HOLISTIC LEADERSHIP WITH SYSTEM THINKING AS A MODEL FOR SCHOOL PRINCIPALS IN THE ERA OF TECHNOLOGY

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ABSTRACT
This paper aims to see how holistic leadership can solve school leadership problems in Indonesia after the Covid-19 Pandemic. Schools today face complex problems related to rapid changes that impact the needs of students and parents, learning models, the facilities needed, and the dominant role of information technology. Using a qualitative case study, this study seeks to explore the experiences of highly successful school leaders through the interview method. They consist of three Foundation leaders and four school principals from successful foundations and private schools affiliated with certain religions in Java and Sumatra. The results of this study mention schooling problems related to competence, use of data, adaptive attitude including technology, and building a focus of excellence with business logic. To overcome this problem, principals are needed to be adaptive, move flexibly, use data, and empower. Steps to improve or prepare leaders are carried out by understanding the concept of a holistic, organic leader that is flexible and networked.

Keywords: *Principal, Change, Holistic leadership, Technology, Collaboration*

1. PREFACE

Modern leadership is described as a structured organization with clear and complete tools, such as job descriptions, Standard Operating Procedures (SOP), clear targets through short, medium, and long-term strategic plans, and Key Performance Indicators (KPIs) to measure program implementation and achievements [1]. However, it turns out that an organization with a strict structure and clear tools is not enough for this changing era marked by leaps and bounds during the problem named the ongoing Covid-19 pandemic [2], [3].

Much literature mentions the current reality of leadership, namely leaders who are in a period of (a) changes so fast. These changes often cannot be followed and cannot be controlled; These rapid changes include changes in customer needs, namely what kind of school students and their parents need. Accompanying the most rapid changes, schools today are characterized by (b) very high expectations or targets. Schools are expected to achieve big targets in a limited time, and these targets come from the expectations of parents, students, the community, and the organs of the foundation or stakeholders related to the school. In addition, the peculiarities of school leadership today are related to technology. The world is changing rapidly with demands to include technology in it. With that, leaders are expected to be open-minded to technological developments and have technological competence in their minds and activities so that they can be powerful and useful in the era [4], [5], [6], [7], [8].

Today's school leaders must address the needs of generations X, Y, Z, Alpha, and generations after them (Prensky, 2001); also, school leaders face learning complexities that demand distance learning models with blended-learning, hybrid learning, and other accompanying modern technologies [9], [10], [11]. The complexity of the problem should not be an excuse for educational institutions or leaders not to achieve their institution target, be unproductive, and not creative. It can be said that today's leaders have complex challenges related to speedy change, very high expectations, and also technological developments [12], [13].

Holistic leadership is suitable for dealing with complex situations and problems in a rapidly changing world. The meaning of holistic leadership not only refers to leaders who can reach and control very complex problems but also leaders who think in systems (systems thinking), can mobilize all potential, and can be flexible in the face of change [14], [15].

This paper aims to see how holistic leadership can be a solution to school leadership problems in Indonesia after the Covid-19 pandemic. This research with the qualitative research method seeks to capture the perceptions of some school leaders regarding (a) What are the current educational problems related to leadership? (b) What kind of principal is needed at this time, and what competencies should he/she have? (c) how do you develop Principals' competencies to be ready to face today's complex problems? The perceptions of some 7 (seven) school and foundation leaders are summarized as a result of research on the importance of holistic leaders in overcoming current educational problems.

Holistic leaders are leaders who think in systems or systems thinking. This is considered contrary to the linear way of thinking that relies on neat planning, complete tools, and strict rules. The linear way of thinking is often profoundly ingrained in leaders, and they are challenged to move from the existing standards or from what has been written because they are already stuck there. In other words, linear leaders rely on concepts considered patent and difficult to change. Shaked and Schechter (2017) state that linear thinking can be a source of leadership problems because leaders are not adaptive in a world that is so fast-changing and moving in the system. Leaders become weak because they are rigid and do not understand and implement systems thinking [16].

The meaning of system thinking
How do we understand systems thinking? A system can be defined as a functionally related collection of interacting, interrelated, or interdependent elements that form a complex whole. Two things that explain well the system's way of thinking are (a) seeing the whole beyond the parts and (b) seeing the parts in the context of the whole [16]. The focus is on the whole and its interaction.

