



The Quality Management of Islamic Boarding School Based on Information Technology in the 4.0 Industry Era

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Abstract

The Islamic boarding school education needs to be well constructed through designing of an education system that is adapted to the demands of educational quality in the current 4.0. industry era. Through qualitative research approach dan data collection technique using indepth interview, observation, and documentation, this research found: Firstly, the quality management of Islamic boarding school based on information technology is based on the idea that Nurul faces a transition period and requires managerial work which is an integral part of all *pesantren* elements to realize the *pesantren's* vision and mission, as well as be a pilot project in the quality management based on information technology in the 4.0 industry era, especially in the East Java region. Secondly, to improve organizational performance, Nurul Jadid apply managerial distribution with a top down and buttom integration scheme, with patterns of synchronization and pooling of resources. This strategy is balanced by reforming the *pesantren* management infrastructure such as providing a Local Area Network (LAN) for integrating data among many institutions, optimalizing websites, on-line services to *santri* and *wali santri*, such as SMS Gateway, e- payment and e-budgeting. Third, to maintain the values of Islamic boarding school in the dynamics of information technology-based quality management, Nurul Jadid Islamic boarding school always strives to be consistent in carrying out its education system based on the basic values of the *pesantren* through the internalization of the trilogy of *santri* and the five awareness.

Keywords: *quality management, Islamic boarding school, information technology, the 4.0 industry era*

A. Introduction

Management of Islamic boarding schools is generally seen as a institution of the traditional Islamic education, the model of education management is almost entirely following the traditions in the past, both curriculum, learning methods and management (Arif, 2008, p. 188). Some *pesantren* today still maintain the salafiyah

pattern which they consider sophisticated in dealing with external problems. Though as a religious and social education institution, *pesantren* are required to do contextualization, without sacrificing their original character (Fajar, 1999, p. 115).

In line with the dynamics of contemporary life, *pesantren* are required to make changes and developments regarding the administration of educational institutions. Changes that occur in *pesantren* show progress towards adjusting to the needs of the times. For this reason, Islamic boarding schools currently need quality improvement and are required to increase their endurance so they can contribute to developing spiritual basic capital and the provision of human resources in overall national development.

Changes in the development of the education system conducted by the Islamic boarding schools are not without reason. The development of the system is based on the reason "to maintain old ways that are still good and to use new ways that are considered better" (*al-Muhafazhah 'ala al-qadim al-ṣalih wa al-akhdh bi al-jadid al-aṣlah*). This rule is a fundamental value and philosophy that underlies the life of the the Islamic boarding schools so that it is able to transform its potential and make itself a boarding school as an agent of change for society (Barizi, 2011, p. 46).

The changes in the Islamic boarding schools management system illustrates the reality of the the Islamic boarding schools world that stands on the foundation of the past traditions. But with this foundation, the changes can be managed by getting rid all of old elements and habits, and then by incorporating new elements in accordance with the conditions of development and community needs (In'am, 2010, p. 91).

To be able to play its educational role in providing quality human resources, Islamic boarding schools must improve their quality as well as their educational model. Because, the Islamic boarding schools education model that bases itself on conventional systems will not be sufficient to help in the provision of human resources that have integrative competence both in mastering religious knowledge, general knowledge and technological skills (Muhaimin, 2011, p. xxii).

The three pragmatic advantages raised by the *pesantren* have become a significant contribution to the development of society. Islamic boarding schools will strengthen the social character of the national education system, which will contribute to the birth of human resources who have the reliability of mastering knowledge and technological skills that are always inspired by noble religious values. Islamic boarding schools have become a center of excellence for the development of Human Resources that have a basis for morality in social life (Nursyam, 2008, p. 196). In the end, the human resources born from these the Islamic boarding schools ideally and practically can play an active role in every process of social change towards the realization of a complete social life order (Sulthon & Khusnuridlo, 2006, p. 11).

Quality has become a necessity and an important indicator of the effectiveness of educational institutions. The quality in education requires a commitment to customer satisfaction and a commitment to create an environment that allows managers to carry out their work as well as possible.

