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Research Article

Improving the Competitiveness of Islamic Higher Education: Study Approaches to Development of Human Resource Competencies (HR)

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Abstract

It is important to know the relationship between improving human resources through the analysis of the factors of lecturer competency development, innovation, and partnership & networking in influencing competitive advantage. This research uses a quantitative method with the type of correlation. The sample and population of the study came from 4 State Islamic Universities in Indonesia with 400 respondents. Research data collection techniques with closed questionnaires and document checking, data analysis techniques with multiple linear regressions with Multivariate. Research results (1) All variables Human Resources Competency Development (HRCD), Innovation (INOV), and Partnership & Networking Partnership (PN) have a positive effect on Competitive Advantage (CA) which includes service quality, graduate quality excellence, quality of institutional management and competition financing. The variable partnership & Networking (P&N) has the least effect, that is, it has not been prioritized yet. HRCD variables, indicators of research development, service, and publication of scientific papers are still low and need to be improved. (2) Innovation variable (INOV), indicator of innovation management organization (OMI) and commercialization service of research and development results (R&D) innovation is still low and needs to be improved. (3) The results of the simultaneous test of the combined effect of HRCD, INV, PN on CA is 75.8% or the remaining 24.2% due to other factors that have not been researched. From the results of this study, it is important to prioritize increasing the factors of HR competency development, innovation management, partnership & networking simultaneously and continuously so that it will be able to increase competitive and comparative advantage in realizing competitive resources towards WCU (Word Class University).

Keywords

Increasing Competitiveness, Human Resources competence, innovation, and Partnership

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Introduction

The role of National Islamic Universities as stated in the "World Inauguration of Twenty-First Century Higher Education: Vision and Action" made by UNESCO, states that the function and mission of universities is to develop, maintain, strengthen, understand, interpret and even spread national culture in diversity. In the era of the industrial revolution 4.0, Islamic religious universities are required to have competitiveness and must be able to produce human resources who have 21st century life skills. Globally 21st century skills are grouped into 4 categories, namely (a) Ways to work: Communicate and work together ; (b) Way of thinking: Creativity and innovation, critical thinking, problem solving, decision making, and learning to learn; (c) Tools for work: General knowledge and skills of information and communication technology; (d) Way to live: competence, personal and social responsibility including cultural awareness and career(Blyznyuk, 2018). As the 21st century knowledge creativity scheme (Fadel & Trilling, 2009). The challenge faced by universities in the era of globalization is to have human resources that not only bring institutions to survive but also must have differentiation, have more value and focus (Michael, 1993) in competitive advantage to produce graduates who are characterized, highly skilled, professional, master science, technology and knowledge, as well as being able to compete in the job market in a global society.

Aspects of development may include increasing individual capabilities/competencies to anticipate rapid and unplanned changes or planned changes towards competitive advantage. Market competition has 2 oceans, namely the blue ocean and the red ocean (Kim & Mauborgne, 2005). The blue ocean is the creation of a market with no room for competitors. While in the Red Ocean is a market that has known the space, boundaries, and rules in competition. There are five priority dimensions in competitive advantage, namely: (1) Quality; (2) Prices; (3) Product Flexibility; (4) Dependability; (5) Volume Flexibility (Hayes & Schmenner, 1978). Competitive advantage gained by greater customer value through lower prices or by providing more benefits that match higher prices (Amstrong, 2008). (Porter & Parker, 1993) classifies the strategy of excellence in three categories, namely cost advantage, differentiation and focus. To measure competitive advantage includes service quality (Service Quality), graduate quality excellence (product quality), institutional management quality (price) and financing competition. In addition to developing the competence of educators, innovation and collaboration also have a positive effect (Kotler & Armstrong, 2008). Innovation is the result of critical and creative thinking that can give birth to new ideas, methods or technologies that can eventually give birth to a new product, service or process (Powell, Koput, & Smith-Doerr, 1996; Thornhill, 2006).

Development and improvement of the innovation process is one of the main keys in increasing competitive advantage (Hoang, Igel, & Laosirihongthong, 2006; Molina, Llorens-Montes, & Ruiz-Moreno, 2007). Service with a competitive advantage (Hu, Horng, & Sun, 2009).Partnership is an effort to build cooperation in adapting to environmental changes through increasing achievable innovations and applicative technology capabilities (Sofani, Miyasto, & Djastuti, 2017). Partnership is cooperation (association) of two or more people who jointly run a joint business to achieve common goals and benefits. This study analyzes and finds out the relationship between the factors of developing human resource competencies, innovation and partnerships to competitive advantage as an effort to develop human resource development within the State Islamic University.

Literature Review

Human resource competency development

Competitive Advantage of Higher Education, the key factor for realizing universities to be able to compete internationally is human resources, especially teaching staff in universities. Human resource development is an effort to increase professionalism (Wayne, 1981). The development of directed and planned human resources accompanied by good management will save other resources (Siagian, 1996). Therefore, it is important to improve the quality or human ability (Soekidjo, 1998) in an effort to add and improve abilities, knowledge, attitudes and personality traits, so that they can assume responsibility in the future (Handoko, 1998). Competitive advantage will be achieved when universities create better customer value than others (Hansen & Mowen, 1997).

