

Management Capacity Analysis of Higher Education in Indonesia

Arciana Damayanti^{1,*} Agus Rahayu² Lili Adi Wibowo³

¹ Universitas Pendidikan Indonesia

² Universitas Pendidikan Indonesia

³ Universitas Pendidikan Indonesia

*Corresponding author. Email: arciana@upi.edu

ABSTRACT

Education is one of the sectors affected by the Covid-19 pandemic, where almost all educational institutions, ranging from primary to tertiary education in Indonesia, carry out unusual learning activities. This will not be a problem if the management capacity of tertiary institutions in Indonesia is ready to face these conditions. However, universities in Indonesia have problems in terms of providing teaching services, research, facilities, and other aspects. Realizing this condition, universities in Indonesia must reanalyze their respective management capacities. The study aimed at analyzing the management capacity of higher education in Indonesia. The research method used was a descriptive method with research samples involving 52 universities in Indonesia. Data analysis was carried out using SEM-PLS analysis techniques.

The results showed that the management capacity of universities in Indonesia was quite good, indicating that universities in Indonesia had a good enough ability to empower the resources and skills they have to achieve goals and meet the expectations of stakeholders. The management capacity analysis also showed that organizational capacity had a higher assessment than staff capacity in building higher education management capacity in Indonesia. The vision and mission used in higher education institutions in Indonesia were the indicators that received the highest assessment on the dimensions of organizational capacity in building the management capacity of higher education in Indonesia.

Keywords: *Capacity Management, Organizational Capacity, Staff Capacity.*

1. INTRODUCTION

Education is a means for developing intellectual power and individual professionalism to play a role in society to face an increasingly competitive world every day [1]. Education is one sector that affects a country's Human Development Index (HDI). Within the context of HDI, Indonesia has an HDI figure of 0.718 and is ranked 107 out of 189 countries [2].

The Human Development Index is an index that measures life expectancy, literacy, education, and living standards for various countries around the world. The Human Development Index serves to classify which countries include underdeveloped countries, developing countries to developed countries. Based on the numbers and rankings obtained, Indonesia is in the position of the Human Development Index in the middle or developing

category. Thus, it can be interpreted that the implementation of education as one aspect of the human development index has not been carried out optimally [1], particularly now when the world of education is affected by the coronavirus. [3] inform that as many as 87.1% of students in the world were infected with the Covid-19 virus, where so far India and China are the two largest countries whose student numbers are infected with this virus. In Indonesia, 69 thousand students were affected by the Covid-19 virus.

Almost all educational institutions ranging from primary to tertiary education in Indonesia carry out unusual educational activities, that is, by implementing Distance Learning policies or studying online. This, of course, will not be a problem for colleges that already have good online academic facilities; however, it will be

a big problem for colleges that have poor academic facilities or do not even have online academic facilities at all . The conditions that occur force the world of education to adjust the education system. In contrast, many universities have a low management capacity to provide teaching, research, adequate facilities, and other aspects to help adjust and improve the education system [4]. Management capacity is the ability an individual or organization has to empower and use resources to carry out performance [5]. Based on the definition of management capacity, it can be interpreted that the capacity of higher education management is the ability of universities to empower existing resources for performance purposes. In [6], Horton stated that management capacity is related to creating various conditions in which goals are made and achieved, including planning, setting goals, determining responsibilities, leadership, allocating various resources, motivating, and supervising HR and organization.

The current condition of universities in Indonesia has not been able to follow international standards; therefore, the quality of education in Indonesia has not been able to compete globally. This is illustrated by the underperformed achievement of higher education targets included in the Quacquarelli Symonds (QS) World University Rankings [7].

QS World University Rankings is an annual publication of university rankings conducted by Quacquarelli Symonds (QS). The QS system is comprised of global ranking subjects, along with five independent regions (Asia, Latin America, Europe, Central Asia, the Arab Region, and the BRICS). The number of tertiary institutions included in the world's top 500 is a performance indicator that illustrates the increasing quality of institutions. The number of universities targeted by the Ministry of Research, Technology, and Higher Education to enter the world's top 500 in 2019 is five universities. However, until now, there are only three universities are in the world's top 500, including the University of Indonesia (UI) with a ranking of 296, Universitas Gadjah Mada (UGM) with a ranking of 320, and the Bandung Institute of Technology (ITB) with a rank of 331[8].