Some of the considerations above, it require Islamic boarding schools to establish themselves as educational institutions that are always quality oriented. Islamic boarding schools must continually give birth to constructive ideas in framing boarding school management to develop their education quality. This indicates that the Islamic boarding schools need to make strategic efforts to develop their education quality management. This improvement is carried out in a simultaneous and consistent manner, so as to produce a quality design of Islamic boarding school education that can accommodate the educational needs of *santri* and *wali santri*.

To get a quality of the Islamic boarding schools education system in the 4.0 industry era, the simultaneous improvement is needed on various matters relating to the education process in boarding schools, especially in the areas of governance and quality management. The term of the 4.0 Industry era was born from the fourth industrial revolution, which was marked by the rapid development of sensor technology, interconnection, and data analysis which led to the idea of integrating all of these technologies into various industrial fields (Hoedy & Wahyudi, 2018). The development of the 4.0 industry era as part of the dynamics of globalization is characterized by: first, the existence of innovation of the technology, especially in the field of information technology. The existence of information technology has caused the process of interaction and communication and exchange of information to be faster. The presence of information technology has a great impact in providing convenience to everyone who wants to communicate, interact and get a variety of information both through telephone, internet, website, youtube, facebook and so on in a short time without worrying about geographical distance. Second, the existence of power hegemony and the power of developing countries that master information technology, quality human resources, large capital and neat management. This situation caused fierce competition (Nata, 2014, p. 287). Third, there is a demand from the community to be more democratic, just, humane, egalitarian and humanist.

The 4.0 industry era has a significant impact on the management of education, including the management of Islamic boarding school education. Islamic boarding schools must be able to adapt to the development of information technology today. Changes in the orientation and paradigm of *pesantren* education are a necessity. Because the model of quality management based on information technology is believed to be a strategic vehicle for changing the future, which is capable of conducting dialectical relations with social transformation and the direction of national development. The quality of Islamic boarding school education will be well constructed if the boarding school is able to design its education system in accordance with the demands of quality education today.

As one of the large Islamic boarding schools in East Java, Nurul Jadid Islamic Boarding School, Paiton Probolinggo has always developed its education quality management by adapting to the development of information technology. Institutional management uses the application of technology specifically designed to build a management system so that the implementation of education runs effectively and efficiently. The quality management system is built in an integrated manner that can provide educational services to stakeholders.

This article will elaborate on the philosophical foundation of the quality management of Islamic boarding schools based on information technology, strategies for improving the performance of *pesantren* organizations, the sustainability of *pesantren* values in the dynamics of information technology-based quality management at the Nurul Jadid Islamic boarding School Paiton Probolinggo.

B. Method

To describe the focus of the study, it is necessary to take a deep observation of natural situations using a qualitative approach (Bogdan & Taylor, 1985; Sudjana & Ibrahim, 2009, p. 197), so that find a holistic, integral, and comprehensive description of the quality management of Islamic boarding schools based on information technology in the 4.0 industry era at the Nurul Jadid Islamic Boarding School Paiton Probolinggo.

Qualitative research is seen as suitable because it is natural and requires wholeness in accordance with the problem of this study. According to Sugiyono, qualitative methods are used to examine natural conditions, where the researcher is a key instrument, the data collection technique is triangulated (combined), the data produced is descriptive, and data analysis is inductive. The results of qualitative research emphasize the meaning rather than generalization (Sugiyono, 2002, p. 4).

This type of research is categorized as case research, namely in-depth research on objects (humans, events, backgrounds, or documents) with the intention of understanding interrelations between variables (Arikunto, 2006, p. 142). The theoretical orientation of this research rests on phenomenology, in which researchers try to understand the meaning of events and their relationships to people in certain situations (Moleong, 2009, pp. 64–65). The use of phenomenological methods is useful to focus the attention of the researcher on the symptoms and social events that are being studied. The researcher knows the phenomena present in consciousness and does not intend to know the nature behind phenomena (Tim Penyusun, 2007, p. 7). Furthermore, the researcher describes it without preceded by previous prejudices so that researchers can capture and understand the phenomenon as it is, so that a holistic, comprehensive, and contextual description of the topic of this research is obtained.

Data sources were obtained through observation, interviews and documentation. While data analysis uses descriptive-explorative analysis, involving 3 (three) components of analysis, namely: a) data reduction, b) data display, and c) drawing conclusions. The three components of the analysis are interactive. Meanwhile, checking the validity of the findings was done through an extension of the presence of the researcher, in-depth observation, triangulation, member checking, peer checking, and tracking the suitability of results (referential adequacy).