Components of Higher Education Competitive Advantage

The competitive advantage of universities is part of the high performance of an organization to be able to survive and have strong competitiveness (Hansen & Mowen, 1997). An educational institution can achieve competitive advantage by having an orientation to internal customers and competitors(Abbas, Razak, & Wekke, 2019). The competitive advantage of higher education is based on three aspects, namely cost-based, product-based and service-based (Dunia & Abdullah, 2012).

3) Innovation: Innovation is an idea that is followed by the development of thought and will eventually introduce a new process, service and product (Edwards, Gordon, & Levin, 1984) in (Thornhill, 2006). (Hoang et al., 2006) state that companies doesnt survive only by focusing on quality. Innovation is a basic component for building entrepreneurship within the company. Innovation tends to involve experiments, new ideas, services, and creative processes that may result in new products or technological processes (Lumpkin & Dess, 1996). Company performance and innovation are in the process of making something new from the results and processes that consumers feel are satisfied (Das & Joshi, 2007). Organizational culture will affect the company's ability to improve performance and accelerate innovation. Organizational culture that can accelerate company innovation is teamwork, risk taking and employee creativity (Jassawalla & Sashittal, 2002). The level of organizational innovation will be low when senior managers reduce the level of autonomy in the organization (Gerwin & Moffat, 1997). Because there is a positive relationship between autonomy and innovation (Nidumolu & Subramani, 2003). Human resource practices have an influence on technological innovation and company performance increasing competitive advantage and company performance (Li, Zhao, & Liu, 2006).

4). Partnership (Partnership and Networking): At the university, it is very urgent to have an institution that can seek or build cooperation with various parties both on a local, regional and international scale. Universities in Regional Integration High positions become parties that have considerable influence in determining policy. For this reason, it is necessary to involve universities in international relations, especially regional integration.

Research Method

Research Approach and Subject

This study uses quantitative methods in analyzing and knowing the relationship between the development of human resource competencies, innovation, and Pathnersip & Networking on competitive advantage. This research was conducted at 4 State Islamic Religious Colleges (PTKIN) with a total response of 400 people. Sampling research used the Slovin formula. The Slovin formula will determine the minimum sample size (n) if the population size (N) is known at the significance level α .

$$n = \frac{N}{1 + N\alpha^2}$$

Where is the Level of Significance = 0,01 (1 %); 0,05 (5 %)

Research design

Research data collection is done ex post facto. Analysis of the relationship between independent variables (X1-1) human resource competency development (HRCD), (X1-2) Innovation management (IM) and (X1-3) Partnership and Networking (PN), and jointly on competitive advantage (CA) National Islamic University (UIN) in Indonesia.

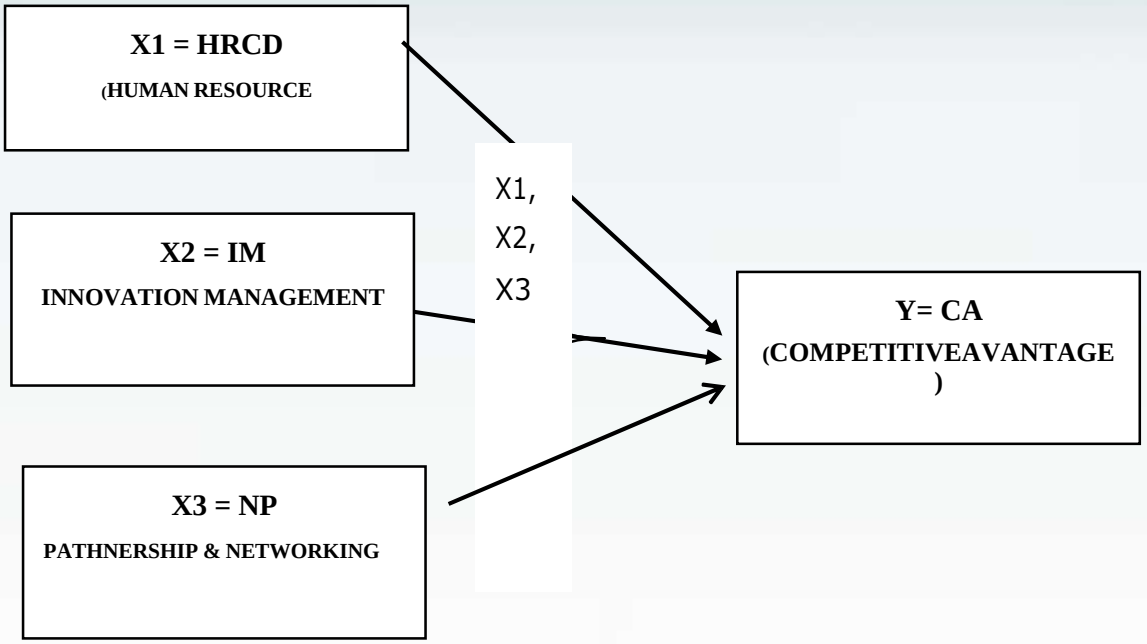
X1 = HRCD is improving the quality of Islamic Higher Education lecturers to carry out the tri dharma of higher education

X2= Innovation Management (MI) is an institution's effort/strategy to develop innovation management.

