

Competitiveness In Higher Education: An Empirical Study In Indonesia

Hendry Hartono, Satriyo Soemantri Brodjonegoro, Engkos Achmad Kuncoro, Dyah Budiastuti

Abstract— : The influence of globalization affects all business organizations as well as non-businesses. Moreover, Higher Education Institution (HEI) is required to consistently produce new knowledge, products, or technology, so utilization of the resources as a key factor of higher education success is a necessity. The purpose of this study is to examine the key factors of HEI competitiveness. This study argues that organizational learning with the right transformational leadership and application of knowledge management along with the ability of the organization to act entrepreneurially and to behave innovatively to achieving high performance and competitiveness. This research is descriptive and verificative with explanatory survey method at accredited private HEI in DKI Jakarta. Data collection was done through documentation study, interview and questionnaire distribution. The analysis tool used is Structural Equation Modeling - Partial Least Square (SEM-PLS) with WarpPLS version 5.0 software. The results showed that HEIs could be diagnosed, understood and changed to enhance competitiveness. This study provides evidence to guide strategy development, priority, setting and planning, especially how to develop entrepreneurship culture and enhance innovative behavior with transformational and knowledge management roles. Creating appropriate transformational leadership culture and knowledge management support organization as a learning organization to change, improve and growth.

Index Terms— transformational leadership, knowledge management, entrepreneurship, innovative behavior, performance, competitiveness.



1 INTRODUCTION

Higher education play an important role in fostering the economy [1], because HEI improve skills and knowledge that ultimately lead to increase of revenue. Higher education is the “engine” of economic development [2] and has an important and direct influence on the development of innovation, especially in growing new industries or developing existing industries. Higher education is also faced globalization and international competition, so challenges and competition that no longer only from within the country, but also from overseas [3]. The challenges related to the management of higher education and teaching and learning process.

Globalization also encourages higher education to develop educational processes that encourage all students to develop themselves and become qualified graduates with intellectual, professional, social, moral and personal competence. Higher education should also be able to produce innovative research results through independent research activities, as well as to cooperate with other institutions for the development of science, which is applicable in real life. Accreditation from BAN-PT and being unable to fulfill the initial requirement (eligibility) to have at least 75% of study programs with accreditation status

for all the courses in the institution. As a knowledge-based organization, HEI in the implementation of knowledge management become very crucial because HEI are producers and science producers and disseminators [5] and as a way to deal with competition, HEI can act entrepreneurially [6] and act innovatively [7] for example in how to manage resources and build organizational capacity, and involve external stakeholders in creating and maintain synergy between institution and other parties [8], [9] Since HEI compete not only in national but also international level, it is necessary to recognize and study every activities in managing organization (knowledge management) so that the future can have the right momentum and build confidence in taking risky actions or decisions aimed at the future [10]. This suggests that higher education organizations need leadership, innovative action and entrepreneurship in addressing their problems.

The right leadership style will legitimize the leadership so that the sub-ordinates will voluntarily support the leadership program, transformational leadership deemed highly relevant to face such rapid changes [11] and transformational leadership has an impact on the occurrence of social construction where there are action and reaction between the leader and his followers [12] resulting in effective change [13] in bringing his followers to perform better [14].

2 LITERATURE REVIEW

The transformational leadership theorize the main concept is the change and the role of leadership in providing vision and applying transformation to organizational performance [15], [16], in which a leader will play a leadership role such as an example between managers and underlain [17], and becomes the inspiration for his subordinates in achieving the goals [18], [19]. A leader can articulate a shared vision of the future, able to intellectually stimulate employees [20], and pay

