

EXPLORING ORGANIZATIONAL CAPABILITIES TO SUPPORT ORGANIZATIONAL PERFORMANCE: A HUMAN RESOURCE APPROACH IN AN OPEN UNIVERSITY

Kurnia Endah Riana¹, Moh. Muzammil², Yasir M. Pidu³

Universitas Terbuka, INDONESIA

Abstract

Organizational capabilities have significant effect on every organization. Superior organizational capabilities demonstrate an organization's ability to identify resources that can support its performance. In the context of higher education institution, performance measurements mainly based on research publications, teaching, community service, and networking. Therefore, building human resource capabilities will strengthen higher education organizational capabilities. This study aimed to analyze the effect of organizational capabilities on performance in an open university. Data were collected using questionnaires, resulting 74 valid questionnaires that will be analyzed further. Using multiple linear regression, the result suggest that research capability, teaching capability, and network capability positively affect organizational performance. However, community service capability does not exhibit a significant effect on organizational performance.

Keywords: community service capability, networking capability, performance, research capability, teaching capability.

INTRODUCTION

Organizational capability is an attractive research topic because this issue significantly affects organizations in identifying resources that support their sustainable competitive advantage. More advanced economy and technology require organizational leaders to focus on identifying and improving their critical business processes that determine the success of their firms. It is commonly known that abilities at the individual and organizational levels affect organizational capability. Further, organizations need to manage changes to facilitate sustainable growth, and thus managers need their organizational capability to manage these changes (Rogers, 2004). Organizational capability is an important organizational aspect that affects organizational performance in achieving competitive advantage. An organization needs various types of resources, such as financial resources, physical resources, and human resources that are important to build organizational capability. In the resource-based view (RBV) approach, organizational capability is one of the important internal factors in managing firms' resources to achieve competitive advantage. When an organization exhibits high capability, this organization are more capable in managing its resources and thus in achieving competitive advantage. Various factors such as resources, organizational capability, and other external factors affect competitive advantage. The RBV approach suggests that firms can achieve sustainable competitive advantage and generate superior profits by possessing and controlling strategic assets, either tangible or intangible ones. A firm/organization is a set of strategic and productive resources that are unique, complex, complementary, and difficult to copy by its competitors and can be used by the firm to sustain its competitive strategy (Pujiono, 2015).

Higher education institutions (HEIs) as higher education provider emerge to empower the society through learning, cultivating values and commitment from faculties, staffs, and students that will eventually strengthen social capital and prepare students to contribute positively to the national and international community (Walker and McLean, 2010). HEIs are responsible for developing social responsibilities and commitment that affect the societal goals.

Similar to other organizations, HEIs have to deal with an increasingly intense competition to acquire good students, good staffs, and research funding (Hemsley-Brown, 2012; Hillman *et al.*, 2014). As any other HEIs, academic performance of HEIs in Indonesia are measured based on three main functions of higher education i.e. education and teaching, research, and community service. While education and teaching is the main performance measurement, many HEIs in Indonesia face research publication as the most difficult aspect to meet performance measurement requirement. Comparing research publication among ASEAN countries, Indonesian International research publication still underperforms just below Thailand and far below Singapore and Malaysia. This worrying condition indicating that the organizational capability of the Indonesian HEIs is still low.