X3= Partnership and networking (PN) is a collaboration and social network built with various parties.

Y= Competitive Advantage (CA) is a dependent variable about part of the high performance of an organization including universities that can be based on three aspects: cost-based, product-based, and service-based.

Chart 1



Operational definition of each indicator variable:

Data sources and procedures

The collection technique used a survey method with a closed questionnaire using google form, where respondents chose one of the answers given, with alternative answers with a Liket scale consisting of a range of values 1-5 for favorable questions and 5-1 for unfavorable questions. The Likert scale scores for the favorite items are options 5. Strongly agree (SA), 4. Agree (A), 3. Neutral (N), 2. Disagree (D), and 1. Strongly disagree (SD). As for the unfavorable questions, the choices are 1. strongly agree (SA), 2. Agree (A), 3. Neutral (N), 4. disagree (D), 5. Strongly disagree (SD).

Data Quality Validity and Reliability Test

To test the validity of the questionnaire, the construct validity test was used. The principle of this construct, the higher the level of construct validity, the more complete the components of the measured research attributes, the more complete the components of the research attributes measured by research tools. The validity test was conducted to show the extent to which the research questionnaire could measure what it wanted to measure. This can be seen if r count is greater than r table. Where the results of r are numbers contained in the Correlated Item Total Correlation column and r tables are the results of calculations using degrees of freedom (pdf) using a significance level of 5%.

Classic assumption test

In using the multiple linear regression method, several special requirements must be met, called the classical assumption test, consisting of a normality test and multicollinearity test.

Table 1.
Research Grid of Human Resources Competency Development Variables (HRCD) - (X.1)

Dimension	Mnmonic	Indicator	No. Question
Quality of Education and Teaching Services (Quality Education and Teaching Services) (6 questions) 1-6	X1.1=QETS.	1.1 Feasibility of teaching and scientific linearity of lecturers	1
		1.2 1.2 Feasibility of teaching doses from student assessment	2
		1.3 Eligibility of competence and service quality of Staff	3
		1.4 The majority of permanent lecturers owned	4
		1.5 Functional positions of Lecturer Head Lecturer and GB	5
		1.6 Lecturer seniority/ more than 20 years of teaching experience	6
Quality of Research, Service and Publication of Scientific Work Quality of Research, dedication and Publication of Educational Scientific Papers (5 questions) 7- 11	X1.2=QRDP	2.1.The majority of research is national/international scale	7 8
		2.2.The majority of research results are published in journals and are even indexed by Scopus	9
		2.3.The majority of scientific papers of lecturers are National and/or International	10 11
		2.4.The majority of lecturers' books are published and have an ISBN	
		2.5. The majority of lecturers already have IPR	
Quality of Student Creativity Program (2 questions) 12-13	X1.3=CSCP	3.1The majority of lecturers organize Research-Based and Competitive PKM	12
		3.2The majority of lecturers' Student Creative Program (PKM) results are published in accredited journals	13
The increasing of Human Resources quality. (2 questions) 14-15	X1.4 =IHCQ	4.1. The majority of lecturers are upgraded to a higher education level to S3	14
		4.2. The majority of lecturers develop their competence on an ongoing basis	15

Table 2.
Innovation Management Variable Research Grid (INOV)- (X.2)

Dimension	**Mnemonic**	**Indicator**	**No. Question**
Administrative and academic service innovations (5 Questions)	X2.1=ACSI	1.1 The campus has a policy of developing an integrated and competitive administrative and academic service innovation development policy.	1 2
		1.2 1System Quality (System Quality) administrative and academic according to needs and satisfactorily	4
		1.3 Information Quality (information Quality) administrative and academic according to needs and satisfactorily	5
		1.4 Quality of administrative and academic service according to needs and satisfactorily	7
		1.5 Use of administrative and academic service innovations to facilitate and satisfy users (User Satisfaction)	
Digital learning Innovation (3 questions)	X2.2=DLIN	2.1. Ability to develop online learning by demonstrating the advantages of technological instructional learning in powerful courses.	8
		2.2. Lecturer learning innovation results are easily accessible online for all students	9
		2.3. Develop digital/ICT-based learning from planning, online learning models, and assessment according to learning outcomes (-)	14
Innovation management organization (OMI) (4 questions)	X2.3= IMO	3.1. Have an institution/organization that plans innovation-management activities (OMI) in higher education. (Article 11 of the Minister of Research, Technology and Higher Education concerning MIPT (-))	3 6 11
		3.2. Organizing OMI resources, activities and functions	12
		3.3. Implementation and Evaluation of Innovation Management (OMI)	
		3.4. Collaborating with OMI.	
Commercialization services for R&D innovations. (Innovation results commercialization services) (2 questions)	X2.4. =IRCS)	4.1 Providing Science and Technology Services	10
		4.2 Commercialization of Technology by OMI with License Pattern or Spin-Out Pattern (New Company)	13

