. There are 34 Islamic HEI served as the sample. Data analysis is conducted using the SEM-PLS technique. The findings of the study indicate that Islamic HEI in Indonesia possess preparedness in implementing knowledge management and demonstrated sufficient infrastructure to anticipate changes.

Keywords: Dynamic Capabilities, Higher Education, Information Technology, Knowledge Management

## ABSTRAK

Di era globalisasi, perguruan tinggi agama Islam menghadapi kendala terkait sumber daya manusia, infrastruktur, dan penguasaan teknologi. Berdasarkan literatur yang ada, bukti empiris dan wawasan teoritis menunjukkan bahwa kapabilitas dinamis dapat meningkatkan kinerja perguruan tinggi di era transformasi digital. Tujuan dari penelitian ini adalah mengkaji perguruan tinggi agama Islam di Indonesia dengan mengkaji secara komprehensif kapasitas dinamis, manajemen pengetahuan, dan teknologi informasi dalam meningkatkan kinerja perguruan tinggi. Metodologi penelitian yang digunakan adalah pendekatan kuantitatif dengan menggunakan metode deskriptif dan verifikatif. Terdapat 34 perguruan tinggi agama Islam yang dijadikan sebagai sampel. Analisis data dilakukan dengan menggunakan teknik SEM-PLS. Temuan penelitian menunjukkan bahwa perguruan tinggi agama Islam di Indonesia memiliki kesiapan dalam menerapkan manajemen pengetahuan dan menunjukkan infrastruktur yang memadai untuk mengantisipasi perubahan.

Kata Kunci : Kapabilitas Dinamis, Perguruan Tinggi, Knowledge Management, Teknologi Informasi

# INTRODUCTION

Internationally speaking, higher education institutions (HEI) all over the world are developing their quality to serve best service. In Middle East, HEI are required improve their quality for higher education learning environment based on a standard High Education Quality Criteria (Noaman et al., 2017). In Malaysia, international branch campuses develop their market and compete with local universities to target local students in Malaysia (Ahmad & Buchanan, 2017). In Nordic countries, HEI improve their quality service by improving their understanding of quality culture (Nygren-Landgärds et al., 2022).

In China, universities have examined international students' experiences studying in the country to gain significant insight for quality higher education (Dai & Hardy, 2023). In Japan,

higher education system has improved especially in its interaction with neighboring higher education systems (Yonezawa et al., 2017). The universities all over the world manage their efforts to take into consideration external control mechanism of universities such as international rankings to assess their knowledge exploration and exploitation performance (Peris-Ortiz et al., 2023). In many countries, the role of government is required improve quality of university. In US, the government manages and controls publicly funded institutions and hold them accountable for their outcomes in their efforts to improve quality performance (Ortagus et al., 2020)

In Indonesian context, HEI are deploying their efforts to deal with the challenges and improve their educational performance. The government has some strategies to upgrade HEI by applying various development programs for example the Engineering Education Development Project (EEDP). Its focus cover Quality Assurance and Quality Improvement in all aspects of higher education (Idrus, 1999). In terms of curriculum, Ministry of Research, Technology and Higher Education of Indonesia has outlined the implementation of the newly established Indonesian Qualification Framework to cope with the growing concern on globalization, internationalization, and democratization of HEI worldwide (Novawan & Aisyiyah, 2020). Private HEI are expected to be able to continuously identify changes in the external environment, comprehend internal capabilities, and develop internal capabilities to improve performance and competitiveness (Suharjo et al., n.d.) Some Indonesian universities that run transnational higher education program should have clear purposes and expectations in managing the program to achieve student recruitment pathways for international partners (Sutrisno & Pillay, 2013)

Indonesian government has also managed its Islamic HEI under the auspices of Ministry of Religious affairs. Islamic HEI in Indonesia have developed their performance to cope with the national and global trend. They are expected to develop Indonesian character due to its focus on teaching Islam (Alimah, 2020). Some Islamic HEI have implemented the curriculum that is designed to comply with the Indonesian National Qualifications Framework. The curriculum is designed to be compatible with framework of qualification levels (Ahid & Chamid, 2021). More efforts have been deployed by Islamic HEI to improve their quality service. The institutions have also gained wider mandate and transformed into University by offering faculty of science as an additional feature from its core business in Islamic studies (Khozin, 2019). Several dimensions of quality that are considered paramount by students must be taken into consideration such as teaching capability and competence of academic staff, reliability of service, reputation of university, responsiveness of employees, internalization of Islamic values (Asnawi & Setyaningsih, 2020)

When it comes to economy, HEI are expected to contribute to economic growth. HEI deliver education which plays a vital role in enhancing economic growth in two ways. Firstly, education fosters new knowledge or innovation that can improve and transform the production process. This is known as the Schumpeterian Growth model that emphasizes the role of human capital accumulation in driving economic growth. Human capital refers to the skills, abilities, and expertise of professionals, technicians, and workers who are essential for economic development. Secondly, education facilitates the diffusion and transmission of knowledge, technology and information that can influence the mindset, behavior and work culture of people. These factors are crucial for enabling economic change and progress. Therefore, HEI is expected to deliver high-quality outcomes that can contribute to national development and economy (Galgotia & Lakshmi, 2022).