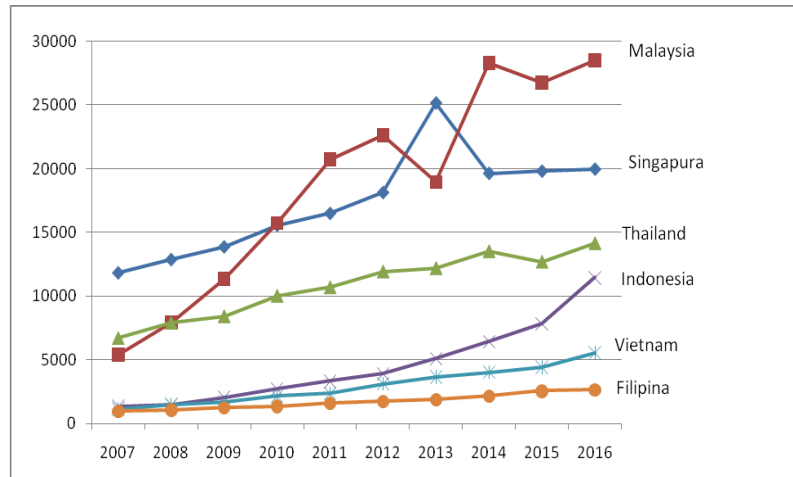


Figure 1. The Indonesian Position in the International Publication

Furthermore, *the 2016 Asia University Ranking of Times Higher Education* also shows that the University of Indonesia only ranked 181 from 190 Asian universities, far below the National University of Singapore that ranks first (*THE University Ranking*, 2016). In a similar vein, the *Webometrics* ranking also indicates that the University of Gadjah Mada ranks 14 in the CIVETS countries (Columbia, Indonesia, Vietnam, Egypt, Turkey, and South Africa) and ranks 14 in South East Asia. In South East Asia, the performance of Indonesian universities are below Singapore (ranks first), Thailand, and Malaysia (*Ranking Web of Universities*, 2016). These phenomena require further analysis of the importance of building organizational capability to improve the performance of Indonesian HEIs. Thus, this study aims to analyze the effect of organizational capability on the performance of Indonesian HEIs.

2 LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 Organizational Capability

The success of an organization depends on its resources and its ability to manage these resources. Organizational resources are organizations' assets as the foundation of these organizations. These resources include tangible assets (factory, equipment, finance, and location) and intangible assets (such as technology [patent and copyrights], culture, and reputation). Capability refers to organizations' ability to exploit their resources. Further, it refers to the business process and routines in managing the existing resources to convert inputs into output (Wheelen *et al.*, 2015). Organizational capability is organizational competency to achieve goals and objectives more effectively. Organizational capability also includes the ability to transfer knowledge and skills to finish tasks in a new situation and motivation to strengthen these skills and knowledge. Some scholars define organizational capability as firms' ability to perform their tasks or activities in a coordinated method to achieve their objectives (O'Regan *et al.*, 2006; and Sihvonen *et al.*, 2010). Dess *et al.* (2014) argue that organizational capability is not tangible assets and not specifically tangible. Organizational capability is the organizational capacity to utilize tangible and intangible resources continuously and in combination, and to leverage capability to achieve the designated objectives. Ulrich and Smallwood (2004) suggest that organizational capability emerges from a set

of activities, not a single activity. Thus, organizational capability is a set of skills and ability of an organization. Ansoff and McDonnell (1990) emphasize that capability profile is a composition of functional capabilities: marketing, production, research and development, etc. as well as general managerial ability such as growth management, diversification, and acquisition.

Relatively few studies measure organizational capability in the education sector, including higher education. Higher education is currently under intense pressure because of the increasing public expectation about the graduates of HEIs that will fulfill labor market needs. Advanced information and communication technology (ICT) enables the public to access information on the quality of HEIs, including their graduates. Similar to other organizations, the performance of HEIs highly depends on their human resources that likely deliver superior organizational performance. Regarding the RBV approach, several studies use this approach to investigate the organizational capability of HEIs, such as O'Shea *et al.* (2005), Powers and McDougall (2005), and Rasmussen *et al.* (2011). Some studies analyze organizational capability in the manufacturing industry. Protogerou *et al.* (2008) show that dynamic capability affects functional competence that will significantly affect performance. Several studies also relate organizational capability with innovation, such as Alegre and Chiva (2008) and Zhou and Wu (2010). Saá-Pérez & García-Falcón (2002) demonstrate the importance of human resources that are integrated with human resource system. The integration will positively affect organizational performance. Bobe and Kober (2015) measure the organizational capability of HEIs by classifying 19 indicators of HEIs' capability into three variables, namely research capability, teaching capability, and network capability. This measurement reflects the real organizational capability of HEIs because higher education is a unique industry.