Table 3.
Network & Partnership (NP) Variable Research Grid (X.3)

Dimensionon	Mnmonic	Indicactor	No. Question
Collaborate/join in Organizations/Internal/external professions (Collaborate / join in Organization / Professions) (6 questions)	X3.1= CJOP	1.1. Establish international cooperation through MOU and MOA 1.2. Fostering Domestic Cooperation 1.3. Follow-up to the implementation of MOU to build the competence of lecturers 1.4. follow-up to domestic MOUs to build student competency excellence 1.5. Collaborating with the community, community leaders, the business world 1.6. Establish cooperation with suppliers (SMA / MA / Islamic boarding schools) and graduate user institutions	1 2 3 4 5 6
Establish communication (9 questions)	X3.2= ECOM	2.1 less active in communicating with other campuses 2.2 lack of active communication and involvement with programs developed by local and central governments 2.3 less active communication and involving the surrounding community in campus activities 2.2. less active in communicating about campus to suppliers (SMA / MA / Islamic boarding school)	7 8 9 10
		3.1. Lless active in involving graduate users in job-fairs 3.2. Less actively joined in the network of international universities 3.3. Lless actively joined in the national university network 3.4. Have a network system in building connectivity with suppliers (SMA/MA/Ponpes 3.5. Have a network system in building connectivity with graduate users	11 12 13 14 15

Table 4.
Competitive Advantage (CA) Variable Grid (Y)

Dimensionon	**Mnemonic**	**Indicator**	**No. Question**
Excellence/achievement (4 questions)	Y1.1=E&A	1.1. Able to produce graduates who study on time and are competent/quality & reliable	1 2
		1.2. On average, these PTKIN / UIN graduates go straight to work	5
		1.3. Produce graduates who, with religious characteristics, can produce creative and innovative works that are able to compete	9
		1.4. Offers a variety of study programs, with very good (A) and Good (B) accreditation, and there is one study program that has an international reputation	
Service Quality Assurance (5 questions)	Y1.2= SQA	1.1. The service system is carried out quality assurance (ISO) and quality culture (quality assurance/ISO) management (SIM)) IT-based services are easy, fast and accurate and there are no obstacles	6 7
		1.2. Quality of facilities and infrastructure of national/international service quality standards	8
		1.3. Have human resources (leaders, lecturers, staff/employees) with professional qualifications and high performance	10
		1.4. Develop cross-education fee programs across study programs or between rich and underprivileged students	14
		2.5. The determination of student education fees follows the cost standards set by the government and additional campus fees are also charged for the development of a superior campus	
Competitive cost & program (5 questions)	Y1.3=CCP	3.1. Faculties/departments/study programs that are more than 50% are not attractive to prospective new students	15 16
		3.2. Have excellent study programs that are not owned by other PTKIN/UIN	17
		3.3. Offer competitive tuition fees compared to other campuses	18
		3.4. Higher tuition fees than PTKAIN	19
		3.5. Offer tuition fees through funding or scholarships from various parties	

Analysis Method

The data analysis used is multiple regression analysis, prediction model that involves more than one independent variable or predictor, Innovation Management (IM), namely Human Resource Community Development (HRCD), Partnership & Networking (PN) against Competitive Advantage (CA).) on Islamic religious high education in Indonesia.

Analysis Model

The analysis model used the Ordinary Least Squares method = *OLS)*

$$Y1 = \beta_0 + \beta_1 x\ 1 + ei \quad (8)$$

Statistical Hypothesis Test

Hypothesis testing was carried out (1) Significance Test of Multiple Regression Equation including (a) Multiple Regression Parameters Significance Test, (b). Multiple Regression Parameters Individual Test. Second (2) Correlation Significance Test, including (a). Multiple Correlation Coefficient Significance Test and (b) Partial Correlation Significance Test

Result And Discussion

Result

Data Quality Test

Questionnaires were distributed to 400 respondents. Based on the results of calculations using SPSS 19 software, if the results are less than the standard 0.3, it is said to be invalid. While it is said to be valid if the results of the r value (Correlated Item Total Correlation) obtained Cronbach alpha <0.6: poor reliability, Cronbach alpha 0.6 - 0.79: accepted reliability, and Cronbach alpha 0.8: good reliability.

Validity test

To measure the accuracy of the measuring instrument used, it is necessary to test the validity. Based on the results of the validity test on the variable X1 = Human Resources Competency Development (HRCD) on 15 (fifteen) question numbers, it was found that the calculated r value (Correlated Item Total Correlation) was greater than the r table value (0.361), so it can be concluded that all items HRCD is valid. The results of the validity test of the variable X2 = Innovation Management (INOV) on 14 (fourteen) question numbers showed that the calculated r value (Correlated Item Total Correlation) was greater than the r table value (0.361), so it can be concluded that all INOV items are valid. The results of the validity test of the variable X3 = Partnership & Networking on 15 (fifteen) question numbers showed that the calculated r value (Correlated Item Total Correlation) was greater than the r table value (0.361), so it can be concluded that all Partnership & Networking (P&N) items valid. The results of the validity test of the variable Y = Competitive Advantage (CA) on 15 (fifteen) question numbers showed that the calculated r value (Correlated Item Total Correlation) was greater than the r table value (0.361), so it can be concluded that all Competitive Advantage (CA) items) is valid. So, the results of the validity test on the dependent and independent variables X1 = HRCD, X2 = INOV, X3 = P&N with 59 question numbers, the results show that the calculated r value (Correlated Item Total Correlation) is greater than the r table value (0.361), so it can be concluded that all valid and usable items