In Indonesia, tertiary education institutions are not yet in the 50th or 100th position on the world scale. This condition illustrates that universities in Indonesia do not yet have a competitive advantage compared to universities globally.

The QS World University Ranking is another illustration that shows the same idea. Table 1 of ASEAN QS World University Ranking in 2018 shows that two Indonesian universities occupy positions in the top 10 ASEAN QS world universities, including the University of Indonesia in position eight and ITB, which is in the last position with the lowest score.

Table 1. Asean Qs World University Ranking in 2020

No	University	Rangking	Country
1	National University of Singapore	11	Singapore
2	Nanyang Technological University	11	Singapore
3	Universiti of Malaya	70	Malaysia
4	Universiti Putra Malaysia	159	Malaysia
5	Universiti Kebangsaan Malaysia	160	Malaysia
6	Universiti Sains Malaysia	165	Malaysia
7	Universiti Teknologi Malaysia	217	Malaysia
8	Chulalongkorn University	247	Thailand
9	Universitas Indonesia	296	Indonesia
10	Mahidol University	314	Thailand
11	Universiti Brunei Darussalam		Brunei Darusalam
12	Universitas Gadjah Mada	320	Indonesia
13	Institut Teknologi Bandung	331	Indonesia

Source: [9]

The ranking of Indonesian universities taken from the various versions above indicates that improving the quality of education is an urgent matter that must be considered. Existing deficiencies are exacerbated by the proliferation of private but low-quality education providers that absorb the growing demand for higher education. In 2017, only 65 institutions or less than 2% of all Indonesian tertiary institutions obtained the highest level of accreditation, while other institutions varied, and even many universities in Indonesia were not accredited at all. The problems faced are, of course, related to the teaching quality of the tertiary institutions, which is still low. This is reflected by the qualifications of lecturers at the university. They are expected to have an S2 (master) degree, but many universities employ teachers who graduated from the undergraduate level. Furthermore, research quality also reflected the teaching quality in the university. The productivity of publications in scientific journals of academics and scientists in Indonesia is still very low compared to several neighboring countries [10]. In addition, the quality of graduates, inadequate management structures ranging from funding, facilities, teaching materials, and others [11] are other problems the universities face. This makes the management capacity of tertiary institutions unreliable. Managerial capacity is formulated to reflect results-based management elements, namely mission, goals, performance criteria,

indicators, and targets that will affect performance [12]. During the last two decades, management capacity has always been a concern and is a critical matter in an organization [13].

The study aimed at contributing to universities in Indonesia in managing the management capacity of their universities.

1.1 Literature Review

All operations in any organization are limited in terms of capacity. Therefore, to achieve organizational goals, it is necessary to control capacity or management capacity [14]. Management capacity is the ability to empower and use resources and skills to achieve goals and meet stakeholder expectations [13]. The urgency of adapting fluctuating demand to current capacity is one of the most significant challenges managers face in any service industry ([15]). The purpose of management capacity is to increase organizational performance with the available resources [13]. Research on management capacity has a broad scope, where management capacity has the essence that how the system built can be applied effectively and efficiently in conditions of limited resources to meet demand. The problem of capacity management is one of the most challenging problems to deal with in the service industry in general [15].