2.2 HEIs' Performance

Organizational performance is a general measure to determine the organizational success or failure. The indicators of performance measurement vary, depending on the objectives of measurement and industry characteristics. Performance measurement is very important in assessing the achievability of objectives, goals, and strategies. Organizational performance is a multidimensional concept that not only reflects financial profit (Hamid, 2013). In practice, organizational performance refers to other dimensions, such as social and organizational (Hamid, 2013). The organizational performance indicators can be classified into two large and common categories, namely financial and non-financial performance. One can measure non-financial performance through various strategic functions in organizations, such as operational, marketing, or human resources performance. Besides, organizational performance also reflects quality, cost, service, on-time process, and flexibility. Rue and Byard (1997) demonstrate that firm performance is the firms' achievement that is measured by performance outcomes.

HEIs are the most fundamental constituent that require special attention and evaluation to produce highly qualified outcome for the future of a country. Higher education serves as the source of pride and appreciation of citizens, disseminates science and respect, improves individual self-confidence, and offers opportunities in career (Reddy *et al.*, 2016). HEIs' performance highly depends on their human resources. This is in line with Lew (2009) who emphasizes that human resources play a strategic role in improving rating that reflects the quality of research, academic reputation, the quality of academic programs, the contribution of research to society, preparation of future leaders, and the quality of graduates. From the perspective of human resource theory, higher education is an effective tool to develop science and technological capability to compete in a global knowledge economy (Ding and Zeng, 2015).

Some scholars have investigated the performance of HEIs, such as Ramsden (1991), Tam (2010), and Amin *et al.*, (2014). The performance of HEIs can be commonly classified into two large categories, namely academic and managerial performance. The academic performance reflects HEIs' main functions. Managerial performance is related to the management of HEIs as organizations. The implementation of appropriate human resource management practice in HEIs will benefit HEIs when employees play a strategic role in improving research quality, academic reputation, the quality of academic program, research contribution to the public, and the quality of graduates (Lew, 2009). Amin *et al.*, (2014) have developed 11 items of the indicators of HEIs' performance that include national and international network, marketing and image capability, national and international academic publication, investment in research, institutional development, supporting facilities and infrastructure, reputation, national and international accreditation,

institutional and lecturer development, the quality of graduates, and international reputation and cooperation. The development of these indicators indicates that performance measurement is broader than mere academic performance, but also include supporting facilities and infrastructure.

Superior organizational capability reflects superior ability to exploit the existing resources. When organizations can develop this ability, they will exhibit superior performance that is based on superior capability. Based on the previous arguments, this study aims to analyze the effect of organizational capability on HEIs' performance with the following hypotheses:

- H1: Research capability positively affects performance.
- H2: Teaching capability positively affects performance.
- H3: Community service capability positively affects performance.
- H4: Network capability positively affects performance.

The following figure displays the proposed research model.