- *Hendry Hartono (Ass. Prof. Dr.) is currently worked as a Research Coordinator and holding Doctoral Degree at the BINUS Business School Undergraduate, Bina Nusantara University, Jakarta, Country, PH-+62-21-5345830. E-mail: hhartono@binus.edu*
- *Satriyo Soemantri Brodjonegoro (Prof. Dr.) is currently as a Professor of the Bandung Institute of Technology (ITB), former Director General of Higher Education (1999-2007), and Vice President of the Indonesian Science Association (AIPI), Indonesia, PH- +62-22-2500935. E-mail: satriyo1@indo.net.id*
- *Engkos Achmad Kuncoro (Assoc. Prof. Dr.) is currently as a Vice Rector at Bina Nusantara University, Jakarta, Indonesia , PH-+62-21-5345830. E-mail: eak@binus.edu*
- *Dyah Budiastuti (Assoc. Prof. Dr.) is currently as a Deputy Head of Doctoral Program, BINUS Business School Graduate, Bina Nusantara University, Jakarta, Indonesia, PH-+62-21-5345830. E-mail: dbudiastuti@binus.edu*

attention to individual inspiration (employees) and pay attention to individual differences [21] by interacting with subordinates [22]. The transformational leadership model has resulted in significant organizational change since this form of leadership emphasizes higher levels of intrinsic motivation, trust, commitment, and loyalty of subordinates [23], [24] and the ability to transform subordinates [25], [26].

Knowledge management is considered a practical approach [27], systematic processes [28], a practice [29] and ability [30] and organizational treatment [31] in identifying, managing and sharing all assets owned by the organization. Knowledge management transforms experience and information into results so that the essential thing in knowledge management is the establishment of a conducive learning environment so that workers are motivated to continue learning, utilize information or knowledge provided by the organization, and develop their individual knowledge, and ultimately willing to share new knowledge gained to become knowledge organization. To put it simple, knowledge management focuses on to cultivating knowledge where every person within organization are willing to share knowledge (knowledge sharing) to be more productive.

Entrepreneurship is the process of bringing money, work and business to the market to generate new business, where the process has high risk of real uncertainty or unassailable chance of success. Entrepreneurship is also perceived as a process of change that leads to the introduction of new products, new processes, new ways, new market prices, or new sources of raw materials for processing [32], [33]. The process of change requires confidence, ability to discover new opportunities. In allocating resources to take advantage of opportunities to maximize financial returns, and creative abilities by taking account of the risks that to be faced.

Transformational leadership have a significant positive impact on innovative behavior [34]; and have a significant positive impact on entrepreneurship. The research findings reflect the importance of leadership styles and their impact on employee behavior in the workplace. Agility, idea creation, and implementation of ideas in the workplace play a major role in the company's ability to compete [35], [36].

Innovation is a tool that organizations can utilize [37]), thus creating new possibilities through a combination of different knowledge, in the form of knowledge of what might be technically needed. The science may have existed in our experience, based on something we have seen or done before. Or, it could be the result of the search process - technology research, markets, competitors' actions, etc. And it may be in an explicit form, codified in a way that others cannot access, discuss, transfer, etc. Or it could be in a form that cannot be pronounced, can be known but cannot be poured through words or formulas. In an innovation, there is a new idea that can be applied to produce or improve a product, process or service, to be regarded as the central composition that underlies the organization's success. Creativity is a necessary component of innovation although it does not guarantee that innovation will occur, innovation requires change and change requires action, in turn, action requires effective planning [38], [39]. Innovations that occur within an organization depend on the people within the organization. In other words, how innovative an organization is determined by the innovative

behavior of the human resources [38], [40], [41].

Transformational leadership plays a role in encouraging knowledge management in higher education [42]. Knowledge management as a knowledge activity, a kind of knowledge, a transformation of knowledge and technology has a significant impact in bringing innovation through the transformation of knowledge becoming an organizational knowledge asset [43]. Organizational performance becomes quite complex and has many perspectives. Performance measurement is done to assess whether the organization is successful or not. Traditional performance measures are performance-oriented measures of finance and ability to make a profit. An organization is said to have a good performance if in the financial statements show it to gain profits, in accordance with predetermined targets [44].

The measurements used to assess performance depend on how an organization will be assessed and how it will be achieved. The targets set by strategic management with regard to profitability, market share, cost and quality should be used to measure company performance [45] and should also aim to eliminate non value-added activities and optimize value-added activities. Value-added activities can include motivating, communicating strategies, organizations and influencing behavioral change [46].

