

# The Impact of Principal Leadership Dimensions on School Capacity

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**Abstract**—On the preliminary study, it was found that there were five critical dimensions of Principal Leadership based on sample perceptions in North Sumatra. Following those findings, this study aims to further investigate the influence of those five dimensions on school capacity. The impact of these dimensions will be useful in determining leadership strategies to maximize school capacity. The data of this research were collected by a survey method using 5-Likert scale questionnaire from school teachers and supervisors in three districts/cities in North Sumatra with a random sampling technique. 352 collected data were analyzed by multiple linear regressions with SPSS 22. The results reveal that quality management, resource management, strategic management, external communication, and instructional leadership have a significant influence on school capacity. More specifically, this turns out that instructional leadership has the highest value of influence compared to the other four dimensions, while external communication has the least influence value.

**Keywords**—principal leadership; dimensions; school capacity; effective school

## I. INTRODUCTION

In the previous study Lubis, Sagala, Saragih and Sagala has confirmed the factors that were constructing the principal leadership based on the perception of teachers and school supervisors in North Sumatra [1]. The study confirmed the dimensions previously offered by Li, Hallinger and Ko [2]. In their research, Li et al. proposed seven dimensions of principal leadership [2]. These dimensions are extracted into five dimensions in the study of Lubis et al. [1]. These five dimensions reflect the characteristics of the organization owned by schools in North Sumatra. Based on previous studies [2-5], the application of principal leadership does adjust to areas where principal leadership is applied. Because principal leadership relies on a contingency approach that believes that there is no best model for the entire organization, the best model is the one chosen by the organization itself.

However, the study of Lubis et al. still identifies the determining dimensions of a principal leadership construct [1]. The study has not reviewed the principal leadership contribution to school functions. As it is known that the critical role of the principal is in maximizing school functions [2,6]. Whereas, the school functions that have been maximized will

further facilitate students to achieve academic achievement. Sergiovanni views school function as an implication of school effectiveness [7]. Thus, the ideal school function is the result of an effective school. Meanwhile, to be effective, schools must have the ability to manage various resources to work effectively and in turn school activities have implications for students' academic performance. This concept is called maximizing school function. The study of Li et al. uses school capacity terminology to identify the phenomenon [2]. Therefore, this study seeks to review the influence of the principal dimensions of leadership on school capacity.

Specifically, this study aims to review which dimensions predominantly affect school capacity. So that in practice the leadership style of the principal in North Sumatra can be concentrated on these dimensions. Strategically decision making that refers to the results of this research will increase the effectiveness of the principal's actions in managing school management in North Sumatra. These dimensions are Quality Management, Resource Management, Strategic Management, External Communication, and Instructional Leadership [1].

The five dimensions have represented managerial aspects as a whole. These five dimensions show that the principal is an integral part of the school. Referring to Adserias, Charleston, & Jackson, primarily leadership and organization are integral parts, and in the integration these two variables influence and depend on each other [8]. The principal as an individual can distribute his leadership through regulations reflected in Quality Management and Resource Management. Quality control and school resources have often been explicitly documented in documents such as operational standard procedures, implementation instructions, technical instructions, quality control tables, statutes, service standards, evaluation instruments, school regulations, etc. which are all forms of school regulation.

Furthermore, school dynamism is maintained with strategic management. Strategic management is a spontaneous and decisive action taken by the leader to improve organizational performance. Generally planning from strategic management is based on discussions with subordinates and staff (bottom-up) to produce decision-making creations. Then, the principal must consider input and collaboration with various external parties. The principal must be able to absorb multiple-valuable information from external parties and must be able to utilize

external networks to support the achievement of school goals. The last dimension is instructional leadership. However, the headmaster cannot lose instructional power. Every staff in an organization often requires direct instruction to understand what actions should be done immediately. Especially in educational organizations that have complicated dynamics. Educational organizations serve people who cannot predict changes in characteristics. Each class has different characteristics. Then, the teacher will have many questions that require instruction from the principal. Instructions are not always on technical action, but also on self-development actions that the teacher can do on an ongoing basis.