Reliability Test

Reliability is used to measure the stability and consistency of respondents in answering questions related to questions from each dimension of a variable and arranged in a questionnaire. The variables studied can be seen as Cronbach's alpha values. If the Cronbach alpha value > from r table, it is said to be reliable. The reliability test based on the results of calculations using SPSS 19

software is said to be reliable if the results of the reliability test are as follows:

Cronbach alpha <0.6: poor reliability
Cronbach alpha 0.6 - 0.79: reliability accepted
Cronbach alpha 0.8: good reliability

The results of the reliability test of each research variable are summarized in the following table:

Table 5.
Reliability Test Results

Variable	Cronbach's Alpha	Description
Human Resources competency Development (HRCD)	0.830	Reliable
Innovation Management (IM)	0.796	Reliable
Partnership & Networking (PN)	0.787	Reliable
Competitive Advantage (CA)	0.808	Reliable

The results of the reliability test showed that all variables had a Cronbach's Alpha coefficient greater than 0.60, so that all questionnaires on each variable were said to be reliable.

Classic assumption test

Before a multiple linear regression model is used, the model must meet the classical assumptions

a. Multicollinearity Test
Multicollinearity test is needed to find out whether there are independent variables that have similarities with other independent variables in one model, linear relationships between variables, and to avoid the habit of making conclusions about the effect of the partial test of each independent variable on the dependent variable. Multicollinearity can be detected with the value of Variance Inflation Factor (VIF). The test results through the VIF in the SPSS coefficient output table, each independent variable has a VIF of not more than 10 and a tolerance value of not less than 0.1. So it can be stated that the multiple linear regression model is free from classical assumptions and can be used in research.

Table 6.
Calculation Numbers for Multicollinearity Tests

Mode Constant	Collinearity Statistic Tolerance	VIF
X1	0.990	1.010
X2	0.922	1.085
X3	0.928	1.078

The VIF value is obtained from the three variables around the number 1-10, it can be ascertained that the model used in this study does not have significant multicollinearity.

b. Normality test
The purpose of the normality test is to determine whether in the regression model, the independent variable and the dependent variable or both are normally distributed or not.

The basis for decision making is as follows:

a. If the data spreads around the diagonal line and follows the direction of the diagonal line, the regression model meets the assumption of normality.
b. If the data spreads far from around the diagonal line and does not follow the direction of the diagonal line, then the regression model does not meet the assumption of normality.

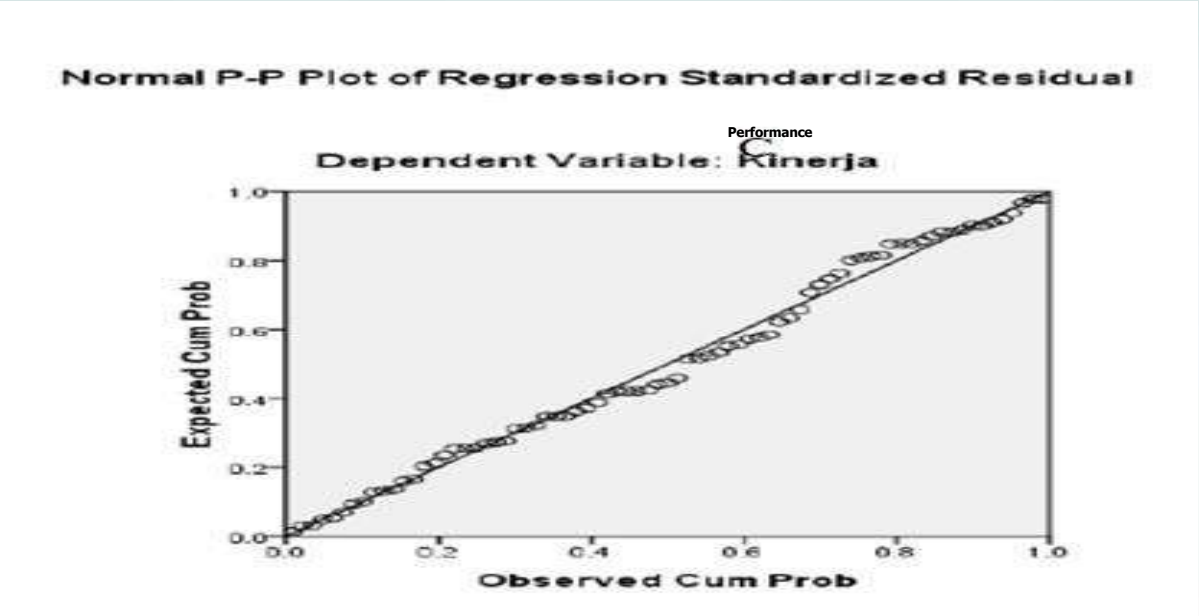


Figure 1. SPSS Processing Normality Test Result 19.00

Figure 1 shows the results of the data normality test for all dimensions simultaneously on Competitive Advantage. It can be seen that the points are scattered around the diagonal line and the distribution follows the direction of the diagonal line, which means that the residual value is normally distributed so that the regression model is feasible to predict performance based on input from all independent variables.