HEI are non-profit oriented organizations [47], but non-profit organizations can learn from other businesses in the area of effective management. On the other hand, non-profit organizations should focus on mission, strategy, and performance management thus they need ongoing and continuous management. In introducing the balanced scorecard, Kaplan and Norton (1992) propose that this instrument will assist in solving problems related to performance measurement. Emphasis on financial performance, which in turn lead to the achievement of long-term goals in terms of future investment and value creation [48]-[51]. Adopting key performance indicators from instruments such as balanced scorecards will allow universities to develop and allocate resources strategically. Therefore, this study aims to investigate the use of balanced scorecard in improving the performance of HEI.

Competitiveness is comparability between one entity participating in a competition with another entity. A company is said to be competitive when it can compete with other players in a relatively similar market, where none of the players in the market does not have monopoly power. In the framework of economy and management, the concept of competitiveness has a very important role in maintaining the sustainability of companies in winning business competition [52], [53]. The emergence of a competitiveness of firms is an emerging implication of the need for the ability to compete in the international market through strategies to win globalization [54]. Nevertheless, within Porter's framework observing the level of competitiveness, it should not be done through a rigidly used comparative analysis. For example, in the business of 'shipbuilding', the cost per unit of output is sufficient to see the effectiveness of development as well as a measure of competitiveness [55].

The innovations behavior affecting the development of technological innovation capabilities within the organization that can lead to improved company performance [56].

Entrepreneurship contributes positively to business performance [57], [58] and also have influence to competitive ability of organization [59]. Somehow researchers still debating how performance can create competitiveness of the organization. The advantage of performance created by management practices should be able to improve the competitiveness of the company [60], [61] but still need to be proven empirically.

3 RESEARCH METHODOLOGY

Population and Sample:

The unit of analysis is determined by using stratified random sampling technique by grouping the private higher education institution population in DKI Jakarta into several groups that have the same characteristics that are based on the college group, i.e. HEI in the form of universities, institutes, high schools, and polytechnics, and the sample is selected on the basis of its accreditation status. By using Slovin with confidence level of 99% the size of unit of analysis is determined to be 40 HEI. In addition it is necessary to calculate the minimum number of observation unit that is the permanent lecturer (faculty member) by considering the proportional number of permanent lecturer owned by each HEI which becomes the object of the analysis. Calculation of sample size of unit observation with power analysis technique (MacCallum, Lee, & Browne, 2010; Wolf, Harrington, Clark, & Miller, 2013) is done by using Software Statistics 7.0 and distributed using proportionate stratified random sampling technique based on the form of HEI. A total of 356 questionnaires were distributed proportionally among the 40 accredited private HEI.

Instrument and data analysis:

Data processing of the interview questionnaires interview at private HEI in DKI Jakarta can be grouped into 3 (three) steps: preparation, tabulation, and application of data on research approach. Preparation is collecting and confirming the completeness of the questionnaire sheet and its validity. Tabulation refers to the collation of the questionnaire results in a table format and providing scoring value according to the predefined assessment system. Closed questionnaire was provided using scale from 0 to 5. The resulting value is an indicator for the independent variable pair and the dependent variable Y and Z. Which both are assumed to be linear. Tabulation result data which applied to the research approach are used in accordance with the purpose of this research. To investigate further on the transformational leadership, knowledge management, entrepreneurship, innovative behavior, performance and competitiveness of private HEI in DKI Jakarta, the data is further processed by respondent's attitude toward each questionnaire to see the result of the assessment respondent to the variables studied on the organization being sampled by using Likert scale.

Analysis of SEM-PLS in this research are: explanatory or extension of existing theory, relatively complex structural model (many constructs, many indicators, no non-recursive relationship), and measured constructs have only single indicator as the purpose of the research is more exploratory or extension of existing theory and predict relationships between

constructs. This study is done using SEM-PLS utilizing WarpPLS (version 5.0). The result of the data processing shows that all construct indicators have a loading factor above 0.70 with p-value is below 0.05 and its loading is larger to its construct compared to other constructs except for the indicator that have a loading factor below 0.70 and p-value below 0.05 if the indicators are retained because if removed they do not raise the composite reliability and AVE values.