**II. RESEARCH METHOD**

The population is teachers and school supervisors in North Sumatra, Indonesia. From 500 questionnaires distributed, 352 questionnaires were collected. Distribution of respondents by gender consists of 44 (12.39%) respondent are male, and 308 (87.61%) respondents are female. Distribution of respondents based on the education level of 215 (61.8%) respondents has a bachelor degree, and 137 (38.92) respondents have a master degree. The details of demographic samples can be observed in table 1 below. The sampling technique in this study uses random sampling with snowball collection techniques. Data collection techniques in this study were questionnaire surveys. Before data analysis is carried out, the instrument is tested for validity and reliability first. Then. Data were analyzed using multiple regression analysis to examine research questions by reviewing the regression coefficients of each dimension of principal leadership.

TABLE I. DEMOGRAPHIC SAMPLE

	Descriptions	Amount	Percentage
Age	1. 21 – 30 years	32	9.09%
	2. 31 – 40 years	205	58.24%
	3. 41 – 50 years	115	32.67%
Gender	1. Male	44	12.39%
	2. Female	308	87.61%
Education	1. Bachelor	215	61.08%
	2. Master	137	38.92%

All instruments are measured with 5-scale Likert. The Likert scale is a safe measurement tool for testing using parametric statistics and does not interfere with the reliability of data analysis [9]. Instruments used to measure the principal leadership constructs, and School Capacity is adapted from study [2]. The original was by a linguist and then face validity was carried out by the researcher until it was considered suitable to be used to collect data.

**III. RESULT AND DISCUSSION**

Based on descriptive statistics from the collected data, it is known that the average response of each variable is in a number that is quite high, namely above 4 (> 4), except in the school capacity variable which has an average number above 3 (> 3). The figure shows that the respondent gave a very high response for each independent variable and a moderate response to the variable school capacity as the dependent

variable. Furthermore, the standard deviation number also shows that the independent variables have variations with relatively low gaps with variance numbers below 1 (<1). The variable of school capacity has variations with a reasonably high gap compared to other variables with the number 1,083. The average number and standard deviation of each variable can be seen in table 2 below.

TABLE II. DESCRIPTIVE STATISTICS

Variable	Average	St. Dev.
Quality Management	4.283279	0.632799
Resource Management	4.134659	0.729889
Strategic Management	4.376894	0.632453
External Communication	4.306818	0.634394
Instructional Leadership	4.236967	0.631824
School Capacity	3.845245	1.082733

The regression test results show that the Quality Management regression coefficient of School Capacity is obtained at 0.188 with the t-stat value of 3.780 and a significant number of 0.000. At the critical point 5% (<0.05) t-table is 1.96. Then it is known that the t-stat value > t-table (6,693 > 1.96). It shows that Quality Management has a positive influence on School Capacity. Quality management is an administrative building designed by leaders to control the quality of staff work for teachers and office staff. Regulations are formed based on the leadership's strategic agenda to achieve organizational goals. Thus, it can be understood that quality management is a regulation as an extended form of leadership to achieve organizational goals by controlling performance standards and developing staff capacity [10,11]. Thus, teachers can always maintain the quality of their performance throughout their duties, and the performance standard is a manifestation of the capacity of the teacher, while the capacity of the school is a manifestation of the capacity of the resources in it.

Then, in testing the influence of Resource Management on School Capacity, it was obtained the number 0.181 in the regression coefficient and t-stat of 3.575 with the sig value. 0,000. This figure shows that there is a positive influence of Resource Management on School Capacity. The resources intended in this program are human and material resources (infrastructure). Educational organizations rely heavily on human resources because schools are knowledge organizations. The main activity of the school is pedagogic, and the purpose of the action is knowledge transfer. In a previous study, Li et al. and Murphy et al. had revealed that teachers are the primary resource that schools have [2,11]. However, to be able to maximize teacher performance, of course, schools need facilities and infrastructure as well as external resources such as stakeholders [11]. Therefore, resource management must be viewed comprehensively. The valuable activity of all these resources that interact with each other is the nature of the activity of the school. On the other hand, these useful activities are indicators of school capacity. Thus, it can be understood that school capacity is formed from resource management that produces valuable activities in achieving school goals.