C. Philosophical Foundation of Quality Management of The Islamic Boarding School based on Information Technology

The quality management of Islamic boarding schools based on information technology is based on the ideals of the Nurul Jadid Islamic Boarding School which

is currently facing a moment of transition in various sectors, especially in facing the challenges of the 4.0 industry era that demands high competitiveness and professionalism. KH. Abd. Hamid Wahid stressed that in the future, Nurul Jadid Islamic boarding school would continue to improve itself, be self-criticism, without forgetting the founding *khittah*. Reorientation of institutional vision and mission, financing strategies, professional management strategies, structuring of education regulations, strengthening centralization of education, technology transfer, welfare assurance, transparency and performance accountability are all part of managerial work that is an integral part of all *pesantren* elements to realize the vision and mission of Nurul Jadid, which was manifested in the trilogy and the five principles of consciousness.

In this context, the quality of Islamic boarding school education can be seen from the effectiveness and efficiency of all factors contribute in the education process (Sukardjo, 2009, p. 83). These factors include the quality of human resources, the learning atmosphere, the curriculum used, and boarding schools management. These factors that will distinguish the quality of boarding schools, the quality of the education process will automatically affect the graduates.

Regarding the quality management of the *pesantren*, the Head of the *pesantren* acknowledged that the management of the Nurul Jadid Islamic Boarding School in this three years was considered less effective and efficient, the quality of education among unit was still uneven, and the santri database was weak due to the ineffectiveness of the new santri recruitment and the large amount of budget was wasted, because of weak control from *kiai*.

This condition motivates KH. Abd. Hamid Wahid - head of the *pesantren* - to initiate the centralization of management as a starting point for managing the Islamic boarding schools. The centralization of management is not easy, because the turmoil, dynamics and contestation in various sectors of Islamic boarding schools are very strong and inevitable. Many of the Islamic boarding school fungsionaris who still want a decentralized management and refuse the transformation.

However, the centralization of management applied in the *pesantren* is not authoritative, but distributive. Caregivers give a general idea, the head of the '*pesantren*' is translating the idea into a conceptual scheme, then each work unit translates the scheme into a technical mechanism. So that at the leadership level, caregivers as "charismatic leaders", the head of boarding schools as "rational managers" and each work unit works in accordance with their respective duties and functions. He appointed the head of the *pesantren* as a caretaker, consequently on the managerial distribution that put KH. Moh. Zuhri Zaini - boarding school caregiver - as a leader and KH. Abd. Hamid Wahid as manager (Fawaid, 2019, pp. 128–131).

To facilitate managerial distribution, Nurul Jadid Islamic Boarding School builds a management information system for an organizational information system that supports management processes. A good information system is very helpful in time efficiency and supports operational, management and decision making functions. The use of information technology to run the information system allows

the flow of information to run quickly and accurately. Online databases conducted by the Islamic boarding school facilitate the rapid exchange of information and data. This ease means efficient implementation of education in everything.

For this reason, Nurul Jadid Islamic Boarding School continues to pioneer the development of quality management of Islamic boarding schools by utilizing information technology between educational institutions and the community. The vision, mission and profile of the *pesantren* can easily be known by the public in general, so that it will have an impact on the increasing interest of the community towards this Islamic boarding school. Information technology makes it easy for santri, guardians of santri, teachers, and the community to access santri's academic progress, daily developments, administrative obligations, and others. With these efforts, Nurul Jadid Islamic boarding school will appear as a technology-literate boarding school and become a pilot project in the management of information technology-based Islamic boarding schools in the 4.0 industry era for the East Java region.

D. The Strategies of Organizational Performance Improvement

In order to improve organizational performance to encourage the achievement of quality education in Islamic boarding schools, Nurul Jadid Islamic Boarding School applies managerial distribution with a top down and bottom integration scheme, so that the work of each *biro* and division becomes more coordinated and ensures the financial efficiency. The pre-requisite for this managerial distribution is the fulfillment of supporting facilities for each work unit so that each unit will work according to their respective duties and functions.