Shaked and Schechter (2017) assert that systems thinking is different from the reductionist concept of thinking. The reductionist states two important things in the way: (a) the whole can be broken down into parts and put back together, and (b) the parts are linked through superficial causal relationships; thus the peculiarity of the reductionist concept is in the parts.

In contrast to the reductionist view above, systems thinking focuses on the extensive system. Shaked and Schechter (2017) argue that the system arises from the interaction and interrelation between the parts; the parts are intertwined through several complex influences. The system will be biased and incomplete when viewed only part by part or overemphasized the parts. People cannot understand the extensive system by reducing it to parts because the power of the system lies in the interactions and networks in large groups [16].

The systems thinking approach encourages people to look at the problem as a whole, emphasizing the interrelationships between its components rather than the components themselves. Systems thinking offers a broad view, which allows for a deeper and more varied understanding.

Holistic leaders as a summary of three dimensions of leadership
Satinder Dhiman (2017) stated that the holistic leader model summarizes three main dimensions of leadership, namely: nurturing (developing oneself), aligning (developing spirituality), and contributing (serving). The three dimensions above represent and express three leadership types: self-leadership, authentic leadership, and legacy leadership [17].

Self-leadership emphasizes self-development related to motivation, self-control, and creativity. Authentic leadership (spiritual leadership) refers to self-integrity that can unite thoughts, words, and actions. He can control and find what is best in people and organizations. Leaders with authentic/spiritual leadership pursue goals with passion, practice core values, lead with heart, and build good relationships supported by solid self-discipline. Legacy/service leadership refers to an attitude of selfless service, working meaningfully, and achieving self-fulfillment [17].

With a leadership model that summarizes three abilities (self, spiritual, and service), Dhiman (2017) mentions seven good habits possessed by holistic leaders: pure motivation, gratitude, generosity, compassion/caring/empathy, serving, accepting, and focus [17].

Holistic leaders are formed in the process
Kelly (2018) mentions that good character and habits grow and can continue to be grown through (a) leadership experience, (b) having role models, (c) leadership studies, and (d) building authentic attitudes. A leader is essential to take the opportunity to lead anywhere. He also needs to open up and accept an assignment because he can build habituation, experience, knowledge, and self-reinforcement. Modeling/role modeling is done by learning from more experienced people, colleagues with broad views, and an empowering environment. Leaders also develop themselves through schools, training, and other professional development activities that can increase their knowledge and competencies. Building an authentic attitude is obtained by understanding meaningful leadership and efforts to achieve self-fulfillment [18].

Five stages of holistic leadership
By mentioning that holistic leaders are formed in the process, Kelly mentions five stages of holistic leadership, namely (a) early stage, (b) survival stage, (c) consolidation stage, (d) peak stage through role maturity, and then, (e) the stage of decline after reaching the peak experienced by people entering old age or retirement [18]. In the first stage, the leader is still in the middle-level structure and is climbing the leadership ladder; in the second stage, the top leaders in the early stages survive the many problems they face in their activities. In the third stage, a leader can turn things around and overcome existing problems; the fourth stage experiences the peak period of their leadership; and in the fifth stage, leaders experience a decline after the peak period [18].

Holistic leader as the answer to the industrial revolution 4.0
The holistic leader model answers the needs of the times, namely leader 4.0. Kelly (2018) describes that leadership phase 1.0 emphasizes charisma; leadership phase 2.0 focuses on

directing (directive); leadership phase 3.0 relies on relationships; while leadership phase 4.0 relies on networking and building systems responses. According to Kelly (2018), the character of a Holistic Leader changes three things, namely (a) structure, (b) connection, and (c) mindset [18]. The three changes are depicted in the following table:

Table 1 The change in system thinking (structure, connection, mindset)

	From	To
Structure	Egosystem Mechanical Building organization Strategy by design Learning organization Conditioned	Ecosystem Organic Network building Strategy by discovery Learning in the system Openness
Connection	Leading through organizational structure Established hierarchy Centralized innovation and decision-making Internal focus Direct	Leading through the network Collaboration network Collaboration and open process External focus Making connections
Mindset	Knowledge & Centralized decision making Analog mindset Sovereign Dependency	The collective knowledge and decision making Multiple intelligences Responsive Readiness

