

School Management Based on ICT to Improve the Quality of Education in Indonesia

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Abstract—The purpose of this study is to determine the extent to which the uses of ICT in the school management process either as a tool used in school administration or as a means for organization decision making. The methodology used in this research is qualitative research method, and the research location is at Junior High School in Sukabumi of Indonesia Municipality. Through this research, I am hopeful to help the education system in my hometown improving its quality and service with a strategy designed by empowering ICT in educational field.

Keywords—school management; ICT; quality of education

I. INTRODUCTION

School is a social institution that plays a very important role in changing people's lives. The biggest responsibility for schools in this globalization era is to prepare students so is able to deal with the rapidly changing challenges.

The beneficiary of Information and communication technology to support education, Bora and Teki affirms how importance the Information and Communication Technology (ICT) as a tool in supporting the more qualified and effective learning process [1]. "The use of ICT in higher education means learning imparted through computer networks to students. Use of ICT in education shifts learning from conventional teacher centered learning to student centered learning. With the use of ICT in education, the knowledge is based on students' learning and learning by students at the pace and time convenient to them".

The Government i.e. Ministry of Education and Culture through the Directorate General of basic education has made an integrated system that is DAPODIK (Education Data Base) in the form of Software. is a tool (Software) to verify school data, students and educators. The DAPODIK Objectives are as follows: 1) Improving the quality of school management especially in the implementation of transparency, accountability and good education governance. 2) Manage student data, school data and the data of educators and educational personnel, 3) Coordinate the data and information of students as a reference for planning educational programs at the regional and central levels.

While the mutual benefits of individual data collection and integrated primary education is to improve efficiency and effectiveness of data collection that spread across Indonesia in

one centralized data collection gateway of the directorate general Secretariat of basic education. The utilization of collected data is to support the planning, evaluation and implementation programs of the Ministry of education and culture as well as Provincial, Regency, Municipal Education Office which is targeted to the needs and real condition realities in the field.

The utilization of DAPODIK data is as follow: (1) School Operational Assistance from National Budget sources (2) School Operational Assistance from District sources; (3) Rehabilitation of learning spaces (classroom, library, laboratory) 4) Special Allocation Fund, (5) New Classroom, (6) Subsidy for Economically Disadvantaged Students, and (7) Subsidy / Benefit for Teachers.

In connection to the large number problems that occur in the field related to the application of DAPODIK as a tool used in electronic school management that is provided by the national education ministry to improve the quality of national education services, especially in Junior High School. With the purpose focused for administration and management in the entire schools of Indonesia. It is hopeful that the information and communication technology used can be one of the basic foundations in the education system in Indonesia.

II. LITERATURE REVIEW

A. School and Education

School can have open system and closed system. It is functioned to optimize national education goals. The term "school" studied in this research is a first-rate school. In the perspective of place, a school has various meanings for the individual inside. School as a place is a social and physical area that describes a process for realizing an ideal society.

School is an educational institution which is a manifestation of insight about a space in which the community actualizes the reality of their potential uniqueness. Understanding about a school is a manifestation of effort to determine the existence of oneself as a nation that has identity.

B. Quality

Quality is a fairly complex concept. Sallis suggests that quality is both philosophical and methodological that helps institutions to plan change and measure agenda in the face of

excessive external pressures that can reduce the effectiveness and efficiency in achieving goals [2].

In general, Gasperz says that many definitions of quality ranging from conventional to traditional. Conventional definition describes direct characteristics of a product, such as, performance, reliability, easy to use, esthetics [3].

Strategic definitions / modern definitions say quality is everything that is capable of fulfilling the customer's needs (meeting the need of customers).

C. Information and Communication Technology

According to Robert L. Mathis and John H. Jackson major contributors to globalization are the development and evolution of telecommunications and technology that facilitate the rapid transmission of information, including in education sector [4]. Communications technologies such as satellites have brought television and wireless telephone services to villages. The growing number of internet users in the whole world has made people and companies can easily communicate and have access to data in a very large amount.