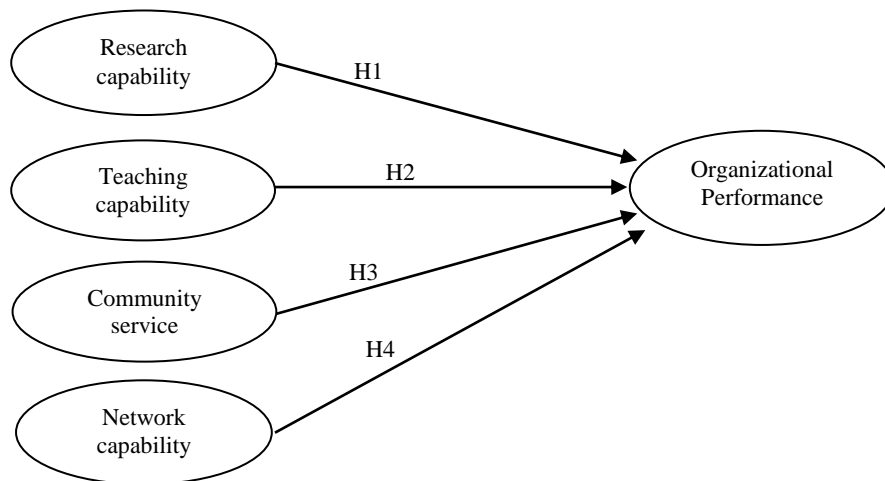


Figure 2. Research Model

3 RESEARCH METHOD

3.1 Research Design

This research aims to analyze the effect of independent variables on dependent variable that need further empirical tests. This study is a confirmatory study that aims to test the hypotheses based on theory and previous studies. When the theoretical basis has been proposed, the design of a confirmatory study to test the theory is justified.

This study was conducted in an open and distance education university. Our population is all lecturers in head office and regional offices. We applied a simple random sampling, which all elements in the population have a known, nonzero chance of being chosen as subjects in the sample (Sekaran and Bougie, 2013). More specifically, we send our questionnaires using postal service or give the questionnaires directly to the respondents to increase the response rate.

3.2 Data Analysis Method

We perform the following steps to test our hypotheses. Firstly, we run the pilot test of our questionnaire to several of our respondents to test the initial validity and reliability of the questionnaire items. Secondly, we also run the validity and reliability test on our data generated from all of our respondents. The validity test aims to measure the accuracy and precision of the measurement items in measuring the research variables. Meanwhile, the reliability test aims to analyze whether each item in the research instrument is free from errors. Thus it can provide consistent measurement under different conditions. Lastly, we run the hypothesis tests to

investigate the inter-variable effects. The following explains our research stages in more detailed.

3.2.1 Validity and Reliability Test

The validity test aims to measure the accuracy and precision of the measurement items in measuring the research variables. We use the confirmatory factor analysis to test the validity of our research instrument. This method provides the lambda value (the significance value of factor loading) that informs us whether our research instruments sufficiently define our variables. The lambda value is significant if it is equal to or more than 0.4.

Reliability of a research instrument reflects the extent of measurement is free from errors to enable it to provide a consistent measurement under different conditions and in each instrument item (Sekaran, 2003). We use the item-to-total correlation of *Cronbach Alpha's* to measure reliability. This measure indicates the internal consistency of the measurement tool. In general, an indicator is reliable if the item-to-total correlation score is above 0.60 (Hair et al., 2006).

3.2.2 Multiple Linear Regression Analysis

The hypothesis test aims to generate a description of the relation between the research constructs. We use the multiple linear regression technique to test our hypotheses because there are several independent variables and a dependent variable. More specifically, the following equation states the analytical model:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + e$$

where :

Y	=	Organizational performance
a	=	Intercept / Constant
b ₁ , b ₂ , b ₃ , b ₄	=	Regression coefficient
e	=	Epsilon or variables not analyzed
X ₁	=	Research capability
X ₂	=	Teaching capability
X ₃	=	Community service capability
X ₄	=	Network capability

4 RESULTS AND DISCUSSION

4.1 RESULTS

Our research data is primary one from our questionnaire. We used primary data for all variables, either the dependent or independent variables. We distributed the questionnaire directly to 280 lecturers. However, we can only collect 74 usable data.