Researchers have examined the contribution of education and specifically HEI to economic growth. All over the world, education has been viewed as the most valuable factor to develop the socio-economic conditions of the society (Akram & Hilman, 2017). As the

world moves toward knowledge-based economies, HEI has served as a driving factor for economic and social development. The institutions serve as a key factor to develop knowledge-based economies and cohesive societies (Godonoga & Sporn, 2022). It goes without saying that universities play an important role in the economic development and knowledge economy. Research quality of the university could contribute indirectly to the economic development of the countries (Dembereldorj et al., 2018). Moreover, an increase in a region's number of universities per capita is closely associated with higher future GDP per capita in that region (Valero & Van Reenen, 2019)

As an educational organization, HEI can perform well if they are able to manage their Dynamic capability (DC). In this context, universities should be able to examine risks and develop strategic decision-making to improve their quality (Adam & Lindahl, 2019), view its importance and its relevance for higher education, develop it as an integral part of the higher education institutions and source of congruence to the ever changing/dynamic environment (Akram & Hilman, 2017), and enhance breakthrough innovation (Cheng & Chen, 2013).

Dynamic capability (DC) is a crucial factor for HEI to achieve excellence in a complex and uncertain environment. The capability enables HEIs to adapt and innovate by leveraging their internal and external resources and competencies (Breznik & Lahovnik, 2016). DC is especially relevant for Islamic HEI in Indonesia which face the challenge of maintaining their identity and values while responding to the changing needs and expectations of society. Previous studies have shown that DC can help HEI to develop effective teaching strategies based on organizational support, learning, reflection, experience and student feedback (Fenech et al., 2019). Moreover, the capability enables the institutions to facilitate the use of technology to enhance human resource performance, foster academic and innovation systems that align with environmental changes and improve HEI performance (Wu et al., 2015a). Similarly, some studies have highlighted the importance of DC in terms of knowledge management (KM) to improve Islamic HEI performance in Middle Eastern countries (Elkishawi & Albashiti, 2019); and Palestine (Almudallal et al., 2016).

In educational context, HEI can enhance their performance when they have the ability to conduct knowledge management (KM). This type of management refers to the systematic process of creating, capturing, storing, disseminating and applying knowledge within an organization. It enables HEI to leverage their intellectual assets, foster innovation and creativity, improve decision making and problem solving, and enhance organizational learning and competitiveness. Researchers have investigated the influence of KM on the performance of HEI and found positive associations between them. However, implementing KM practices in HEI requires careful planning, coordination and evaluation to ensure that they align with the organizational culture, goals and strategies (Laal, 2011).

To perform well, HEI should be empowered by ICT in running their educational activities. The internet network, as a part of ICT, has facilitated all aspects of human communication in various contexts, such as education, business, health, and social. Both ICT and internet have provided access to information and knowledge faster and borderless (Sakarji et al., 2019), improved a significant impact on the quality of learning objectives and students' motivation (Adam & Metljak, 2022), boosted the development of the global digital economy (Zhu et al., 2023). In Indonesia, HEI are required to use both ICT and internet to develop educated human resources who are able to perform Higher Order Thinking that involves analyzing, evaluating, creating, and solving complex problems. HEI in Indonesia must quickly respond to this era of disruption and deliver their best educational service to fulfill the needs of the society (Sriwidadi et al., 2016) and and to educate the society (Marjuni, 2017).

Islamic HEI have to develop their DC by developing KM and ICT to perform well. This capability can influence Islamic HEI to develop KM by enhancing the learning capacity and innovation. KM empowers Islamic HEI to achieve their vision and mission by integrating people, processes, and technology in a harmonious way. When it comes to processes, the methods and procedures that enable KM activities such as knowledge creation, storage, dissemination, and application are involved. DC requires Islamic HEI to develop Information technology (IT) which enables institution to apply KM in facilitating knowledge acquisition, transfer, and utilization.

Previous studies have discussed HEI performance to deliver best educational service. The issues cover government effort to improve universities (Idrus, 1999), the implementation of new curriculum based on qualification framework (Novawan & Aisyiyah, 2020). When it comes to Islamic HEI in Indonesia, scholars have discussed the implementation of qualification framework curriculum (Ahid & Chamid, 2021), the improvement quality service for several dimension (Asnawi & Setyaningsih, 2020). However, the studies reporting Islamic HEI performance in Indonesian context is scarce. This study tries to investigate Indonesian Islamic HEI performance by taking into account their DC. Specifically, this study was aimed at examining the influence of DC, KM, IT both partially and through other latent variables to improve the performance of Islamic HEI in Indonesia.

# METHOD

The purpose of this study is to describe and verify the relationship between certain phenomena in the context of Islamic HEI performance. Descriptive research is used to provide a systematic and factual account of the characteristics and facts of the phenomena without involving other variables or comparisons. Verificative research or causal research is used to test the hypothesis of cause and effect between independent variables and dependent variables (Sekaran & Bougie, 2013). The primary data source for this study is a questionnaire instrument that was distributed to a sample of Islamic HEI respondents who represent the population of interest. The sample size was 34 Islamic HEI institutions that returned the completed questionnaire.

One of the data analysis techniques that can be used to examine the correlation between variables in a study is the Partial Least Square (PLS) method. This method was originally proposed by Wold as a way of estimating a path model that involves latent constructs with multiple indicators. The PLS method has several advantages over other methods, such as its flexibility in handling different types of data and distributions, its ability to work with small samples and its suitability for theory confirmation and prediction purposes (Hair et al., 2014). The PLS method can also handle complex models with many variables and relationships, and can provide estimates of both the measurement model and the structural model. Therefore, the PLS method is a powerful and versatile technique for data analysis in various fields of research.