TABLE III. THE RESULT OF THE DATA ANALYSIS

Regression Model	Coef.	t	Sig.
Quality Management→School Capacity	0.188	3.780	.000
Resource Management→School Capacity	0.181	3.575	.000
Strategic Management→School Capacity	0.191	4.157	.000
External Communication→School Capacity	0.118	2.486	.013
Instructional Leadership→School Capacity	0.245	6.693	.000

In measuring the influence of Strategic Management on School Capacity, we got 0.191 on the regression coefficient and t-stat worth 4.157 with the sig value. 0,000. This figure shows that there is a positive influence on Strategic Management on School Capacity. In practice, strategic management is a primary managerial process that leads to strategic decision making [1]. The strategic decision is aimed at increasing the school's competitive advantage in producing superior graduates. Decision making can take the form of tactical actions such as collaboration with stakeholders, infrastructure investment, development of school information systems, and so on or developing regulations that have implications for updating quality control, developing teacher capacity, developing reward and punishment schemes and so on [3,12]. The implication of this strategic management is the improvement of education services, increasing staff work facilities, and increasing school reach to external parties which is a form of school capacity. Principals who use their power to make strategic decisions will bring the school to a superior capability. Meanwhile, if the principal only decides to run the school as a routine, it will not produce any development.

Furthermore, in testing the influence of External Communication on School Capacity, it was obtained the number 0.118 on the regression coefficient and t-stat value of 2.486 with the sig value. 0.013. This figure shows that there is a positive influence on External Communication at School Capacity. In the current era of globalization, schools must be able to capture market demands outside of the competence of alumni needed to be able to compete in producing alumni that can be absorbed by the industry. To achieve those competencies, schools must have extensive knowledge related to market expectations and must be able also to provide theoretically and practically needed knowledge. To gain understanding and broad theoretical and practical dimensions of teaching the school must have an extensive network and support from stakeholders, such as parents of students, government, practitioners, and industry. Collaboration with various stakeholders will enable schools to organize dynamic learning both inside and outside of school [1]. These activities are the capacities built from external communication variables. When external communication has succeeded in realizing collaboration between schools and external parties, schools can continually improve school capacity [2,12].

Then, on testing the influence of Instructional Leadership on School Capacity, it was obtained a value of 0.245 on the

regression coefficient and t-stat of 6.693 with a sig value. 0,000. This figure shows that there is a positive influence on Instructional leadership on School Capacity. The findings of this study indicate that the Instructional leadership variable has the most regression in influencing school capacity. This finding is in line with the study of Robinson; Goldring, Porter, Murphy, Elliott and Cravens which revealed that teachers have the dependence on clear instructions in carrying out their duties [12,13]. Instructional leadership provides teachers with ease in solving practical and tactical problems with rapid responses from principals that can be directly implemented in the classroom or can be in the form of instructions to engage in training, a community of practitioners, researchers, and learning innovations that lead to teacher development [11]. Therefore, the instruction of the principal must be widely understood. Because the direction of coconut school instruction is not only in determining learning activities directly in class but also on teacher development, research implementation, external network development, and knowledge transfer in the community. Instructions directed at teacher development on an ongoing basis will have implications for the development of school capacity in a long time because the attitude of learners has been instilled in the teacher as a school resource. This research model can generally be observed in Figure 1 below.