Descriptive Analysis

a. Descriptive Analysis of Human Resources Competency Development Variables (HRCD) (X1)
The results of the respondents' answer rating values for the HRCD variable are presented below:

Table 7.
Value of Respondents' Assessment Level for HRCD Variable (X1)

Variable	Dimension	Indicator	Total Average
X1 – HRCD	X1.1 = QETS (Quality Education and Teaching Services)	6 Questions	3,32
	X1.2 = QRDP (Quality of Research, dedication and Publication of Educational Scientific Papers)	5 Questions	2,96
	X1.3 = CSCP Quality of Student Creativity Program	2 Questions	3,05
	X1.4 =IHCQ (The increasing of Human Resources quality)	2 Questions	2,9
	Total Average respondent's response		3,15

Based on the results of data processing in Table 7, the average value of the Human Resource Competency Development (HRCD) variable is 3.15. This means that overall HRD variables with 4 dimensions and 15 indicators are in the fairly good category. There are dimensions whose values are still low, namely Quality of Research, dedication and Publication of Educational Scientific Papers (QRDP) of 2.9 and The increasing of Human Resources quality (IHCQ) = 2.9. So it needs attention and improvement.

b. Descriptive Analysis of Innovation Management Variables (INOV) (X2)
The results of the rating value of respondents' answers for the Innovation Management (INOV) variable are presented below:

Table 8.
Value of Respondents' Assessment Level for Variable INOV (X2

Variable	Dimension	Indicator	Total Average
X2 – INOV	X2.1=ACSI (Administrative and academic service innovation	5 Questions	3,11
	X2.2=DLIN (Digital learning Innovation)	3 Questions	3,02
	X2.3= IMO (Innovation management organization)	4 Questions	2,97
	X2.4. =IRCS) Innovation results commercialization services)	2 Questions	2,79
	Total Average respondent's response		3,00

Based on the results of data processing in Table 8, the average value of the Innovation management variable (INOV) is 3.00. This means that overall HRD variables with 4 dimensions and 14 indicators are in the fairly good category. There are dimensions whose value is still low, namely (Innovation management organization (IMO) of 2.97 and Innovation results commercialization services lity (IRCS) = 2.79 so that it needs attention and improvement.
c. Descriptive Analysis of Partnering & Networking (P&N) Variables (X3)
The results of the rating scores of respondents for Partnerhip & Networking (P&N)) are presented below:

Table 9.
Value of Respondents' Assessment Level for Variable INOV (X2)

Varible	Dimension	Indicator	Total Average
X3 – P&N	X3.1= CJOP (Collaborate / join in Ognasisasi / Professions)	6 Questions	2,98
	X3.2= ECOM (Establish communication)	9 Questions	2,90
	Total Average respondent's response		2,98

Based on the results of data processing in Table 9, the average value of the Patnerhip & Networking (P&N) variable is 2.98. This means that overall the variables (P&N) with 2 dimensions and 15 indicators are in the sufficient category. The two dimensions of partnership & networking are still low in value, namely ((Collaborate / join in Organizations / Professions) (CJOP) of 2.98 and Establish communication (ECOM) = 2.90 so that overall they need to get attention and be improved.
d. Descriptive Analysis of Competitive Advantage (CA) Variables (Y)
The results of the rating scores of respondents for the Competitive Advantage (CA) variable are presented below:

Table 10.
Value of Respondents' Assessment Level for Competitive Advantage (CA) (Y) Variable

Varible	Dimension	Indicator	Total Average
Y – CA	Y1.1=E&A (Excellence / Achievement)	5 Questions	3,30
	Y1.2= SQA (Service Quality Assurance)	5 Questions	3,12
	Y1.3=CCP Competitive Cost and programs)	5 Questions	3,10
	Total Average respondent's response		3,17

Based on the results of data processing in Table 10, the average value of the Comptive Advantage (CA) variable is 3.17. This means that the overall CA variable with 3 dimensions and 15 indicators is in the fairly good category. There are three indicators whose values are still low, namely the Service Quality Assurance (SQA) dimension on the Having HR indicator (leaders, lecturers, staff/employees) who are professionally qualified and high-performed at 2.90. And on the dimensions of Competitive Cost and Partnership Programs (CCP) on the indicators of Higher education cost-competitive than other PTKAIN of 2.90 and indicators of Has a network system to build connectivity with graduate users 2.75 so that overall it needs attention and improvement.