This study employs four variables and their respective indicators to examine the performance of Islamic HEI. The first variable is Dynamic Capability (DC), which refers to the ability of an organization to adapt to changing environments and create new competencies. DC consists of four indicators: Sensing Capability (SC), Learning Capability (LC), Integrating Capability (IC) and Coordinating Capability (CC) (Aminu, 2016). The second variable is Knowledge Management (KM), which involves the creation, sharing and utilization of knowledge within an organization. KM comprises four indicators: Externalization (E), Combination (C), Internalization (I) and Socialization (S) (Nonaka et al., 2005). The third variable is Information Technology (IT), which encompasses the use of digital tools and systems to support organizational processes and activities. IT includes five indicators: Information Technology Intensity, Human Resources (HR), IT Investment (I), Information Exchange (IE) and Accessibility (AC) (Sarosa & Zowghi, 2003). The fourth variable is

Performance of Islamic Higher Education (PIHEI), which measures the effectiveness and efficiency of Islamic HEI in achieving their goals and missions. PIHEI consists of five indicators: Financial Performance(FC), Customer Satisfaction (CS), Initial Process(IP), Leadership Program(LP) and Learning and Growth(LG) (Yaakub & Mohamed, 2020).

The main purpose of this study is to examine how DC (dynamic capability) influences the performance of Islamic HEI through information technology and knowledge management. Based on previous research studies, there are eleven research hypotheses which can be compiled as follows: (1) dynamic capability has a significant effect on information technology, (2) dynamic capability has a significant effect on knowledge management, (3) information Technology has a significant effect on knowledge management, (4) information technology has a significant effect on performance of Islamic higher education, (5) knowledge management has an effects on the performance of Islamic higher education, (6) dynamic capability affects knowledge management through information technology, (7) dynamic capability through information technology has an effect on the performance of Islamic higher education, (8) dynamic capability through information technology influences the performance of Islamic higher education, (9) dynamic capability through knowledge management affects the performance of Islamic religious higher education, (10) information technology has a significant effect on the performance of Islamic religious higher education through knowledge management, and (11) dynamic capability has a significant effect on the performance of Islamic HEI through information technology and knowledge management.

These hypotheses will be tested using structural equation modelling (SEM) with data collected from questionnaires distributed to managers and lecturers of Islamic HEI in Indonesia. The expected outcome of this study is to provide empirical evidence and theoretical insights on how dynamic capability can enhance the performance of Islamic higher education in the era of digital transformation.

# **RESULTS AND DISCUSSION**

The purpose of this section is to present and discuss the findings of the current research which aimed to examine the effect of dynamic capabilities (DC) on the performance of Islamic HEI through information technology (IT) and knowledge management (KM). The data for this study were collected using a questionnaire that was distributed to several Islamic HEI in different regions in Indonesia. The data were then analyzed using partial least squares structural equation modeling (PLS-SEM), a multivariate statistical technique that allows testing complex causal relationships among latent variables. The results of the PLS-SEM analysis revealed that DC had a significant positive impact on both IT and KM, and that IT and KM in turn had a significant positive impact on the performance of Islamic HEI in Indonesia.

Based on the results of calculations using PLS-SEM, the DC Effect Model on the Performance of Islamic HEI through IT and KM can be seen in Figure 1.

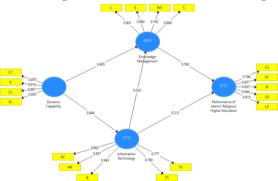


Figure 1. Dynamic Capability Model toward Islamic HEI Performance through Information Technology and Knowledge Management

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After obtaining DC model on the Performance of Islamic HEI through Information Technology and Knowledge Management, the Outer Model and Cronbach Alpha is calculated covering *convergent validity (loading factor)*, *average variance extracted* (AVE), *composite reliability* and *cronbach alpha*. Based on the calculation, it is known that all loading factor values that indicate the relationship between observed variables (manifest) and variables have shown above 0.7. It can be concluded that each construct in the study has a good validity. Furthermore, AVE testing is carried out to further strengthen the results of convergent validity with criteria if the value of Ave> 0.5 (Hair et al, 2019), then the construct used in the study is valid. *Cronbach's alpha* and *composite reliability are used* to find out whether or not construct reliability is good.

Each construct is said to be reliable if the level of Cronbach's Alpha and Composite Reliability is greater than 0.70 (Hair et al, 2017). In this study, each construct can be said to be reliable. The results of the AVE and reliability test on the model is displayed in the following Table 1.