Changes in structure give impact to the appearance of leadership in six forms. First is the change from egosystem to the ecosystem. Previously, leaders emphasized their authority, used to make decisions on their own, and found it challenging to involve others; now, the egosystem's structure has turned into an ecosystem where the leader involves his team to make joint decisions and decide something based on solid data and analysis. Second, the structure changes from mechanistic to organic model. Previously, leaders adhered to standards and procedures, but now leadership emphasizes flexibility that ensures a conducive work climate. Third, the structure that tends to build an organization turns into building a network that connects and becomes a system [18]. Leaders not only build organizations but build networks that include all elements in their institutions. Fourth, the structure of the planning strategy changed to the structure of the search process strategy. The leader not only executes the plan but also changes it with an adaptive pattern that is constantly looking for alternative possibilities based on the progress and situation. Fifth, a structure with a learning organization becomes a structure where all parties want to learn. Sixth, the structure in which the organization has been conditioned to implement the planning, rules, and SOPs become an open structure where things considered right and good can still be discussed again, evaluated, and better alternatives are sought.

From the connection side, leadership is carried out not with an established organizational structure and hierarchy but through a network that is not rigid and connected according to effectiveness in achieving targets and goals (from hierarchy to connectivity). Second, centralized decision-making is transformed by solid collaboration and partnership. Because of the great

openness, the third connection focuses more on externals rather than internals. Fourth, leaders are no longer focused on directing but primarily on making connections [18].

In terms of mindset, the mindset of centralized decision-making changes and becomes a collective decision ([from authority to participatory). Second, the analog mindset that emphasizes individual authority and ability becomes multiple intelligences. Third, the mindset of an influential leader becomes an authentic leader. Fourth, the dependency mindset changes to participation [18].

Dhiman (2017) mentions four characteristics that a holistic leader must possess: (a) Leading as a whole, not in parts: not dwelling on one problem, embracing, tolerating ambiguity and uncertainty, and elevating teacher pride. (b) Using multidimensional, not partial glasses: embracing the opponent (opening opportunities for opposition, identifying several causes for an event, looking for alternative options, weighing all consequences, long-term solutions, learning from others). (c) Indirectly influencing: non-confrontational, seamlessly solving problems, solutive, and not pointing at faults, but people can recognize mistakes. (d) Evaluate what is significant: identify and validate; look for repeating patterns, not assuming [17].

2.   RESEARCH METHOD

This study uses a qualitative method by conducting case studies on leaders of certain private schools that are considered successful at the national level, in terms of achievement, community recognition, and the number of students who choose to study there. The respondents consisted of three Foundation leaders and four school leaders located on the islands of Java and Sumatra. They lead schools that have a good reputation and performance at the regional and national levels. Researchers used the interview method to capture their perceptions related to three things: (a) current schooling problems related to leadership, (b) the characteristics of the principal needed to overcome the problem, and (c) concrete steps to get or produce the ideal principal according to their characteristics of the good school principal, which is the answer to question number two.

The answers of these successful school leaders are categorized, analyzed, summarized, and displayed, taking into account the most dominant answers [19].

The three key questions raised are: (a) What are the current Educational problems related to leadership? (b) What kind of principal is needed at this time, and what competencies should he have? (c) how do we develop the Principals to be ready to face today's complex problems? The answer to that question is followed by discussion and deepening holistic leadership. The three main questions can be followed by some other derivative questions that are used to sharpen the concepts presented by the respondents in the interview process.

3.   RESULTS AND DISCUSSIONS

The section discusses the findings of the research and more discussion and explanation of the important research findings.

Results

The results of this study are summarized in three major themes, namely those related to school problems, the characteristics of leadership needed, and steps to produce today's leaders.

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Regarding the problem of school leadership, the respondents mentioned some weaknesses of schools and leaders, which were, in fact, closely related to organic systemic leadership. The problems mentioned are (a) leaders who are not balanced between management skills and spiritual abilities; (b) leaders who assume and do not work based on data; (c) schools that do not identify themselves and their abilities and do not have the tools for development; (d) non-adaptive leaders; (e) non- technologically literate leaders; (f) schools that are allergic to business terms; and (g) schools that do not have a focus on excellence [16], [17].

The respondents mentioned **five leadership models** that are needed today: (a) Leaders with a new mindset, namely the systems mindset. (b) Leaders who are adaptive to culture, technology, and community needs, (c) Leaders who are empowering and collaborative (encourage participation and cooperation). (d) Leaders who are responsive to internal and external needs and challenges. (e) Competitive leaders to answer stakeholder expectations.