Quantitative analysis

Multiple Linear Regression Analysis

This shows that the amount of variation that has a joint effect between HRCD, IM, PN for CA is 75.8%, or the remaining 24.2% is influenced by other factors not examined.

Table 11.
Multiple Linear Regression Estimation Results

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
1(Constant)	.271	.438		.620	,537
HRCD	.714	.084	.660	8.493	,000
IM	,409	.103	.321	3.987	,000
Pni	-,168	.103	-.131	-1.628	,108

Y = 0,271 + 0,714 X1 + 0,409X2 - 0,168 X3.
Based on table 17, the variables of Human resource competency development (HRCD), Innovation management (INOV), Pathership & Networking (P&N) on Compisi Advantage (CA) with the hypothesis:

Ho = no influence of HRCD, INOV, and P&N on CA
Ha = there is an influence of HRCD, INOV, and P&N on CA
From the calculation results (Table 17) the significance value for the HRCD variable is 0.000 <0.05, so Ho is rejected or Ha is accepted. Thus, the conclusion drawn by the HRCD variable has a significant effect on the CA variable. The significance value for the INOV variable is 0.000 <0.05, then Ho is rejected, or Ha is accepted. Thus, the conclusions drawn from the INOV variable have a significant effect on the CA variable, and the significance value for the P&N variable is 0.108 <0.05, then Ho is accepted, or Ha is rejected. Thus, the conclusion of the P&N variable has no significant effect on the CA variable.
The regression coefficient obtained on the HRCD variable is 0.714. This means that with other factors that are considered constant, every increase in HRCD, CA will also increase by 0.714. The value of the regression coefficient on the IM variable is 0.409. This means that with other factors considered constant, every increase in IM will increase CA by 0.409. The value of the regression

coefficient on the PN variable is -0.168. This means that with other factors that are considered constant, the effect of compensation is smaller than HRCD and IM because the result is -0.168 Beta for X1 = 0.660. For X2 = 0.321. And for X3 = -0.131. Thus, the most dominant variable having a beta coefficient = 0.660 is HRCD followed by the INOV variable with a beta coefficient = 0.321. Then by referring to the beta results (Unstandardized Coefficients) above, it can produce the following regression equation: Y = 0.271 + 0.714X1 + 0.409X2 - 0.168 X3.

b. Hypothesis Testing with Significance Test and F. Test

Simultaneous test with F test aims to determine the joint effect of the independent variable on the dependent variable. From the ANOVA test or F-test, the F count is 31,990 with a probability of 0.000. The probability is much smaller (<) than 0.05, so the regression model can be used to predict Competitive Advantage (CA) in slam universities. The SPSS output also shows a p-value of 0.000 <0.05 which means that it is significant in this case Ho is rejected or Ha is accepted. Thus it can be concluded that the HRCD, INOV and P&N variables have a joint effect on the competitive advantage of Islamic Higher Education (PTKIAN) at UIN Malang, Surabaya, Jogjakarta, and Bandung.

Discussion

The results of hypothesis testing (HI) prove that there is an influence between Human resource competency developments (HRCD) on Competitive Advantage (CA). Through the results of the calculations that have been carried out, the t value is 3.15 with a significance level of 0.000 results less than 0.05, thus Ha is accepted and Ho is rejected. This proves that HRCD has a positive effect on CA, meaning that there is an influence between HRCD development variables in the PTKIN UIN Malang, Surabaya, Jogjakarta, and Bandung environment that has a positive influence on increasing competitive advantage. This is because with a good HRCD, there will be a higher competitive advantage (CA) at PTKIN UIN. As the Law on Teachers and Lecturers No. 14 of 2005 that the key to implementing the quality of education is the quality of human resources (Ministry of National Education (Indonesia). 2005. Law Number 14, 2005). The development of human resources in higher education can increase professionalism in organizations (Wayne, 1981). (Number) Law No. 12 of 2012 explains that the HRCD variable aims to improve the competence of lecturers in implementing the tri dharma of higher education, community service, research, namely education and teaching. Improving the competence of human resources includes the dimensions of Quality of Education and Teaching Services, Service and Publication of Scientific Work, Quality of Research, Quality of Student Creativity Programs and improving the quality of HR. Based on the results of the respondent's assessment,

There are two dimensions whose value is still low, namely improving the quality of research, dedication and publication of scientific works which are still low in value 2.96, especially in the indicator. National and/or international scale 2.81. And on the dimension of improving the quality of human resources, the overall value is 2.9. Especially on the indicator that the majority of lecturers develop their competence on an ongoing basis, the score is 2.75. This finding confirms the 2019 Ministry of Research, Technology and Higher Education data that out of 17700 lecturers, only 34,007 scientific works were indexed by Scopus (Ministry of Technology and Higher Education, 2019). This is a challenge to carry out the development of research and writing of scientific papers properly. Scientific publications are the spirit of a university, without it, PTKI cannot be said to be a living educational institution (Suyitno, 2020). This shows that competitive advantage and the competitiveness of universities are influenced by the quality and quantity of research and development results. The results of hypothesis testing (HI) prove that there is an influence between Human resource competency developments (HRCD) on Competitive Advantage (CA). Through the results of the calculations that have been carried out, the t value is 3.15 with a significance level of 0.000 results less than 0.05, thus Ha is accepted and Ho is rejected. This proves that HRCD has a positive effect on CA, meaning that there is an influence between HRCD development variables in the PTKIN UIN Malang, Surabaya, Jogjakarta, and Bandung environment that has a positive influence on increasing competitive advantage. This is because with a good HRCD, there will be a higher competitive advantage (CA) at PTKIN UIN. As the Law on Teachers and Lecturers No. 14 of 2005 that the key to implementing the quality of education is the quality of human resources (Ministry of National Education (Indonesia). 2005. Law Number 14, 2005)