		, CIONDACH S I	upha and Compos	site Reliability			
Latent Variables		Cronback	1				
		Alpha Reliability		Extracted (AVE)			
Dynamic Capability		0.883	0.920	0.742			
Information Technology		0.906	0.931	0.730			
	e Management	0.878	0.917	0.734			
Performance of Islamic HEI		EI 0.900	0.926	0.716			
Table 2. Cross Loadings							
	Dynamic	Information	Knowledge	Performance of			
	Capability	Technology	Management	Islamic HEI			
CC	0.870	0.675	0.735	0.889			
IC	0.910	0.805	0.782	0.772			
LC	0.807	0.692	0.694	0.750			
SC	0.855	0.727	0.727	0.780			
AC	0.828	0.902	0.756	0.795			
HR	0.770	0.857	0.818	0.734			
IE	0.795	0.943	0.815	0.731			
ITI	0.607	0.780	0.728	0.617			
TII	0.551	0.777	0.583	0.511			
С	0.739	0.861	0.901	0.698			
Е	0.822	0.692	0.892	0.877			
INT	0.650	0.654	0.762	0.638			
S	0.701	0.788	0.866	0.628			
CS	0.655	0.521	0.664	0.794			
FC	0.789	0.751	0.726	0.837			
IP	0.770	0.669	0.658	0.837			
LG	0.790	0.728	0.670	0.844			
LP	0.887	0.714	0.805	0.915			
FC IP LG	0.789 0.770 0.790	0.751 0.669 0.728	0.726 0.658 0.670	0.837 0.837 0.844			

Table 1. AVE, Cronbach's Alpha and Composite Reliability

Based on Table 1. and Table 2, it can be seen that all latent variables have a higher AVE value than 0.5. This indicates that the indicators that form the latent construct have good convergent validity. Based on *discriminant validity* from values of *cross loading*, it can be seen that the indicator has a high correlation with the construct compared to other constructs. Given the results mentioned earlier, it can be concluded that the research model has good

discriminant validity *discriminant validity cross loading*. Furthermore, each latent construct has a higher Cronbach's alpha value than 0.7, this indicates that the latent construct has good reliability. In addition, the *composite reliability value* of all latent constructs also has a value greater than 0.70. Based on the *Cronbach's alpha* and *composite reliability* values obtained, it shows that the model has good reliability.

After the outer model is carried out, the inner model consisting of R-square, f-square, Q-square and GoF is tested. The r square value obtained is as follows:

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Variable	R Square
Information Technology	0.712
Knowledge Management	0.810
Performance of Islamic Higher Education	0.721

Based on Table 3, it is known that the r-square value of information technology is 0.712. This indicates that the DC variable is able to explain information technology by 0.712 or 71.2%. The r-square value of KM is 0.810. This indicates that the dynamic capability variable through information technology is able to explain knowledge management by 0.810 or 81.0%. The r-square value of the performance of Islamic HEI is 0.721. This indicates that the dynamic capability variable through information technology and KM is able to explain the performance of Islamic HEI by 0.721 or 72.1%.

The f-square *DC* value for information technology is 2.466 which its effect can be included in the large category. The f-square value of *DC* and *information technology* respectively on KM is 0.249 and 0.430 which their effect is included in the moderate and large categories. The f-square value of information technology and KM each on performance of Islamic HEI is 0.083 and 0.269 where the effect is included in the moderate and small categories. Furthermore, the Q-square value is obtained and it can be seen in table 4.

Table 4. Q-5quare						
	SSO	SSE	Q <sup>2</sup> (=1-SSE/SSO)			
Dynamic Capability	136.000	136.000				
Information Technology	170.000	84.370	0.504			
Knowledge Management	136.000	55.878	0.589			
Performance of Islamic HEI	170.000	85.484	0.497			

Table 4. Q-Square

Based on the calculation results above, it is known that the Q square value is greater than 0, this means that the observed values have been reconstructed properly so that the structural model has predictive relevance. The GoF value in the structural model is 0.739. These results indicate that the structural model has a GoF which is included in the high category. Furthermore, hypothesis testing is carried out by comparing the t-statistic value with the t-table. The value is equal to 1.96 or by using a p-value compared to  $\alpha$  of 5% or 0.05. The results of testing the structural model hypothesis is shown in the following Table 5.

Table 5. Hypothesis Testing Res
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	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics	P Values	Decision
Dynamic Capability -> Information Technology	0.844	0.839	0.063	13.444	0.000	H <sub>0</sub> rejected
Dynamic Capability -> Knowledge Management	0.405	0.406	0.131	3.093	0.002	H <sub>0</sub> rejected
Information Technology -> Knowledge Management	0.532	0.525	0.126	4.232	0.000	H <sub>0</sub> rejected

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics	P Values	Decision
Information Technology -> Performance of Islamic HEI	0.313	0.267	0.247	1.267	0.206	H <sub>0</sub> rejected
Knowledge Management -> Performance of Islamic HEI	0.562	0.599	0.208	2.705	0.007	H <sub>0</sub> rejected
Dynamic Capability -> Information Technology -> Knowledge Management	0.449	0.441	0.114	3.939	0.000	H <sub>0</sub> rejected
Dynamic Capability -> Information Technology -> Performance of Islamic HEI	0.264	0.231	0.203	1.302	0.194	H <sub>0</sub> accepted
Dynamic Capability -> Knowledge Management -> Performance of Islamic Higher Education	0.228	0.252	0.132	1.719	0.086	H <sub>0</sub> accepted
Information Technology -> Knowledge Management -> Performance of Islamic HEI	0.299	0.311	0.130	2.297	0.022	H <sub>0</sub> rejected
Dynamic Capability -> Information Technology -> Knowledge Management -> Performance of Islamic HEI	0.252	0.260	0.108	2.335	0.020	H <sub>0</sub> rejected

Based on the results of hypothesis testing, it is known that there are four hypotheses that are rejected and seven hypotheses that are accepted. The seven accepted hypotheses are as follows:

1. Dynamic Capability has a significant effect on Information Technology, where the p-value is smaller than alpha, namely 0.000 < 0.05.