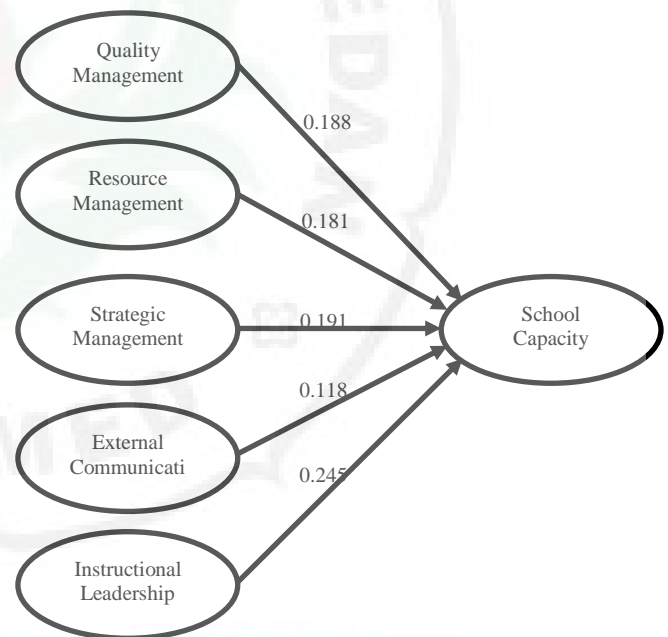


Fig. 1. Research model.

IV. CONCLUSION AND RECOMMENDATION

This study is a follow-up study from Lubis et al. which has found five critical dimensions of Principal Leadership based on sample perceptions in North Sumatra [1]. This study seeks to review the role of these five dimensions in influencing school capacity. Specifically, this study attempts to identify the dominance of these dimensions in influencing school capacity so that leadership strategies can be concentrated according to the results of this study. The results showed that Instructional Leadership was the dimension that had the most significant

regression coefficient compared to the other four variables. Meanwhile, external communication is a dimension that has the smallest regression coefficient of the other four aspects. Likewise, all variables have a high significance rate with  $\alpha < 0.05$ .

In the previous study, Lubis et al. also found instructional leadership as the most dominant dimension in constructing the principal leadership construct [1]. Then in this study instructional leadership was again found to have the most dominant regression coefficient in forming school capacity. This finding is in line with previous studies which found that instructional leadership cannot be ignored in educational organizations [12,13]. However, Horng & Loeb asserted that instructional leadership is not intended to intervene in classroom learning activities directly to improve student learning or learning achievement but to maximize organizational management for instructional improvement to foster organizational value to achieve expected school outcomes. The instructions in question are arranging to staff in schools with qualified teachers and providing them with appropriate support and adequate resources to carry out their work in the classroom [14].

Educational organizations have characteristics that are different from the private sector which will be better if led by transformational leadership. Business organizations that open up great opportunities for subordinates to be creative in strategic decision making that will help organizations find innovative steps in achieving competitive advantage. But at the practical level, transformational leadership has a missing relationship with technical teaching in the classroom. Therefore, transformational leadership is not able to improve students' academic achievement significantly because it has a weak focus on learning and teaching activities [15]. Based on these findings, school leaders must pay particular attention to instructional leadership.

First, the principal must consider it as an effective leadership style to drive staff performance following school objectives. Second, school leaders must understand that instruction is not only a command related to a teaching task, but also an instruction to be involved in teacher development, research, a community of practice, and various other activities which have implications for the development of school capacity.

Furthermore, external communication was found to have the least influence on school capacity. Nevertheless, that value of the influence indicated by external communication has good significance. It shows that the four other variables have a high enough influence value and should be a concern for school leaders. Quality Management, Resource Management, Strategic Management, and External Communication are strategic aspects that must be accommodated by the principal in the use of his instructional leadership. So that the power to give the instruction is directed to revitalizing Quality Management, Resource Management, Strategic Management, and External Communication. So that it can be understood that the five dimensions of principal leadership are integral parts that cannot be separated and support each other

Practically this study can be useful as a reference for school principals in choosing their leadership strategy. Furthermore, policymakers can use it as an indicator to assess the competence of principals in developing regulations related to the appointment of principals and strategic aspects that must be obeyed by the principal. Theoretically, this study has completed the insights that have been generated in previous studies. This study strengthens the value of these five dimensions by expressing its contribution to school capacity. The researcher can then test this finding by manipulating the experiment so that it can review the actual behavior in the implementation of this leadership style. The results of these advanced studies can strengthen the internal validity of the models that have been offered.

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