III. METHOD

The approach chosen is a qualitative approach. The method that suits the purpose of the researcher is the analytical descriptive method. Through descriptive method the researcher can obtain an overview of the aspects related to the focus of research questions and analyze them. Qualitative research by Creswell confirms that qualitative research is a method to explore and understand the terms that by some individuals or groups of people are considered to be derived from social or humanitarian problems" [5].

The type of qualitative research used is a case study in the sense that the researcher tries to study a phenomenon in real context of e-management in realizing a quality school. This is in line with what Yin who has pointed out that the purpose of the case study is to investigate in depth and analyze intensively the various phenomena that are the life cycle of the unit / case in order to build generalizations about the wider population [6]. The case study is intended to examine deeply the phenomena in daily context of ICT-based school management concepts and practices in creating a quality school in Indonesia.

IV. RESULTS AND DISCUSSION

The development of ICT (Information and Communication Technology) is increasingly complex and diverse has an impact both directly and indirectly on an organizational work system including the first public and private medium education institutions in Sukabumi City. Information and communication technology ideally implemented as a strategic management function rather than administrative Experts, daily operational supporters or simply serve as information providers Operational decision making.

ICT is a sub-system that is functioned to encourage the achievement of ICT organizational objectives. ICT is functioned to build a culture of quality and encourage changes in the organizational value of an innovative and creative. In

fact, the condition is not in line with expectations. Most junior secondary educational institutions only function ICT as an operational function rather than a strategic partner in decision making at the top management level.

The presence of ICT only functioned to support the implementation or operation of daily activities. ICT only functioned to record, providing information without any functional strength that is integrated to organizational structure. This causes ICT tasks and functions only as operational support rather than strategic partners, especially to drive change amid rising quality demands.

Organizational needs for the existence of ICTs encourage change and reduce strategic complexity has not been effective. ICT only as an interface of operational activities in each organizational unit. Utilization of ICT is driven by the demands and complexity of existing jobs. The management of educational institutions such as the first middle school is based on non-profit, accountable, transparent, effective and efficient principles. These demands will not be fully realized without the support of ICT strategic functions. ICT has not yet functioned as a basic business intelligence in strategic decisions. Utilization of ICT has not been enabled for strategic reporting (analysis of internal and external environment, online analytical processing, analytics, data mining, process mining, complex event processing, business performance management, benchmarking, text mining, and prescriptive analytics).

Management in the perspective of an integrated system within the organization, interrelated between management functions and its existence to reduce the complexity of problems in organizational governance in achieving its objectives. The success of the management approach in the field of industry in the era of 80s is related to the quality of sustainability, leadership and management of Product oriented to customer satisfaction has driven efforts to implement management in education. The management approach cannot be implemented exactly like the management approach implemented in the world of industry. Education is a strategic institution that is not oriented to profit. Every practice in the achievement of educational objectives is based on the ideal values of education sourced from Pancasila. While management is a practice derived from an industrial approach based on production systems.

In the context of governance of achieving goals in an institution that have a formal structure, 1) management is only used in formal organizations that have a clear structure, the division of job based on function and strategy, work groupings in accordance with their characteristics, as well as the existence of a clear range of responsibility, 2) The basic concept of management is about practical decision making using a variety of approaches both scientific and intuitive from noticing and realizing changes in the internal and external environment, 3) Several functions in management is a unity of systems that are interconnected with each other 4) efficiency and effectiveness is the key word in management. 5) Management practices are tailored to the characteristics of organization and ideal values that underlie the organization and become the goals of the organization. Optimizing ICT functions in management is a necessity. This is based on the increased function of ICT in

school management systems. ICTs become a management function and have their own sub-organizational structure as part of the school's organizational structure. This is in line with the Terry's stance (2012) which asserts that the activity is regarded as a unity / totality that together therefore required the structure.