DC has emphasized the importance of information technology role for any organization. It suggests that every organization needs to adapt to changes which are dynamic in nature. Any organization should be able to deal with several types of changes including competition, behavior patterns and social and economic order systems. Changes to some extent greatly affect several policies in Islamic HEI. To respond to the changing world, Islamic HEI should be able to use the application of ICT and manage several resources to be available and ready to be implemented in developing the quality Islamic HEI (Amrozi et al., 2018). IT should be geared towards educational and managerial innovation that are beneficial to the Islamic HEI (Žitkien et al., 2015)

The Covid-19 pandemic has certainly brought various changes to the adoption and the intensity of ICT use in Islamic HEI. The circumstance certainly requires that Islamic HEI have the capability to optimize the use of ICT in teaching and learning activities (Fauziah et al., 2022). Without the use of several platforms in delivering education, Islamic HEI will not be able to perform their best to serve the students in their learning needs. ICT has played an increasingly important role in Islamic HEI especially in managing and delivering teaching and learning activities (Sriwidadi et al., 2016).

2. Dynamic Capability has a significant effect on Knowledge Management, where the p-value is smaller than alpha, namely 0.002 < 0.05.

DC plays an important role to enable organization to adapt its structural organization to create value in a rapidly changing environment (Teece et al., 1997). It has enabled some universities to survive and deliver best their service because they have DC that can create value for the institutions (Wu et al., 2015b). To strengthen DC, any organization should not wait for crises from the external environment to come. An organization should treat DC as a

strategic organizational routine, processes for integrating, reconfiguring, acquiring, and releasing resources. DC has an influence on KM. Any organization should prepare KM by knowledge sharing to deal with dynamic environmental changes (Cheng et al., 2014).

3. Information Technology has a significant effect on Knowledge Management, where the p-value is smaller than alpha, namely 0.000 < 0.05.

IT is one of the foundations of KM. The technology enables knowledge to be built, shared and stored for any organization. Therefore, IT plays an important role for KM (Hamad, Wahid Bakar, 2018). Within the context of KM, there are two main functions of IT: to acquire and communicate knowledge. IT also widens the reach of knowledge utilization and increases the speed of knowledge flow. Inter/intra-net networks also facilitate collaboration in KM (Finley, 2013). The existence of ICT is significant in implementing KM (Munadi et al., 2019). The role of IT is very large, especially in creating KM processes within an organization (Hamdani, 2018)

4. Knowledge Management has a significant effect on the Performance of Islamic HEI, where the p-value is smaller than alpha, namely 0.007 < 0.05.

KM has influenced organizational performance. It should be taken into consideration by Islamic HEI to survive and best deliver educational service. It is increasingly important for universities especially when it comes to creating knowledge and sharing knowledge. Knowledge creation and sharing are the essence of knowledge dissemination in universities which can be stored through various media (Galgotia & Lakshmi, 2022). In the context of Islamic HEI, key performance indicators are measured through research performance, service performance and publications. Those aspects basically should implement KM foundation which is strengthened by IT, leadership and organizational structure and human capital (Hakiman et al., 2019 & Shafique, 2015)

5. Dynamic Capability has a significant effect on Knowledge Management through Information Technology, where the p-value is smaller than alpha, namely 0.000 < 0.05.

Modern strategic management theory tries to explain why organizations are different in terms of their performance. In a dynamic and complex environment, new sources of competitive advantage are highly sought to be able to survive and compete. DC requires organizational ability to manage knowledge (Easterby-Smith & Prieto, 2008). Some studies explain that IT has a role in having a moderating effect on this relationship between KM infrastructure capabilities, process capabilities and organizational performance at Islamic HEI (Al-Arimi et al., 2016).

6. Information Technology has a significant effect on the Performance of Islamic HEI through Knowledge Management, where the p-value is smaller than alpha, namely 0.022 <0.05.

Islamic HEI have a vital role in collecting and disseminating knowledge that supports the knowledge-based economy. Knowledge management (KM) is one aspect that can facilitate this development by enabling the creation, transfer and maintenance of knowledge within and across Islamic HEIs (Rahman et al., 2022). KM has several elements such as creation, transfer and maintenance of knowledge that are oriented towards improving the quality and capabilities of innovation-based human resources towards competitive advantage. Therefore, KM is one aspect that can improve Islamic HEI (Rahman et al., 2022). Moreover, KM should be integrated with technology to support learning activities and improve the performance of Islamic HEI in a competitive environment (Hamdani & Susilawati, 2018)

7. Dynamic Capability has a significant effect on Performance of Islamic HEI through Information Technology and Knowledge Management, where the p-value is smaller than alpha, namely 0.020 < 0.05.

Information technology (IT) plays an important role in improving the performance of Islamic HEI. IT supports and infrastructure to ensure quality and efficiency in university performance. Fattah et al., (2021) argue that IT can also facilitate the integration of Islamic values and principles in HEI, which can contribute to the development of human capital and social welfare (Fattah et al., 2021). IT should operate in tandem with KM to improve Islamic HEI performance. KM is very essential to increase Islamic HEI educational performance and educational service (Sun et al., 2021).