To ensure the effectiveness of managerial distribution, an ethical agreement is made on synchronization and integration of resources. Synchronization begins in the financial sector by applying a single education cost pattern and a centralized financial management policy. Unification of resources is carried out through equalization of perceptions between managers of work units and synergy between institutions with the formation of new work units and the cultivation of work spaces that are close to each other. This pooling of resources is also developed in higher education governance. The Faculty of Islamic Studies which does not have resources that are experienced in the field of technology and information and software, has been supplied by the Faculty of Engineering. With synchronization between resources, system integration is truly implemented in the overall institutional governance (Fawaid, 2019, pp. 134–137).

The Effectiveness in developing educational quality in boarding schools is management commitment. If management has and upholds its commitment, chances are they will succeed. Conversely, if they lack commitment they can be certain that the institution will fail. This commitment includes at least 3 things, namely time, enthusiasm (enthusiasm) and the availability of resources in the organization. In addition, it must be followed by employee involvement so that each individual in an institution / organization can participate in determining the level of quality will be achieved (Fattah, 2006, p. 125).

The commitment consensus is an understanding between the elements of the Islamic boarding school to uphold the rules and conditions that have been made together. Likewise, in planning and establishing quality programs, a joint agreement and commitment is needed so that it can be carried out together in synergy by all religious teachers. In addition, the form of commitment built together is an effort to build a deep trust in the hearts of the people that Nurul Jadid Islamic Boarding School will be the main goal of education for the community.

In fostering the *santri*, the Nurul Jadid Islamic Boarding School implements management in several aspects, namely the application of *wali asuh*, the application of initial guidance, grouping of interests and competencies, and the settlement of disciplinary cases. The guardian is responsible for controlling the academic development of foster children, regulating the communication of *santri* and *wali santri* and fostering the literacy skills of the Qur'an and *furudl al- 'ainiyyah*.

To improve the performance of Islamic boarding school organizations, an active strategy is carried out which leads to the improvement of the Islamic boarding school management infrastructure by utilizing information technology, especially the internet, which has developed so rapidly and has an impact on various joints of human life. The progress of information technology has changed the way of thinking and acting *pesantren* in spending time working and overcoming all problems.

According to Badrut Tamam - the *pesantren* information technology team - an information technology-based *pesantren* management infrastructure such as the procurement of a Local Area Network (LAN) as an electronic link between institutions in Islamic Boarding Schools, data centralization, website creation, and standardization of boarding schools. Among the quality management of boarding schools that have used information technology is data collection with the application "pedatren" which contains data of *santri*, *wali santri*, teachers, administrators and so on. In "pedatren", there are a number of derivative applications that are developed in accordance with the needs of each field, such as the application of special caregivers who are responsible for the affective and cognitive development of *santri*. The guardian is expected to enter the progress of foster children into the application so that it can be known by *wali santri*. In addition, the financial system uses e-payment that makes it easy for the *santri* to conduct education payment transactions directly through virtual accounts as a result of cooperation with several government banks. Likewise, the Islamic boarding school website is continuously being developed to provide continuous information about activities to *wali santri*, graduate and the general public.

The existence of information technology for the *pesantren* world as described above means the availability of channels or facilities that can be used to broadcast Islamic boarding schools programs both in the same direction and interactively. The use of information technology is important considering the origins of the students of the *pesantren* Nurul Jadid originating from within and outside the country.

E. The Sustainability of Islamic Boarding School Values in the Dynamics of Quality Management based on Information Technology

The development of quality management of Nurul Jadid Islamic Boarding School based on the information technology has large implications for the shifting of Islamic boarding school values. In the 4.0 industry era, the role of information technology is very important and even determines the style of life. Such a large information technology will shift traditional human socialization agents, such as those carried out by parents, teachers, the government and so on.

This is implicated to the emergence of lifestyles that tend to be secular, materialistic, and rationalistic. The life orientation is a character of modern society which ultimately results in prolonged social inequality (Ahmed, 1992, p. 6; Shimogaki, 2000, p. 25). A number of values that were initially upheld began to be ignored. Values that teach respect to leaders, scholars, community leaders, educators and parents are no longer embraced and practiced consistently. The role of religious values is in a marginal position. Human values that have a spiritual dimension are degraded by technological processes, which are the results of engineering and capability ratios. So as a result there will emerge a generation that only relies on cultivation to form pseudo life principles, because the paradigm and epistemology that it uses are dry from the spiritual values (Saefuddin, 1993, pp. 4–5).