4.1.1 The Result of Validity and Reliability Tests

We used *Confirmatory Factor Analysis* (CFA) to test the validity of our instruments. In CFA, indicators with significant factor loading indicate that these indicators form a set of measurement instruments that measure same constructs and make good predictions of the constructs that have to be predicted (Hair et al., 2006). An indicator is valid if it exhibits the convergent validity with the factor loading more than 0.40 and significant at 5% significance level. The initial factor analysis reveals that the value of Kaiser-Mayer-Olkin Measure of Sampling Adequacy (KMO MSA) is 0.850 and significant at 0.000 significance level. Factor analysis requires that the expected value must be at least 0.5 (Ghozali, 2006). Thus, the result suggests that it is viable to run the factor analysis. The initial factor analysis shows that there are 13 invalid indicators, consisting of research indicator 7, research indicator 10, teaching 5, teaching 8, community service 4, community service 6, community service 8, network 3, network 4, network 5, network 9, performance 3, and performance 4. Tabel 1 below demonstrates the initial factor analysis.

Table 1. The Results of the First Validity Test

Indicator	Component					Explanation
	1	2	3	4	5	
Research Capability 1			.735			Valid
Research Capability 2			.775			Valid
Research Capability 3			.727			Valid
Research Capability 4			.755			Valid
Research Capability 5			.771			Valid
Research Capability 6			.616			Valid
Research Capability 7		.492				Not valid. The factor loading value does not group into the Research Capability variable group (component 3).
Research Capability 8			.708			Valid
Research Capability 9			.641			Valid
Research Capability 10		.793				Not valid. The factor loading value does not group into the Research Capability variable group (component 3).
Teaching Capability 1				.635		Valid
Teaching Capability 2				.861		Valid
Teaching Capability 3				.862		Valid
Teaching Capability 4				.844		Valid
Teaching Capability 5			.455	.537		Not valid. The factor loading values group into two variable groups (component 3 and 4).
Teaching Capability 6				.658		Valid
Teaching Capability 7				.850		Valid
Teaching Capability 8					.514	Not valid. The factor loading value does not group into the Teaching Capability variable group (component 5).
Community Service Capability 1					.802	Valid
Community Service Capability 2					.676	Valid
Community Service Capability 3					.801	Valid
Community Service Capability 4		.733				Not valid. The factor loading value does not group into the Community Service Capability variable group (component 5)
Community Service Capability 5					.694	Valid
Community Service Capability 6	.687					Not valid. The factor loading value does not group into the Community Service Capability variable group (component 5).
Community Service Capability 7					.795	Valid
Community Service Capability 8		.746				Not valid. The factor loading value does not group into the Community Service Capability variable group (component 5).
Network Capability 1		.728				Valid
Network Capability 2		.798				Valid
Network Capability 3	.487					Not valid. The factor loading value does not group into the Network Capability variable group (component 2).
Network Capability 4				.430		Not valid. The factor loading value does not group into the Network Capability variable group (component 2).
Network Capability 5	.434	.515				Not valid. The factor loading values group into two variable groups (component 1 and component 2).
Network Capability 6		.735				Valid
Network Capability 7		.794				Valid
Network Capability 8		.789				Valid

Network Capability 9	.492			Not valid. The factor loading value does not group into the Network Capability variable group (component 2).
Network Capability 10		.785		Valid
Performance 1	.674			Valid
Performance 2	.775			Valid
Performance 3	.524		.425	Not valid. The factor loading values group into two variable groups (component 1 and component 4).
Performance 4	.538		.408	Not valid. The factor loadings values group into two variable groups (component 1 and component 4).
Performance 5	.697			Valid
Performance 6	.738			Valid
Performance 7	.711			Valid
Performance 8	.574			Valid
Performance 9	.592			Valid
Performance 10	.666			Valid
Performance 11	.755			Valid
Performance 12	.661			Valid

Based on the initial factor analysis, we leave out the thirteen non-valid indicators in the subsequent analysis. Table 2 displays the results of the second factor analysis.