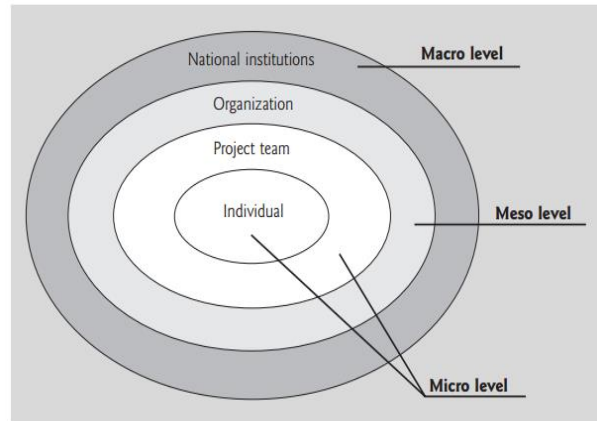
Management capacity has several dimensions: financial management, capital management, human resources, managing for results, and information technology [16]. They also highlighted that management capacity has three dimensions that shape it: 1) financial management, 2) HR (Human Resources), and 3) IT. Other studies reveal the dimensions of capacity management consisting of:

1. Staff Capacity. It refers to the skills and experience of management staff
2. Organizational Capacity. It refers to policy procedures and frameworks that enable an organization to carry out and carry out its mandate and allow individual capacities to connect and achieve goals
3. Contextual Capacity. It refers to statutory policies, power relations, and social norms, all of which regulate the mandate, priorities, mode of operation, and involvement of citizens in various parts of society [17].

The same opinion [13] expressed that capacity is classified into several groups, namely individual capacity, group or team capacity, and overall organizational capacity. Individuals have abilities in the form of knowledge, skills, and attitudes. Individual capacity boosts organizational capacity so that when individuals leave the organization, the organization loses that individual capacity. When individuals share their knowledge, skills, and attitudes with others, this capacity will be embedded in group activities and processes, thus

forming group capacity. Finally, organizational capacity is formed when individual, and group capacities are more broadly shared among organizations and intermixed with culture, strategies, structures, management systems, and operating procedures.

Management capacity is owned at various levels, starting from the micro-level: the individual; the meso-level: the organization; and the macro-level: the national institution. Figure 1. Capacity Level.

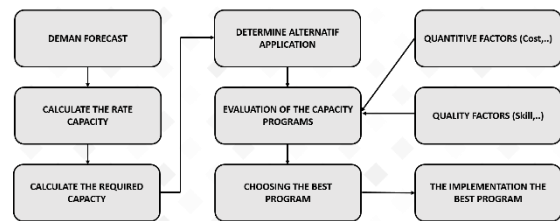


Source: [13]

Figure 1 Capacity Level

Management capacity includes planning activities, setting goals, determining responsibilities, leading, allocating resources, motivating and supervising staff members, and maintaining relationships with stakeholders [13].

Figure 2 The Capacity Planning Model explains that planning activities in the context of management capacity are efforts made to ensure a balance between demand and the ability to meet these demands [14].



Source: [14]

Figure 2 Capacity Planning Model

According [13] suggested several steps in a management capacity, namely:

1. Observing the external environment to identify needs and opportunities for organizational change where political, social, technological, or economic changes can

drastically change the organization's goals, focus, and processes in a management capacity.

2. Assessing organizational strategy where the identification of capacity management is best made within the framework of organizational strategy where when the organization looks at its external environment, it is necessary to reassess its mission, strategic objectives, and programs at scale.

3. Identifying the demand and capacity that is owned, wherein the management capacity will support the organizational strategy.

4. Seeking external support. There is a possibility that even with the best planning, the organization may not have sufficient resources to build the desired management capacity. Thus, external support is urgently needed. It could be support from institutions engaged in the same field.

5. Implementing and managing capacity, where management capacity is essentially the process of managing resources effectively.

6. Regular monitoring and evaluation of management capacity help organizations obtain information that can then be used to help readjust their activities.

2. METHODS

This type of research was descriptive verification. Descriptive research is aimed at describing the collected data as it is without intending to make generalized conclusions or generalizations. Therefore, the descriptive analysis in this study aimed at obtaining an overview of management capacity analysis at universities in Indonesia. The verification research in this study aims to measure how much the existing dimensions can explain the variables. The verification research used SEM-PLS analysis. The variable examined in this study is management capacity.