TABLE 1
RELIABILITY TEST

Before analyzing the structural model, the validity of the measurement model was examined. Among 56 items, 6 were discarded due to lower consistency between measurement items. Finally, 50 items were used for the final analysis. The value of composite reliability ranged from 0.875 to 0.949, as shown in Table 1, which is higher than commonly used

Variables	Composite Reliability	Cronbach's alpha	AVE
Transformational Leadership	0.937	0.925	0.575
Manajemen Pengetahuan	0.948	0.938	0.648
Knowledge Management	0.899	0.865	0.599
Innovative Behavior	0.875	0.809	0.637
Performance	0.949	0.941	0.575
Competitiveness	0.92	0.891	0.698

threshold for acceptable reliability of 0.7. The cronbach's alpha ranged from 0.809 to 0.941, also higher than commonly used threshold for acceptable reliability of 0.7. The AVE measured ranged from 0.575 to 0.698, while the threshold for acceptable convergent validity is 0.5 [62], [63]. Based on the results of data processing using WarpPLS (version 5.0) obtained fit model and quality indices as follows:

TABLE 2
MODEL FIT AND QUALITY INDICES

The overall fit of the model was expressed to ensure that is an adequate representation of the entire set of relationship, and with criteria as shown in Table 2, the overall model fit measures indicate that this model is acceptable.

No.	Criteria	Value	Criteria	Result
1	Average path coefficient (APC)	0,405 (p<0,001)	p < 0,05	Fit
2	Average R-squared (ARS)	0,752 (p<0,001)	p < 0,05	Fit
3	Average adjusted R-squared (AARS)	0,737 (p<0,001)	p < 0,05	Fit
4	Average block VIF (AVIF)	3,693	acceptable if ≤ 5, ideally ≤ 3,3	Fit
5	Tenenhaus GoF (GoF)	0,684	small ≥ 0,1, medium ≥ 0,25, large ≥ 0,36	Fit

4 RESULT AND DISCUSSION

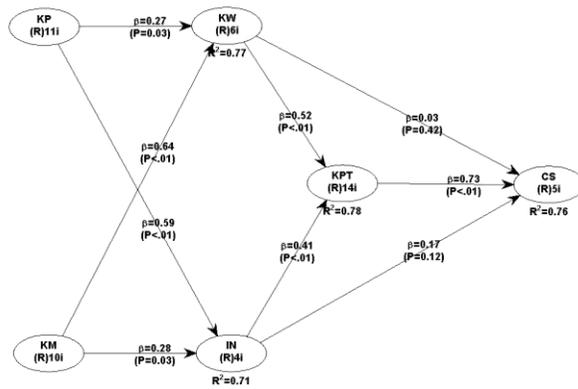


Fig. 1. Results of the Model Analysis using WarpPLS

The structural model consists of three sub structures. The first sub-structure is a model that explains the role of transformational leadership (KP) and knowledge management (KM) to entrepreneurship (KW). The second sub-structure is a model that explains the role of transformational leadership (KP) and knowledge management (KM) to innovative behavior (IN). The third sub-structure is a model that explains the role of entrepreneurship (KW) to the improvement of competitiveness (CS) both directly and indirectly through the performance (KPT) and role of innovative behavior (IN) toward competitiveness (CS) both directly and indirectly through the performance (KPT).

The sub-structure of the model mentioned above is related to the hypothesis test in this study so that structural model analysis is performed to test the research hypothesis. Here's a summary of statistical results of structural models:

TABLE 3
SUMMARY OF STATISTICAL RESULTS

Structure	Path	Coefficient	P-value	R-Square	Q²
1st	Transformational Leadership → Entrepreneurship	0,270	0,031	0,767	0,768
	Knowledge Management → Entrepreneurship	0,638	<0,001		
2nd	Transformational Leadership → Innovative Behavior	0,587	<0,001	0,706	0,693
	Knowledge Management → Innovative Behavior	0,276	0,028		
3rd	Entrepreneurship → Competitiveness	0,033	0,416	0,757	0,692
	Entrepreneurship → Performance	0,525	<0,001		
	Performance → Competitiveness	0,734	<0,001		
	Innovative Behavior → Performance	0,414	<0,001		
	Innovative Behavior → Competitiveness	0,172	0,124		