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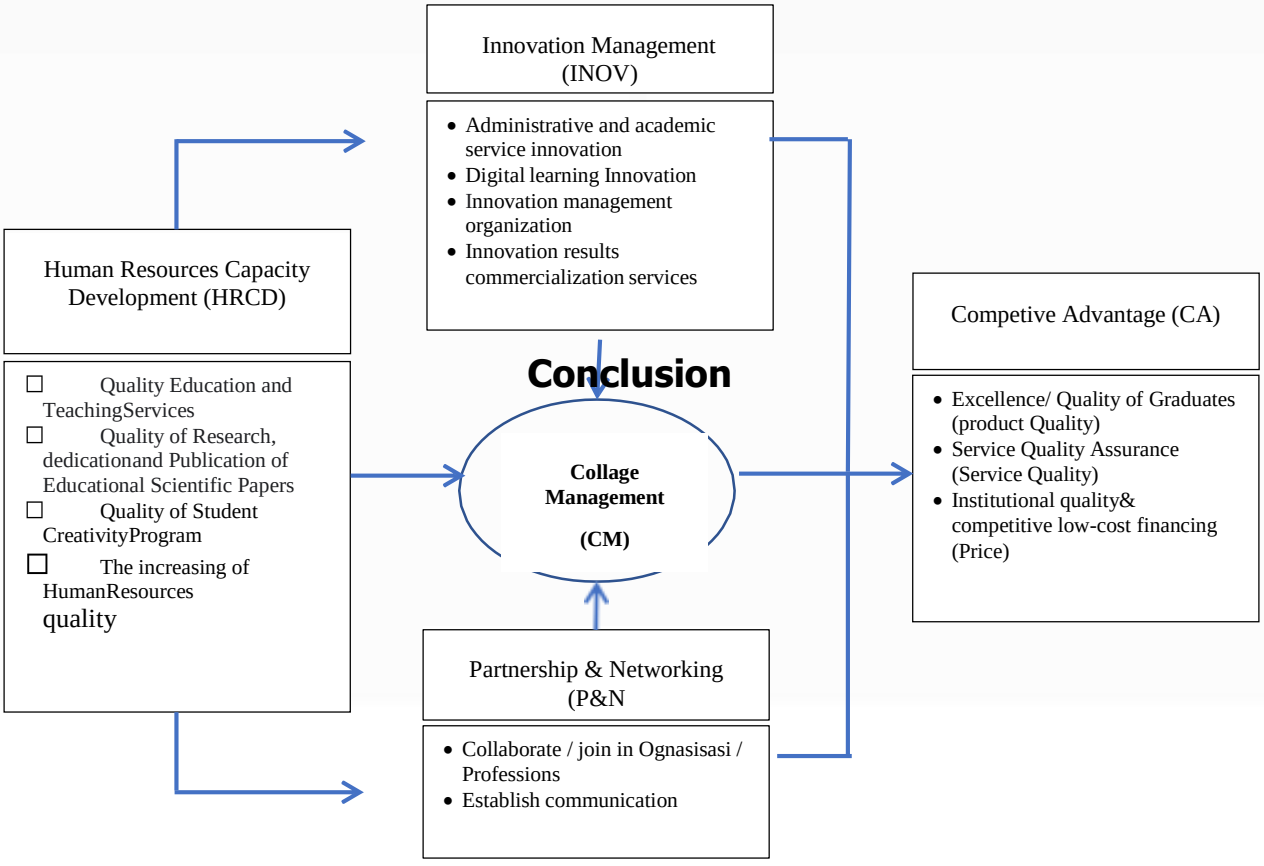

Figure 2. Simultaneous Research Results

It was concluded that simulate ously all independent variables had a significant effect on the dependent variable with a sig value 0.000 < 0.05. The influence given by the three independent variables is positive, which means the higher Human Resource Competency Development (HDCR) is, namely the development of increasing HR competencies that can improve the quality of higher education through research, training, teaching services, dedication and scientific publications. In the variable of innovation management development (INOV) in universities, by increasing administrative and academic service innovations, digital-based learning innovations, innovation management organizations (OMI), and commercialization services resulting from research and development innovations as a basis for competitive advantage will be able to accelerate higher education have a highly competitive advantage. The variable of the ability of universities to develop and collaborate. It is important to establish planned and strategic partnerships and

networking (P&N) with various domestic and foreign partners and stakeholders through increasing effective collaboration and influencing the competitive advantage of Islamic higher education.

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