3. RESULTS AND DISCUSSION

3.1 Result of Descriptive Analysis

Overall, management capacity has dimensions of 1) staff capacity and 2) organization capacity, which can determine the position or size of its contribution based on the score obtained from the recapitulation of the variable dimensions of capacity management. Figure 3 Overview of Higher Education Capacity Management in Indonesia was obtained from the results of data processing that has been carried out by distributing research questionnaires to 52 universities in Indonesia.

Figure 3 overviewing higher education capacity management in Indonesia informs that based on the percentage, the dimension that received the highest score was organization capacity at 50.9% with an average score

of 188.3. The second position with the lowest score is occupied by the staff capacity dimension of 49.1%, with an average score of 181.7.

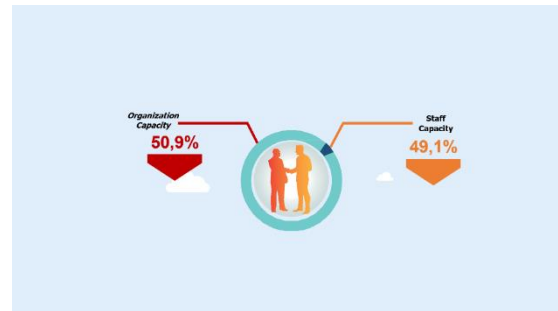


Figure 3 Illustration of higher education capacity management in Indonesia

The results show that the dimension that has the highest assessment is organization capacity. This means that universities in Indonesia already have policy procedures and frameworks that allow universities to carry out their duties and allow individual capacities to connect and achieve goals. These results are consistent with [18], who outlined that capacity development sees how individual capacities can improve organizational progress at the organizational level. At the level of organizational capacity, individuals are the greatest assets and strengths, which, if empowered proportionally and professionally, can produce a high level of effectiveness for the organization. Overall, the concept of developing organizational capacity is associated with organizational change. The success of developing organizational capacity is always related to how substantial the changes are at the organizational level and even the system.

Based on the results of the data processing that has been carried out, the capacity management of universities in Indonesia can be measured through the scores on each dimension. The total score on capacity management is 2422, with an ideal score of 3380 for 13 statement items while looking for a continuum area that shows an ideal area of the response of universities in Indonesia to capacity management.

Maximum Score = Highest Score x Number of Item Items x Number of Respondents

Maximum score = 5 x 13 x 52 = 3380

Minimum Score = Lowest Score x Number of Item Items x Number of Respondents

Minimum score = 1 x 13 x 52 = 676

Finding the Interval Length:

"Score Each Level =" "3380-676" / "5" "= 540.8"

Determine the Percentage:

$$\text{Score Percentage} = (\text{Total Score} : \text{Maximum Score}) \times 100\%$$

$$\text{Score percentage} = (2422 : 3380) \times 100\% = 71.65\%$$

The ideal score in the capacity management variable is 3380 for 13 statements, while the total score is 2422 with a total percentage of 71.65%, presented in Figure 4 Results of Capacity Management Continuum.

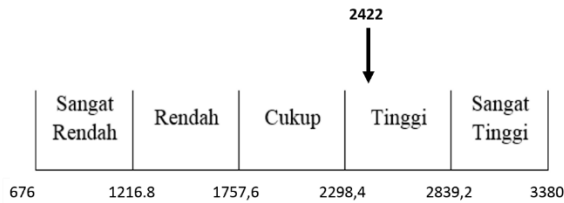


Figure 4 Results of Capacity Management Continuum

Based on the results of this score, it can be seen that universities in Indonesia already have good capacity management, meaning that universities in Indonesia can empower their resources and skills to achieve goals and fulfill the desires of stakeholders or stakeholders.

3.2 Description of Staff Capacity Dimension

Staff Capacity refers to the skills and experience of management staff [17]. Staff capacity development is significant in an organization, including universities. The development approach can be made in stages, starting from the staff development program. Staff development needs to be done on time and consistently [19].

Table 2, regarding the overview of tertiary education's staff capacity dimensions in Indonesia, shows four indicators to measure the dimension of staff capacity to measure the skill level and experience of university management staff in Indonesia.