In the first structural model value of determination coefficient (R-Square) contained in table 3 above is known at 0.767. This result means that transformational leadership variables and innovative behavior variables can explain the diversity of entrepreneurial variables by 76.7% and the remaining 23.3% is explained by other factors outside the model. The value shown represents the great contribution of transformational leadership and innovative behavior to entrepreneurship. In addition there is a value of Q2 (usually called Stone-Geisser Q-squared coefficients), which is used for the assessment of the predictive validity or relevance of a set of latent variables of predictors (independent variables) on the

criterion variable (dependent variable). The interpretation of the result of Q2 is that if the value of Q2 greater than zero indicates the exogenous latent variable (independent variable) is either (appropriate) as the explanatory variable capable of predicting the endogenous variable (dependent variable) [64], [65]. In the first structural model shows that the value of Q2 is 0.768, meaning the model's ability to predict the phenomena being studied is 76.8%, this result indicates good predictive validity as it is above zero, meaning that entrepreneurial variables and innovative behavior variables are able to predict the entrepreneurial variables.

In the second structural model the value of coefficient of determination (R-Square) contained in table 3 above is known at 0.706. This value means that the diversity of innovative behavior variables can be explained by transformational leadership variables and knowledge management variables of 70.6% and the remaining 29.4% is explained by other factors outside the model. The value of Q2 is 0.693, meaning the model's ability to predict the phenomena being studied is 69.3%, this value indicates the transformational leadership variable and the knowledge management variable is able to predict the innovative behavior variable.

In the third structural model the value of coefficient of determination (R-Square) contained in table 3 above is known at 0.757. This value means that the diversity of competitiveness variables can be explained by entrepreneurial variables, performance variables and innovative behavior variables of 75.7% and the remaining 24.3% explained by other factors outside the model. The value of Q2 is 0.692, meaning the model's ability to predict the phenomena being studied is 69.2%, this value indicates the entrepreneurial variables, performance variables and innovative behavior variables are able to predict the entrepreneurial variables.

Based on Table 3 above, the result of calculation using WarpPLS 5.0 indicates there is positive direct and significant role of transformational leadership towards entrepreneurship which is shown from P value (0,031) with coefficient ($\beta = 0.270$), which means H_{01} Rejected. There is a positive direct and significant role of knowledge management to entrepreneurship, which is shown from the value of p value (<0.001), which means H_{02} Rejected. In the meantime, there is a positive direct and significant role of knowledge management towards innovative behavior as indicated by the value of p value (<0.001), which means H_{03} Rejected. There is a positive direct and significant role of knowledge management to innovative behavior, which is shown from the value of p value (0.028), which means H_{04} Rejected. The results of the analysis show that there is no positive direct and entrepreneurial to competitiveness, and innovative behavior to competitiveness (H_{05} and H_{08} Accepted), but the results show that there is a positive and significant indirect role of entrepreneurship to competitiveness through performance as indicated by the value of p value (<0.001). This means H_{06} Rejected. There is a positive indirect role and significant innovative behavior toward competitiveness through performance as indicated by the value of p value (0,002). This means H_{07} Rejected. Here's results of hypothesis testing:

TABLE 4
RESULT OF HYPOTHESIS TESTING

Hypothesis	Sub Hypothesis	Result
Role of transformational leadership and knowledge management partially on entrepreneurship	Role of transformational leadership on entrepreneurship	- He rejected - $\beta = 0,270$ (path coefficient) - Medium effect (effect size = 0,216)
	Role of knowledge management on entrepreneurship	- He rejected - $\beta = 0,638$ (path coefficient) - Large effect (effect size = 0,550)
Role of transformational leadership and knowledge management partially on innovative behavior	Role of transformational leadership on innovative behavior	- He rejected - $\beta = 0,587$ (path coefficient) - Large effect (effect size = 0,487)
	Role of knowledge management on innovative behavior	- He rejected - $\beta = 0,230$ (path coefficient) - Medium effect (effect size = 0,191)
Role of entrepreneurship and innovative behavior partially on competitiveness through performance	Role of entrepreneurship directly on competitiveness	- He diterima - $\beta = 0,033$ (path coefficient) - Pengaruh lemah (effect size = 0,022)
	Role of entrepreneurship indirectly on competitiveness through performance	- He rejected - $\beta = 0,385$ (path coefficient) - Pengaruh medium (effect size = 0,256)
	Role of innovative behavior directly on competitiveness	- He accepted - $\beta = 0,172$ (path coefficient) - Small effect (effect size = 0,121)
	Role of innovative behavior indirectly on competitiveness through performance	- He rejected - $\beta = 0,304$ (path coefficient) - Medium effect (effect size = 0,213)