## CONCLUSION

The aim of this study is to examine Islamic HEI in Indonesia by comprehensively scrutinizing dynamic capacity, knowledge management, and information technology in improving universities' performance. The results show that the PLS-SEM analysis revealed that DC had a significant positive impact on both IT and KM and that IT and KM in turn had a significant positive impact on the performance of Islamic HEI in Indonesia. It can be seen that Islamic HEIs have been able to adapt to the changing environment and deliver quality education. In this study, Islamic HEI have shown their readiness in implementing KM and preparing adequate infrastructure so that they have capabilities to anticipate the changes.

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## **BIBLIOGRAPHY**

- Adam, A., & Lindahl, G. (2019). Dynamic Capabilities and Risk Management: Evaluating the CDRM Model for Clients. In *Emerald Reach Proceedings Series*, 2, 85–92). Emerald Group Holdings Ltd. https://doi.org/10.1108/S2516-28532019000002003
- Adam, T. B. & Metljak, M. (2022). Experiences in Distance Education and Practical Use of ICT During the COVID-19 Epidemic of Slovenian Primary School Music Teachers with Different Professional Experiences. Social Sciences & Humanities Open, 5(1), 100246. https://doi.org/10.1016/j.ssaho.2021.100246
- Ahid, N., & Chamid, N. (2021). Implementation of Indonesian National Qualification Framework Based Curriculum in Higher Islamic Education. Jurnal Pendidikan Islam, 7(1), 109–122. https://doi.org/10.15575/jpi.v7i1.12425
- Ahmad, S. Z., & Buchanan, F. R. (2017). Motivation Factors in Students Decision to Study at International Branch Campuses in Malaysia. *Studies in Higher Education*, 42(4), 651–668. https://doi.org/10.1080/03075079.2015.1067604
- Akram, K., & Hilman, H. (2017). Is Dynamic Capability View Relevant to the Higher Education Institutions for Innovation Capability?. International Institute for Science, Technology and Education (IISTE), 7(9). Retrieved from https://core.ac.uk/download/pdf/234683228.pdf
- Al-Arimi, A. A., Masrom, M., & Mahmood, N. H. N. (2016). The Moderating Effect of Islamic Work Ethics on the Relationship between Knowledge Management Capabilities and Organizational Performance at the Private Higher Education Institutions in Oman. *Journal of Theoretical and Applied Information Technology*, 94(2), 396–407. Retrieved from http://www.jatit.org/volumes/Vol94No2/15Vol94No2.pdf
- Alimah, A. (2020). Contemplative and Transformative Learning for Character Development in Islamic Higher Education. Ulumuna, 24(1), 1-23. https://doi.org/10.20414/ ujis.v24i1.384

- Almudallal, A. W., Muktar, S. N., & Bakri, N. (2016). Knowledge Management in the Palestinian Higher Education: A Research Agenda. *International Review of Management and Marketing*, 6(4), 91–100. Retrieved from econjournals.com/index.php/irmm/ article/view/2471
- Aminu, M. I. (2016). Building Dynamic Capabilities through Entrepreneurial Orientation. International Journal of Organizational & Business Execellence, 1(2), Retrieved from https://www.researchgate.net/ publication/ 316066223\_ Building\_Dynamic\_Capabilities\_through\_Entrepreneurial\_Orientation
- Amrozi, Y., Ridwan, M., & Purwati, E. (2018). Information Technology Adoption in Islamic Higher Education Institutions in Indonesia. Proceedings of the Built Environment, Science and Technology International Conference, 326–332. https://doi.org/10.5220/ 0008904103260332
- Asnawi, N., & Setyaningsih, N. D. (2020). Perceived Service Quality in Indonesian Islamic Higher Education Context: A Test of Islamic Higher Education Service Quality (i-HESQUAL) Model. *Journal of International Education in Business*, 13(1), 107–130. https://doi.org/10.1108/JIEB-11-2019-0054
- Breznik, L., & Lahovnik, M. (2016). Dynamic Capabilities and Competitive Advantage : Finding From Case Studies. *Management*, 21(Special Issue), 167–186. Retrieved from https://hrcak.srce.hr/155064
- Cheng, C. C. J., & Chen, J. S. (2013). Breakthrough Innovation: The Roles of Dynamic Innovation Capabilities and Open Innovation Activities. *Journal of Business and Industrial Marketing*, 28(5), 444–454. https://doi.org/10.1108/08858621311330281
- Cheng, M., Ho, J. S., & Lau, P. M. (2014). Knowledge Sharing in Academic Institutions : a Study of Multimedia University Malaysia. *Journal of Knowledge Management*, 7(3), 313–324.
- Dai, K., & Hardy, I. (2023). Pursuing Doctoral Research in an Emerging Knowledge Hub: An Exploration of International Students' Experiences in China. *Studies in Higher Education*. https://doi.org/10.1080/03075079.2023.2166917
- Dembereldorj, Z., Dangaasuren, G., & Jagdag, D. (2018). Relationships between University Performances and Economic Growth. *International Journal of Higher Education*, 7(4), 123– 132. https://doi.org/10.5430/ijhe.v7n4p123
- Easterby-Smith, M., & Prieto, I. M. (2008). Dynamic Capabilities and Knowledge Management: An Integrative Role for Learning? *British Journal of Management*, 19(3), 235–249. https://doi.org/10.1111/j.1467-8551.2007.00543.x
- Elkishawi, H. A., & Albashiti, B. (2019). The Impact of Dynamic Capabilities on Universities ' Competitiveness Considering the Mediating Role of Organizational Culture: the case of Palestinian Universities. *Journal of Business and Managemen*, 21(10), 33–49. https://doi.org/10.9790/487X-2110043349
- Fattah, A., Saragih, H. & Setyadi, R. (2021). Determinants Effectiveness of Information Technology Governance and IT Performance in Higher Education Institution (HEI): A Conceptual Framework. *International Journal of Science, Technology & Management, 2*(1), 36–47. https://doi.org/10.46729/ijstm.v2i1.135
- Fauziah, R., Anshori, I., & Fahyuni, E. F. (2022). Information and Communication Technology (ICT) for Developing Islamic Education in the Era of New Normal. Information and Communication Technology (ICT) for Developing Islamic Education in the Era of New Normal, 2022, 183–192. https://doi.org/10.18502/kss.v7i10.11220
- Fenech, R., Alpenidze, O., & Baguant, P. (2019). The Impact of Dynamic Capabilities on Organizational Effectiveness. *Academy of Strategic Management Journal*, 14(4), 402–418. https://doi.org/10.2478/mmcks-2019-0028