Table 2. The Results of the Second Validity Test

Indicator	Component					Explanation
	1	2	3	4	5	
Research Capability 1		.754				Valid
Research Capability 2		.782				Valid
Research Capability 3		.758				Valid
Research Capability 4		.762				Valid
Research Capability 5		.777				Valid
Research Capability 6		.587				Valid
Research Capability 8		.711				Valid
Research Capability 9		.635				Valid
Teaching Capability 1			.636			Valid
Teaching Capability 2			.881			Valid
Teaching Capability 3			.882			Valid
Teaching Capability 4			.871			Valid
Teaching Capability 6			.664			Valid
Teaching Capability 7			.874			Valid
Community Service Capability 1					.820	Valid
Community Service Capability 2					.682	Valid
Community Service Capability 3					.822	Valid
Community Service Capability 5					.705	Valid
Community Service Capability 7					.807	Valid
Network Capability 1				.689		Valid
Network Capability 2				.818		Valid
Network Capability 6				.706		Valid
Network Capability 7				.811		Valid
Network Capability 8				.771		Valid
Network Capability 10				.758		Valid
Performance 1	.663					Valid
Performance 2	.764					Valid
Performance 5	.691					Valid
Performance 6	.729					Valid
Performance 7	.709					Valid
Performance 8	.641					Valid
Performance 9	.666					Valid

Performance 10	.691	Valid
Performance 11	.781	Valid
Performance 12	.688	Valid

The second factor analysis suggests that the value of KMO MSA is 0.863 and significant at 0,000. This test also demonstrates that all indicators are valid.

4.1.2 The Results of the Reliability Test

We use Cronbach's Alpha coefficient and item-to-total correlation to test the reliability of our research instruments. The item-to-total correlation helps to improve the measurement by eliminating items that reduce Cronbach's Alpha. The reliability test suggests that Cronbach's Alpha based on standardized items for all variables are higher than 0.60, indicating that all variables are reliable. In other words, the internal consistency of the questionnaire items is acceptable. Table 3 below shows the detailed results of the reliability test using Cronbach's Alpha.

Table 3. The Results of the Reliability Test

Variable Name	The value of Cronbach's Alpha Based on Standardized Items	N of Items
Research Capability	0.927	8
Teaching Capability	0.967	6
Community Service Capability	0.935	5
Network Capability	0.941	6
Performance	0.943	10

4.1.3 The Results of the Multiple Linear Regression Analysis

We used multiple linear regression analysis to test our hypotheses. This analysis produces t-value, F-value, and coefficient of multiple determination (R^2). We use α of 0.05, implying the confidence level of 95%. If the p-value is $p \leq 0.05$, then the independent variables significantly affect the dependent variable with the confidence level of 95% and maximum tolerable deviation of 5%. The coefficient of multiple determination (R^2) indicates the ability of all independent variables in explaining the variation of the dependent variable. The R^2 value ranges from null to one. Lower R^2 value suggests the limited ability of all independent variables in explaining the variation of the dependent variable. On the other hand, the R^2 value approaching one indicates that all the independent variables can explain most of all the variation of the dependent variable. Table 4 below displays the detailed results of the regression test.

Table 4. The Results of the Multiple Linear Regression Analysis

Independent Variables	Dependent Variable	Standardized Coefficient	t	Sig t
Research Capability	Organizational Performance	.287	2.075	.042
Teaching Capability		.194	2.097	.040
Community Service Capability		.209	2.738	.087
Network Capability		.240	2.169	.034
Adjusted R^2				
F				29.426
Sig F				.000

Table 4 above suggests that the adjusted R^2 value is 0.609, implying that the variation of the four independent variables (research capability, teaching capability, community service capability, and network capability) explains 60.9% of the variation of the dependent variable (organizational performance) while other variables explain 39.1% of the variation of the dependent variable. The F-value explains the simultaneous effects of all independent variables on the dependent variable. Our analysis shows that the F-value is 29.426 with the significance value of 0.000. Because the significance value is much lower than 0.05, the regression model can predict organizational performance. In other words, research capability, teaching capability, community service capability, and network capability simultaneously affect organizational performance. The t-tests support hypothesis 1, hypothesis 2, and hypothesis 4 with the sig. t-values are below 0.05. The t-test shows the individual effect of the independent variable on the variation of the dependent variable. Thus, research capability, teaching capability, and network capability positively affects organizational performance while community service capability does not exhibit a significant effect on organizational performance.