The result provides more understanding on which is more effective to entrepreneurship between transformational leadership and knowledge management, and gives a full picture that knowledge management have more effect than transformational leadership on entrepreneurship [66], [67] and also transformational leadership have more effect than knowledge management on innovative behavior [68], [69]. Competitiveness has indirect effect from entrepreneurship and innovative behavior through performance [70]-[72].

The model provides a paradigm for understanding the relationship and how it can have managed them to ensure the competitiveness of organization. Nevertheless, the limit of this study is the limit of the sample and it consists of only accredited HEI and conducted as a snapshot research without considering the dynamic nature of HEI organizations. Based on finding of this study, further research is recommended to specifically examine the dynamic capability and considering both accredited HEI and non-accredited HEI.

5 CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The role of HEI leaders in transforming its subordinates (transformational leadership) provides a major role in fostering the ability of its subordinates in recognizing and managing opportunities and resources (entrepreneurship). Transformational leaders inspire and motivate each other to achieve organizational goals together, especially the role of university leaders in growing trust among members of the organization will be more dominant in giving influence to the improvement of entrepreneurial members of the organization below.

The process of developing knowledge and sharing of knowledge in the organization to increase productivity (knowledge management) provides a role in improving the ability of subordinates to recognize and manage opportunities

and resources (entrepreneurship) and play a role in improving the ability of the subordinates in generating, introducing or applying new findings that benefit at each level of the organizational (innovative behavior) by providing quality knowledge content so as to enhance entrepreneurship, especially on the needs of subordinate to achieve (need for achievement) and can increase the ability of subordinates in conducting information investigation (informative investigation) useful to support daily work, especially in terms of supporting "Tri Dharma Perguruan Tinggi" which is: teaching, research, and community service.

The role of transformational leadership to innovative behavior is greater than role of knowledge management to innovative behavior, that it can be said that transformational leadership have important role in terms of improving the ability of subordinates in generating, introducing or applying new, beneficial findings at every level of organization (innovative behavior), especially in motivating subordinates in conducting informed investigation (informative investigation), which will be very useful for improving organizational performance later.

The role of entrepreneurship to the performance of large organizations, especially the influence of the need for achievement in improving organizational performance, resulted in the increase in academic excellence (academic excellence). Organizations can take advantage of the entrepreneurial role in which every member of the organization can find the most effective way to maximize organizational performance. The entrepreneurship process can be strengthened by how the leadership plays a role in encouraging subordinates by providing confidence to achieve more.

The influence of innovative behavior on the performance of large organizations, this shows that the organization will be better to equipped to innovate when supported by good knowledge management by providing quality information (content) accompanied by an increase in the ability to conduct informative investigation which will lead to the improvement of the organization's achievement and performance.

Recommendations

HEI leaders should improve their ability of knowledge management (knowledge management), and improve the ability of individuals (people) within the organization than tend to prioritize the technology used so as to improve competitiveness through increased opportunities for application of exploration results new ideas / new opportunities (applications) to improve organizational performance that will enhance competitiveness.

HEI leaders should pay attention to the application aspects of existing innovative ideas to be immediately apply or utilized them to improve organizational performance and not only prioritize the improvement of internal business processes but to also focus on financial aspects, stakeholders and learning & growth.

To improve the expected competitiveness, HEI leaders should not only be service quality oriented but also need to be more marketing oriented. To ensure problem-solving implementation, managers are advised to develop work programs that are more detailed and tailored to the conditions

of the organization.

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