- Finley, D. & Sathe, V. (2013). Nonaka's SECI Framework: Case Study Evidence and an Extension. 1, 59–68. Kindai Management Review, 1. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract\_id=3672598
- Galgotia, D., & Lakshmi, N. (2022). Implementation of Knowledge Management in Higher Education: A Comparative Study of Private and Government Universities in India and Abroad. *Frontiers in Psychology*, 13(June), 1–10. https://doi.org/10.3389/ fpsyg.2022.944153
- Godonoga, A., & Sporn, B. (2022). The Conceptualisation of Socially Responsible Universities in Higher Education Research: A Systematic Literature Review. *Studies in Higher Education*. https://doi.org/10.1080/03075079.2022.2145462
- Hair, J. F., Black, W. C., Babin, B. J. & Anderson, R. E. (2014). *Multivariate Data Analysis*. 7th Edition, Pearson Education, Upper Saddle River.
- Hakiman, H., Munadi, M., & Ernawati, F. (2019). Design of Knowledge Management Implementation in Islamic Universities. *Humanities and Social Sciences Reviews*, 7(1), 266– 277. https://doi.org/10.18510/hssr.2019.7131
- Hamad, W. B. (2018). The Role of ICT in Knowledge Management Processes: A Review. International Journal of Engineering Science and Computing, 8(3). Retrieved from https://www.academia.edu/38241341/The\_Role\_of\_ICT\_in\_Knowledge\_Manageme nt\_Processes\_A\_Review
- Hamdani, N. A. (2018). Building Knowledge Creation for Making Business Competition Atmosphere in SME of Batik. *Management Science Letters*, 8, 667–676. https://doi.org/10.5267/j.msl.2018.4.024
- Idrus, N. (1999). Towards quality higher education in Indonesia. *Quality Assurance in Education*, 7(3), 134–141. https://doi.org/10.1108/09684889910281566
- Khozin, K., & Umiarso, U. (2019). The Philosophy and Methodology of Islam-Science Integration: Unravelling the Transformation of Indonesian Islamic Higher Institutions. Ulumuna, 23(1), 135-162. https://doi.org/10.20414/ujis.v23i1.359
- Laal, M. (2011). Knowledge Management in Higher Education. Procedia Computer Science 3, 3, 544–549. https://doi.org/10.1016/j.procs.2010.12.090
- Marjuni, A. (2017). Aktualisasi Peran dan Tantangan Perguruan Tinggi Islam dalam Pencerahan dan Pencerdasan. *Al-Ulum*, *17*(2), 474–490. https://doi.org/10.30603/au.v17i2.238
- Munadi, M., Ernawati, F., & Hakiman, H. (2019). The Reality of Knowledge Management in Islamic Higher Education. *Jurnal Pendidikan Islam*, 7(2), 225–237. https://doi.org/10.14421/jpi.2018.72.225-237
- Noaman, A. Y., Ragab, A. H. M., Madbouly, A. I., Khedra, A. M., & Fayoumi, A. G. (2017). Higher education quality assessment model: towards achieving educational quality standard. *Studies in Higher Education*, 42(1), 23–46. https://doi.org/10.1080/03075079.2015.1034262
- Nonaka, I., Peltokorpi, V., & Tomae, H. (2005). Strategic knowledge creation: the case of Hamamatsu Photonics. *International Journal of Technology Management*, 30(3/4), 248. https://doi.org/10.1504/ijtm.2005.006709
- Novawan, A., & Aisyiyah, S. (2020). The Role of Leadership in Education for Sustainable Development Curriculum Reform in Indonesian Higher Education, Introduction to Sustainable Development Leadership and Strategies in Higher Education (145–159). https://doi.org/10.1108/s2055-36412020000022014
- Nygren-Landgärds, C., Mårtensson, L. B., Pyykkö, R., Bjørnestad, J. O., & von Schoultz, R. (2022). Quality culture at Nordic Universities. *European Journal of Higher Education*. https://doi.org/10.1080/21568235.2022.2116066