5 CONCLUSION AND SUGGESTION

This study aims to analyze the effect of organizational capability; in this context research capability, teaching capability, community service capability, and network capability. Using the multiple linear regression analysis, we found that research capability, teaching capability, and network capability positively affect organizational performance. However, community service capability does not exhibit a significant effect on organizational performance. One explanation of this result is that service community activities are complementary activities in universities. The main activity in college is teaching and research that is the main measure of performance. In a HEI, community service activities may only be a complement to fulfill the duties of the lecturers. Therefore, community service capability does not affect performance. The implementation of three main duties of higher education; namely research and scientific publication, teaching, and community service; and other supporting units largely affect the quality of an HEI. Therefore, the suggested managerial implications of the research finding is that in addition to strengthening teaching and research, HEI should be able to strengthen the capabilities of community service as an implementation of science for the community. With the strengthening of community service capability, will further strengthen the performance of universities because it is supported by three main tasks of higher education and network capability

This study is subject to several caveats. For example, this study was conducted at one university that illustrates the conditions at the university, can not be generalized to universities in general. Thus, we suggest that following studies use more higher education institutions as the sample. It is also important to analyze further how to build the organizational capability of HEIs to achieve superior organizational performance.

REFERENCES

- Alegre, J. & Chiva, R. (2008). Assessing the impact of organizational learning capability on product innovation performance: An empirical test. *Technovation*, 28(6), 315-326.
- Amin, M., Ismail, W., Khairuzzaman, W., Rasid, S., Daverson, R., and Selemani, A. (2014). The impact of human resource management practices on performance. *The TQM Journal*, 26(2), 125-142.
- Ansoff, H.I., & McDonnell, E.J. (1990). *Implementing Strategic Management 2nd edition*. Prentice Hall International (UK) Ltd.
- Bobbe, B.J. & Kober, R. (2015). Measuring organizational capabilities in the higher education sector. *Education + Training*, 57(3), 322-342.