Most of schools that use ICTs as strategic partners, as well as for their operations have structures. This means that the formal position of ICT can be seen from its relationship with other managerial functions. At school there is no structure that explains the function of ICT. This shows that ICT in schools is still supportive for other functions. ICT is only a tool for planning, organizing, implementing up to evaluation. ICT is only used as a tool to communicate the values listed in the vision and mission to the wider community.

Coordination for resources on a regular basis and at the same time achieving transparency requires ICT support as a partner. Operationalization of activities to coordinate resources in a transparent and accountable manner requires the availability of supportive tools.

Basically, in the context of resource allocation and transparency, ICTs help to understand the logical impact of dividing up tasks for each individual or team in accordance with the quality standards to be achieved. In essence, the existence of ICT increases the regularity of efficiency and effectiveness of each unit to perform some of the main tasks of the organization as a whole. ICT-based coordination emerges as a consequence of functional principle according to organizational structure. Each unit of work / staff and teachers perform some functions within an organization. The need for ICT-based coordination is influenced by the span of control. The principal as a leader, manager and supervisor has an obligation to carry out coaching based on the objective of instruction, guiding especially for inexperienced teachers dealing with technology, directing and controlling various activities related to the use of ICT including teaching and learning, under its authority and responsibility. ICT-based coordination is needed even though a school is not a large and complex organization. Schools face complex challenges that affect how job planning and organizational systems reduce the complexity of planning. Every activity, resource allocation, human resources is an activity in one continuous system unity.

One of the problems that can lead to destructive conflict is the problem of weak coordination and budget transparency. Coordination is more effective with support of ICT both the structured and non-formal one. Co-ordination that is supported by structures not overriding non-formal forms of communication as the realization of orderly systemic, cooperation, mutual assistance and appreciation of tasks and functions and responsibilities of each working unit.

School is a sub system of national education system. Its existence cannot be separated from its environmental dynamics including government policy. It appears that schools are coordinating activities including resources based on government policies, especially Junior High School financed by BOS. Local government policy in under the central government financing policy. It's included ICT support and it affects the development of ICT in school management systems

Policy cannot be separated from the life of the school organization. It is described here how the coordination in junior high school related to policy.

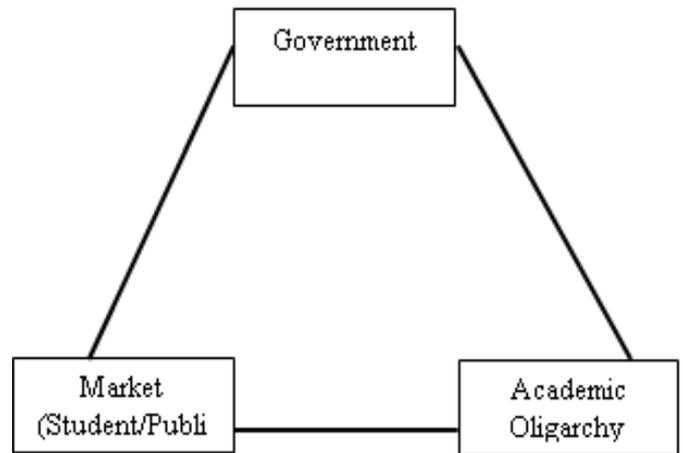


Fig. 1. Factors determining junior high school JHS coordination based on interaction.

The power that affects coordination in JHS represents sufficient power and authority to attract the JHS education system. A complex challenge through different tasks, beliefs and forms of authority. The three forces of coordination interact with each other, directing academic activities in junior high School. The forces illustrate how regularity arises from a complex junior secondary education system with diverse goals, beliefs and forms of authority. The triangle places three forces in a multi-dimensional space to understand how activities of organizing are demonstrated through the activities of organizations, groups and individuals with distinct existence and independent.