According to the head of Nurul Jadid Islamic Boarding School, to maintain the values of leadership in the dynamics of information technology-based quality management, Nurul Jadid Islamic Boarding School is always consistent in implementing its education system based on leadership values through the internalization of the trilogy and the five principles of awareness.

The santri trilogy is a minimum criterion for students in the Nurul Jadid Islamic boarding school and is used as a guide in every behavior and action. The santri trilogy is expected to strengthen the character of santri in facing the influence of information technology in 4.0. industry era. The santri trilogy includes: 1) *al-Ihtimam bi al-furudl al-ainiyah* (paying attention to deeds fardlu ain); 2) *al-Ihtimam bi tark al-kabair* (paying attention to abandoning major sins); and 3) *Husnu al-adab, ma' a Allah wa ma' a al-khalq* (serving God and being virtuous to humans) (Amin & Ridwan, 1996, p. 175).

Whereas the five santri awareness is the idealism of the founder of the Islamic Boarding School Nurul Jadid so that the students are expected to have quality and professional output capabilities, deep religious awareness and are able to adapt to global progress. The five awareness of santri includes: *firstly*, religious awareness (*al-wa'yu al-diniy*), every santri must have extensive religious insight, high religious responsibility and deep religious appreciation. This religious awareness, if seen from KH. Zaini Mun'im covers three aspects; namely aqeedah, worship and morality. *Secondly*, knowledge awareness (*al-wa'yu al-ilmiy*), the students are expected to be able to master two kinds of knowledge, namely religious science and worldly knowledge. Awareness in science and technology must be integrated with faith and piety; *thirdly*, organizational awareness (*al-wa'yu al-nizhamiy*), awareness of the importance of an effective and efficient organization that must be owned by every

santri and Islamic boarding school. Organizational awareness is relevant to the needs of the people at this time. *Fourthly*, community awareness (*al-wa'yu al-ijtima'iy*), Islamic boarding school and *santri* must be integrated with the community. This means that Islamic boarding school are part of the community. Thus the community feels they have Islamic boarding school and Islamic boarding school have a community, so there is no gap between Islamic boarding school and *santri* with the community; *fifthly*, The nation and state awareness (*al-wa'yu al-hukumiy wa al-sya'biy*), the love of the homeland must be embedded into the depths of the kyai and santri. This awareness must be possessed by the santri, so that they can share their sense of belonging and responsibility towards the progress of the decline of the nation and state (Amin & Ridwan, 1996, pp. 169–174).

In addition, santri are expected to equip themselves and be able to gain abilities about religion which include: 1) knowledge and understanding of Islam systematically and holistically, both knowledge of Islam as religion, as a teaching, as well as culture, namely religion as a view and way of life developed by various layers of Muslims in the world of all ages; 2) The ability of knowledge about social issues and the development of the times that exist today, especially about the actual problems faced by Muslims in the framework of guarding socio-cultural transformation from the progress and development of science and technology; 3) the ability to trace and extract the essence of science, especially about Islamic knowledge, with his knowledge of the issues of the times, setting goals and strategic steps for the guidance of the society, so that the whole set of activities for steady and sustained guidance is realized.

F. Conclusion

Islamic boarding schools are faced with accelerating the quality of education that demands relevance of education output with the science and technology development, so Islamic boarding school are required to take strategic steps to improve the quality of their education. One of them is adapting information technology in developing quality management. Information technology has a significant influence on organizational system. Information technology has enabled individualization, acceleration, enrichment, expansion, effectiveness and productivity of performance which in turn will improve the quality of education as an infrastructure for developing boarding schools as a whole. Information technology demands the creativity and self-reliance of *pesantren* so that it can develop all of its potential.

Therefore, boarding schools are required to implement the quality management based on information technology with an integrated and coherent approach based on the commitment and goodwill of all *pesantren* components. And what is not less important is the values of leadership that are actualized integrally in the whole process of implementing quality management. These values are translated into the behavior of Islamic boarding school management and build their commitment to creating quality education.

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