- Dess, G.G., Lumpkin, G.T., Eisner, A.B., & McNamara, G. (2014). *Strategic Management Text and Cases*. New York: McGraw-Hill Education.
- Ding, L., & Zeng, Y., 2015. Evaluation of Chinese higher education by TOPSIS and IEW the case of 68 universities belonging to the Ministry of Education in China. *China Economic Review*, 36, 341-358.
- Hamid, J. 2013. Strategic human resource management and performance: The universalistic approach – a case of Tunisia. *Journal of Business Studies Quarterly*, 5(2), 184-202.
- Hair, Jr., J.F., Black, W.C., Babin, B.J., Andersen, R.E. dan Tatham, R.L. (2006). *Data Analysis Multivariate 6th edition*. Pearson Education, Inc., New Jersey.
- Hillman, N.W., Tandberg, D.A. and Gross, J.P.K. (2014). Market-based higher education: does Colorado's voucher model improve higher education access and efficiency?. *Research in Higher Education*, 55 (6), 601-625.
- Hemsley-Brown, J. (2012). The best education in the world': reality, reputation or cliché? International students reasons for choosing an English university. *Studies in Higher Education*, 37 (8), 1005-1022.
- Lew, T.-Y. (2009), Perceived organizational support: linking human resource management practices with affective organizational commitment, professional commitment and turnover intention. *The Journal of International Management Studies*, 4(2), 104-115.
- O'Regan, N., Ghobadian, A., & Galleary, D. (2006). In search of the drivers of high growth in manufacturing SMEs. *Technovation*, 26(1), 30-41
- O'Shea, R.P., Allen, T.J., Chevalier, A. and Roche, F. (2005). Entrepreneurial orientation, technology transfer and spinoff performance of US universities. *Research Policy*, 34(7), 994-1009.
- Powers, J.B., and McDougall, P.P. (2005). University start-up formation and technology licensing with firms that go public: a resource-based view of academic entrepreneurship. *Journal of Business Venturing*, 20(3), 291-311.
- Ptorogerou, A., Caloghirou, Y, Lioukas, S. (2008). Dynamics capabilities and their indirect impact on firm performance. The 25th Celebration Conference 2008 on Entrepreneurship and Innovation – Organizations, Institutions, Systems, and Regions. Copenhagen, Denmark 17-20 Juni 2008.
- Pujiono, J. (2015) Pengaruh lingkungan eksternal terhadap strategi bisnis dan kapabilitas organisasi dan dampaknya terhadap kinerja perusahaan penerbangan berjadwal di Indonesia. *Disertasi pada Program Doktor Manajemen Bisnis Sekolah Pasca Sarjana Institut Pertanian Bogor*. (The influence of external environment on business strategy and organization capability and its affect on performance of scheduled airlines in Indonesia. Dissertation on Doctoral Program of Bogor Agricultural University, Indonesia)
- Ramsden, P. (1991). A performance indicator of teaching quality in higher education: The course experience questionnaire. *Studies in Higher Education*, 16(2), 129-150.
- Rasmussen, E., Mosey, S. and Wright, M. (2011). The evolution of entrepreneurial competencies: a longitudinal study of university spin-off venture emergence. *Journal of Management Studies*, 48 (6), 1314-1345.
- Ranking Web of Universities (2016) Diakses tanggal 15 Januari 2017.
- Ranking Web of Universities (2016) South East Asia Rankings
http://www.webometrics.info/en/Asia_Pacifico/South%20East%20Asia.
- Reddy, K.S., Xie, E., & Tang, Q. (2016). Higher education, high-impact research, and world university rankings: A case of India and comparison with China. *Pacific Science Review B: Humanities and Social Sciences*, 2, 1-21.
- Rogers, M. (2004) Capabilities for sustainable business success, *Australian Journal of Management*, 29 (1), 21-25.
- Rue, LL & Byard L.L. (1997). *Management, Skill, and Application*. New York: McGraw-Hill Co.

- Saá-Pérez, P.D. & García-Falcón, J.M. (2002) A resource-based view of human resource management and organizational capabilities development, *International Journal of Human Resource Management*, 13(1), 123-140.
- Sekaran, U., Bougie, R. (2013). *Research Methods for Business: a Skill Building Approach*, 6th ed. West Sussex: John Wiley & Sons, Ltd.
- Sihvonen, A. & Hietanen, J. & Salo, J. & Koivisto, E. (2010). Dynamic Managerial Capabilities and Strategic Marketing The Hierarchy of Capabilities. ANZMAC 2010, Christchurch, New Zealand, 29 November - 1 December, 2010, Australian and New Zealand Marke.
- Tam, M. (2001). Measuring quality and performance in higher education. *Quality in Higher Education*, 7(1), 47-54.
- Times Higher Education World University Rankings (2016)
https://www.timeshighereducation.com/world-university-rankings/2016/regional-ranking#!/page/0/length/25/sort_by/rank/sort_order/asc/cols/stats. Diakses tanggal 15 Januari 2017.
- Ulrich D. and N. Smallwood (2004) Capitalizing on capabilities, *Harvard Business Review*, 82 (6), 19-127.
- Walker, M., & McLean, M. (2010) Making lives go better: University education and 'professional capabilities.' *South African Journal of Higher Education*, 24(5), 847-869
- Wheelen, T.L., Hunger, J.D., Hoffman, A.N., & Bamford, C.E. (2015) *Strategic Management and Business Policy: Globalization, Innovation, and Sustainability*. Pearson Education Limited.
- Zhou, K.Z. & Wu, F. (2010) Technological capability, strategic flexibility, and product innovation. *Strategic Management Journal*, 31, 547–561.