Implementation of ICT-based management is the activities related to the practice of organizing several variables either through ICT-based management system and leadership function in order to realize the quality school. Schreurs asserts that the implementation of ICT in schools requires a vision of the use of ICT in schools [7]. The focus of activities in the implementation of ICT-based management is how individuals in organizations primarily the staff can have optimum performance compared to without using ICT. Leaders provide motivation, demonstrate effective leadership, create work group in accordance with information Which is provided, manages the processes and forms communication between parts or work units and with the leadership quickly and accurately. ICT-based implementation is how these activities become more effective, efficient, and transparent, including leadership functions.

Adequacy of budget in management for quality schools by optimizing ICT function cannot be separated from budget and human resources support. Human Resource support both structure and functional will affect the successful implementation of ICT in schools. This is in line with what Sergis et al., He suggests that large-scale national initiatives are being implemented to promote the use of ICT at schools [8].

TABLE I. ICT MECHANISM FOR SCHOOL

	Techsperts	Tech mentors	Team time
Number of ICT champions	Two per class	One per grade-level	One per school section
Traditional role of ICT champions	Students	Teachers	DLCs (Digital Literacy Coach)
Selection criteria for ICT champions	At each class teacher's discretion	at the DLC's discretion	In accord with school hiring practices; former teachers
Training time for ICT champions	weekly, for 30-min at lunch	Irregular meetings, ideally monthly, with an annual retreat	Twice-weekly during teacher non-contact time
Scope of ICT champion deployment	Techsperts engage students and teacher in a grade-level class, during class time, per curriculum structure point of need, and at each class teacher's discretion	Tech Mentors engage teachers at grade-level or at subject-area, informally and voluntarily	DLCs engage teachers at grade-level, either compulsory for the cohort or informally and voluntarily per individual per curriculum structure point of need
Scope of strategy deployment	All classes at grade-level, at several grade levels in primary school section	All grade-levels in primary sections, and subject areas in secondary sections on all campuses	All grade-levels in primary school section

While Quality in academic services not only focus on external school customers. Quality of service focuses on internal school customers. This is due to both the concepts of quality of service to customers both internal and external customers have a linkage. The quality of Customer-oriented service is indicated by the involvement of Management ensuring the fulfillment of internal customer needs with the goal of improving overall customer satisfaction. Schools should have a methodology that ensures schools' ICT can meet the needs and expectations of internal customers. Through the involvement of school management that is converted into compliance with requirements and in line with the objective to achieve customer satisfaction. Schools focus on the customer as a whole both internal and external customer by providing what the internal customer needs with the existing ICT.

Support is implemented in the form of strengthening the pillars I.e. strengthening governance, accountability and public imaging in school management described as follows:

In order to support the optimization of ICT utilization for education, a number of government programs and policies have

been launched, the policy namely: 1) the establishment of work units focused on ICT issues and accountable to school principals 2) ICT become an important part of the school's strategic plan in supporting three policy pillars i.e. Equity and access expansion policy; Improvement of quality and competitiveness; As well as public governance and imaging. 3) the existence of an ICT-based quality management policy statement in accordance with the objectives of the organization signed by the principal / vice principal, commitment to meeting the requirements, customer satisfaction and continuous improvement, policy communication and understood at an appropriate level within the organization by size Appropriate measures, there are mechanisms for reviewing the conformity of ICT-based management policies for quality schools that are structured, there is control of ICT-based management policies related to the use of ICTs both among teachers, students and operators and leaders.

V. CONCLUSION

Each school has its own characteristics inherent in its vision and mission related to the management of ICT in supporting education services to develop a school culture that is technology literate. The Culture of technology literacy has not been a school mission. This is indicated that values in ICT have not been organized, integrated and used as a foundation of values for schools to achieve their goals. And The quality policy has not been formally stated to include a commitment statement to meet the requirements required to support ICT integration into the school management system. The mechanism for reviewing the conformity of ICT policies for quality schools and its controls is not yet available. The integration of ICT into the management system is clearly stated as a form of school commitment to meet the requirements and continuous improvement of ICT. School policies on quality and ICT, the availability of organizational structures affects how ICT functions as a strategic partner for schools, as tools to support day-to-day operations.

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