- Ortagus, J. C., Kelchen, R., Rosinger, K., & Voorhees, N. (2020). Performance-Based Funding in American Higher Education: A Systematic Synthesis of the Intended and Unintended Consequences. *Educational Evaluation and Policy Analysis*, 42(4), 520–550. https://doi.org/10.3102/0162373720953128
- Peris-Ortiz, M., García-Hurtado, D., & Prado Román, A. (2023). Measuring Knowledge Exploration and Exploitation in Universities and the Relationship with Global Ranking Indicators. *European Research on Management and Business Economics*, 29(2). https://doi.org/10.1016/j.iedeen.2022.100212
- Rahman, A., Dzunur'aini, R., & Nur'aini, I. (2022). Knowledge Management as an Effort to Develop Learning Organizations in Islamic Educational Institutions. Nidhomul Haq: Jurnal Manajemen Pendidikan Islam, 7(1), 92–102. https://doi.org/10.31538/ndh.v7i1.2065
- Sakarji, S. R., Nor, K. M., Razali, M. Mohd., Talib, N., Ahmad, N., & Saferdin, W. A. A. W. M. (2019). Investigating Students Acceptance of Elearning Using Technology Acceptance Model among Diploma in Office Management and Technology Students at UITM Melaka. In *Journal of Information System and Technology Management* (13–26). Global Academic Excellence (M) Sdn Bhd. https://doi.org/10.35631/jistm.413002
- Sarosa, S., & Zowghi, D. (2003). Strategy for Adopting Information Technology for SMEs: Experience in Adopting Email within an Indonesian Furniture Company. *Electronic Journal of Information Systems Evaluation*, 6(2), 165–176. Retrieved from https://www.academia.edu/5095786/Strategy\_for\_Adopting\_Information\_Technolo gy\_for\_SMEs\_Experience\_in\_Adopting\_Email\_within\_an\_Indonesian\_Furniture\_Company
- Sekaran, U., & Bougie, R. (2013). Research Methods for Business: A Skill-Building Approach. 6th Edition. Wiley: New York.
- Shafique, F. (2015). Knowledge Management in Higher Education : Applicability of LKMC Model in Saudi Universities. Computer Science & Information Technology (CS, 2(3), 175– 181. https://doi.org/10.5121/csit.2015.50215
- Sriwidadi, T., Arief, M., Prabowo, H., & Muqarrabin, A. M. (2016). Sustainable Competitive Advantage in Private Higher Education Institutions in Indonesia. *International Journal of Economics and Management*, 10(Special Issue), 33–47. Retrieved from https://www.researchgate.net/publication/313717671\_Sustainable\_competitive\_adva ntage\_in\_private\_higher\_education\_institutions\_in\_Indonesia
- Sun, J., Song, S., Wipawayangkool, K., & Oh, J. S. (2021). Roles of Dynamic Capabilities and Knowledge Management Strategies on Organizational Performance. *Information Development*, 37(1), 122–135. https://doi.org/10.1177/02666666919894377
- Sutrisno, A., & Pillay, H. (2013). Purposes of Transnational Higher Education Programs: Lessons from Two Indonesian Universities. *Studies in Higher Education*, 38(8), 1185– 1200. https://doi.org/10.1080/03075079.2013.833031
- Teece, D., Pisano, G., & Shuen, A. (1997). Dynamic Capabilities and Strategic Management. Strategic Management Journal, 18(7), 509–533. https://doi.org/10.1002/(SICI)1097-0266(199708)18:7<509::AID-SMJ882>3.0.CO;2-Z
- Valero, A., & Van Reenen, J. (2019). The Economic Impact of Universities: Evidence from Across the Globe. *Economics of Education Review*, 68, 53–67. https://doi.org/10.1016/j.econedurev.2018.09.001
- Wu, M., Chang, W., Lin, H., & Cheng, Y.-H. (2015a). A Study on the Dynamic Capabilities in Higher Education Institutions. *The International Technology Management Review*, 5(1), 40. https://doi.org/10.2991/itmr.2015.5.1.5

- Wu, M., Chang, W., Lin, H., & Cheng, Y.-H. (2015b). A Study on the Dynamic Capabilities in Higher Education Institutions ~ Examination on the variation of business organizations from educational settings. *The International Technology Management Review*, 5(1), 40. https://doi.org/10.2991/itmr.2015.5.1.5
- Yaakub, M. H., & Mohamed, Z. A. (2020). Measuring the Performance of Private Higher Education Institutions in Malaysia. *Journal of Applied Research in Higher Education*, 2050(September 2019). https://doi.org/10.1108/JARHE-10-2018-0208
- Yonezawa, A., Hoshino, A., & Shimauchi, S. (2017). Inter- and Intra-Regional Dynamics on The Idea of Universities in East Asia: Perspectives from Japan. *Studies in Higher Education*, 42(10), 1839–1852. https://doi.org/10.1080/03075079.2017.1376875
- Yudistira, Y., Arkeman, Y., Andati, T., & Jahroh, S. (2022). A Bibliometric Review on Dynamic Capability. *Indonesian Journal of Business and Entrepreneurship*. https://doi.org/10.17358/ijbe.8.1.158
- Zhu, Z. Y., Xie, H. M., & Chen, L. (2023). ICT Industry Innovation: Knowledge Structure and Research Agenda. *Technological Forecasting and Social Change*, 189, 122361. https://doi.org/10.1016/j.techfore.2023.122361
- Žitkien, R., Kazlauskiene, E., Deksnys, M. (2015). Dynamic Capabilities for Service Innovation. *Management International Conference*, 269–278. Retrieved from https://ideas.repec.org/h/mgt/micp15/269-278.html