Table 2 Description of Higher Education Staff Capacity Dimension in Indonesia

No	Question Item	% Score
1	Professional workforce on university and unit levels	23.93
Score		
2	Management of assets and infrastructure on the university level	24.76
Score		
3	Leader and staff experiences in managing academic and business units	22.28
Score		
4	Leader commitment in higher education innovation and development	29.02
Score		
Total Score		100

Based on Table 2, it can be seen that the highest score is in the indicator of leadership commitment in developing higher education (innovation leadership) with a percentage of 29.02%. These results indicate that most tertiary education leaders in Indonesia are highly committed to innovating at their universities. This indicates that innovation leadership is critical. As it is said by [20], innovation leadership plays a role in improving the quality of education and is one of the efforts for continuous improvement that can be done if there is the readiness to change. From the organization's perspective, tertiary education leadership has a critical position. The implementation of the role and duties of the leader will affect all aspects of life in the college, especially changes in innovation. The leadership usually carries out innovation leadership to improve the quality of education and greatly affects the quality of the higher education institution, so it is essential to know the role of the leader in carrying out their duties and obligations.

Currently, there are many innovations issued by higher education leaders, especially in dealing with a pandemic, including the University of Indonesia, which launched the CIL or Center of Independent Learning. At CIL, the students can take part in learning activities for three semesters outside their study program with a maximum of 20 chs/semester within the university, at other universities, and learning at non-university partners who collaborate with UI. The learning activities that the students in this program can do include student exchanges, internships, teaching at schools, research, humanitarian projects, entrepreneurship, independent studies, and actual work [21]. In addition, private universities have launched Guruvirtual.id, an interactive learning platform that can be accessed by students, lecturers, and the public [21] to improve the quality of learning. In contrast to others, The IPB, in improving the quality and management capacity in a pandemic, has issued a policy of accelerating the adaptation of lecturers to online learning to increase the capacity of lecturers to make distance learning more interesting [22].

The lowest score is found in the indicators of leadership and staff experience in managing academic business activities with a percentage of 22.28%. This shows that currently, the leadership and staff of tertiary education institutions in Indonesia have very little experience in managing academic activities. Overall the value shown in the dimension of staff capacity has an achievement percentage of 69.90% of the ideal score.

3.3 Description of Organization Capacity Dimension

Organization capacity is a policy procedure and framework that allows universities to carry out their duties and allows individual capacity to connect and achieve goals [17]. The capacity of management at the organizational level is the capacity-building process in

which individual capacity can improve the organization's progress. At the level of organizational capacity, individuals are the greatest assets and strengths, which, if empowered proportionally and professionally, can produce a high level of effectiveness for the organization. Overall, the concept of developing organizational capacity is associated with organizational change. This means that developing organizational capacity is always related to how substantial the changes are at the organizational level and even the system [18].

Table 3 Overview of Higher Education Organization Capacity Dimensions in Indonesia shows nine indicators to measure the dimensions of organizational capacity for policy procedures and frameworks implemented by universities in Indonesia.

Table 3 Overview of Organization Capacity Dimension of Higher Education in Indonesia

No	Question Item	% Score
1	University vision and missions	12.98
Score		
2	Autonomous and academic-free education and research program management	11.45
Score		
3	Facility availability relevant to research	10.91
Score		
4	University support in funding research	10.97
Score		
5	Governmental institution support in funding research	10.03
Score		
6	Industrial support in funding research	9.26
Score		
7	Regulation implementation in the management process	11.09
Score		
8	Organizational support to higher education	12.21
Score		
9	Impacts of university authority on the neighborhood	11.09
Score		
Total Score		100

Based on Table 3, it can be seen that the highest score obtained is in the vision and mission indicators used by universities, with a percentage of 12.98%. These results indicate that universities believe that the vision and mission set by state universities is the most essential thing in developing organizational capacity. This is in line with [23] statement that the success of tertiary education's strategic plan and organizational capacity depends on the correct vision and mission formulation process. Vision and mission statements contribute to the creation of an organization's institutional identity. The mission

statement introduces the organization to the public and sets it apart from other organizations by emphasizing the uniqueness of the organization's characteristics.

The lowest score was found in the industry support indicator in financing research with 9.26%. This shows that currently, the number of industries that directly contribute and support funding research conducted by tertiary institutions is still very minimal. Overall, the value shown by the organization capacity dimension has an achievement percentage of 69.47% of the ideal score.

3.4 Result of Verificative Analysis

1) Convergent Validity

Convergent validity consists of three tests: item reliability (validity of each indicator), composite reliability, and average variance extracted (AVE). Convergent validity measures how much the existing indicators can explain the dimensions. This means that the greater the convergent validity, the greater the indicator's ability to apply its dimensions.

a) Reliability Item

The reliability item is usually called the indicator validity. Testing of item reliability (indicator validity) can be seen from the value of the loading factor (standardized loading). This factor loading value is the magnitude of the correlation between each indicator and its construct. A loading factor value above 0.7 can be said to be ideal, meaning that the indicator can be said to be valid as an indicator for measuring constructs. Based on Figure 5 loading factor, the two dimensions of capacity management have a loading factor exceeding 0.7, so it can be concluded that both dimensions are valid in measuring capacity management.

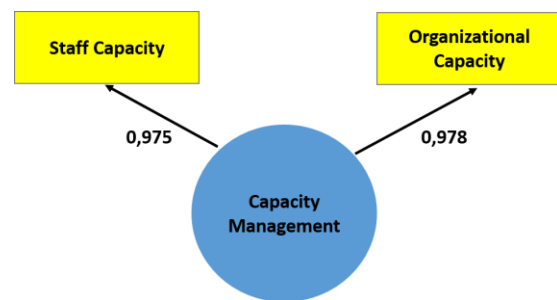


Figure 5 Loading Factor

b) Composite Reliability

Cronbach's alpha and D.G rho (PCA) values above 7.0 indicate the construct has high reliability or reliability as a measuring tool. A limit value of 0.7 and above means acceptable, and above 0.8 and 0.9 means very satisfying ([24]in [25]: 19).

Based on the results presented in Table 4, the capacity management variable has very satisfying reliability.

Table 4 Reliability Item

Latent Variable	Dimensions	Cronbach Alpha	D.G. rho (PCA)
Management Capacity	2	0.951	0.955

c) Convergent Validity

Average Variance Extracted (AVE) describes the amount of variance that items can explain compared to the variance caused by measurement error. If the AVE value is above 0.5, it can be said that the construct has good convergent validity. Convergent validity show by Table 5.

Table 5 Convergent Validity

Latent Variable	AVE
Management Capacity	0,953

2. Discriminant Validity

A good discriminant validity will explain the indicator variable higher than explaining the variants of other construct indicators. Loading factor show by Figure 6.

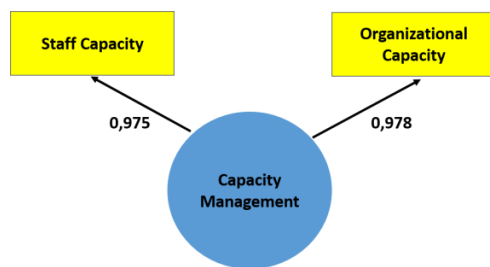


Figure 6 Loading Factor

Based on the results of loading factors, staff capacity and organizational capacity are believed to be able to build Capacity Management variables as evidenced by a high correlation number; besides that, based on the results of loading factors, organizational capacity has a more significant contribution in building capacity management than staff capacity.

4. CONCLUSIONS

1. Analysis of management capacity at higher education in Indonesia using the dimensions of staff capacity and organizational capacity was conducted.
2. The analysis of management capacity that received the highest assessment, that is, organizational capacity with the highest indicators of vision and mission determination used by universities, indicates that the vision

and mission formulated by tertiary institutions is a significant factor in building management capacity in tertiary institutions in Indonesia.

3. Based on the results of loading factors, organizational capability has a greater ability in implementing capacity management than staff capability at Higher Education in Indonesia.

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