Corrective **steps** or efforts that must be taken so that a new leader model can be born are: (a) changing the model of the organization from a structural one to a systemic organic one; (b) changing the network from strict rules to flexible rules that move and reach each other in a spider's web (not linear model); (c) changing the leader's mindset from authoritative model to empowerment and togetherness [18].

Discussions
The results of this study will be discussed in three main themes as the points of the research results above: schooling problems, the character of leaders needed, and corrective steps that must be taken.

The first problem mentioned by the respondents was the unbalanced leader. The respondents stated that private philanthropic schools have two characteristics, namely (a) school leaders that are very strong in management but lack in spirituality; and (b) school leaders that are very strong in spirituality but weak in management. This illustrates two school models: schools that are very pragmatic (even tend to only seek profit) and idealistic schools that are willing to serve even though they have to lose (running the school without profit). Respondents stated that confident religious/community leaders often lead idealistic school models (the first thing is serving and caring). The principle that is held is to appoint people who are suitable first, and everything else will improve. Models like this are often complained of even by the appointed person because he feels he is not prepared and does not have competence in a field that he considers new [20], [21].

Because of the idealism to serve and help others, schools led by spiritual leaders are often of mediocre or even substandard quality. Schools are run very ordinary way because they are considered only social activities. Schools based on goodwill ultimately bring suffering to teachers who usually cannot be paid enough, to students who cannot be served optimally because of many limitations, and can be a problem for Education authorities who demand high-quality standards [22].

On the other hand, schools with solid management but lacking spirituality tend to be pragmatic and profit-seeking. This model school can be advanced but has rigid management, rules, and regulations. Respondents mentioned the balance between good and competent leaders; leaders must be strong in management and spirituality; leaders maintain competence and integrity. The leader is not a member of the school owner or just a good person. The leader must be prepared

to understand his work and have the competence to carry out the work.

The second problem, the school assumes and does not validate the data. Another problem, leaders are not used to using data to identify problems and make decisions and tend to make assumptions. By making assumptions, the school cannot identify the situation of the school, its strengths, problems, needs, and concrete steps that can be taken. In other words, schools tend to take the wrong step because they do not have a foundation or the basis is wrong in making decisions. Respondents encourage schools to conduct surveys and capture stakeholders' perceptions of their schools. Schools can capture changes around them, including changes in the needs of the community and students.

The third problem is that schools do not know themselves and do not have the tools for development. Leaders in schools that are run as social activities can feel satisfied with standard quality even below standard because they think that it is profitable if they can run this school, and the contribution of this school has been genuine to help others.

One respondent said that the school is in a complacent situation to illustrate that it is comfortable with its current situation. Moreover, some schools are proud of their success story in the past and find it difficult to move on. Schools run as social institutions with a paradigm run with goodwill tend not to try to know themselves. Also, the school does not know the pattern of self-development and does not have self-development tools. In the other way, another respondent proposed implementing a tool called School Business Map to map the state of the school and make improvement steps. With good tools, schools will know themselves, obtain data as a basis for thinking, validate it, and make critical decisions based on solid data.

The fourth problem, leaders, and schools are not adaptive. The respondents mentioned that school leaders are very rigid in leading. Because of their rigid attitude and pride in their ideals, schools often waste development opportunities. For example, this rigid leader may be suspicious of government programs. They can be suspicious of school development programs, operational assistance, and other development programs.

Some respondents said that it could be an expression of the school's inability to adapt to new rules, policies, and business models that accompany the development of the world and society. With difficulties in adapting, schools cannot respond to the changing needs of parents and society. The school will also be slow to respond to many developments happening quickly.
One respondent stated that today the world is moving so fast because of disruption. "Schools are not only facing a disruption situation but also a VUCA (volatility, uncertainty, complexity, and ambiguity) situation, which must also be answered with VUCA (vision, understanding, clarity, and agility)," said the respondent [23].

The fifth problem, leaders and schools are not technology literate. Technological developments are necessary for today's school operations because schools serve students who are not only technology literate but also very close and even become the owners of this technological era. With the time children use technology, why is it not used as a force to develop education? Technology makes it very easy for students to learn, understand lessons more clearly, and reach even limited learning resources [24].

The sixth problem, leaders and schools are allergic to business terms. The leader's mindset will

be vital in developing the school if he can be familiar with business terms, such as market, financial goals, and profit. The problem is that many school leaders are allergic to these terms. "In that case, please let the school run slowly and as it is," said one respondent with exasperation. One respondent said that a school that is run on a business basis does not mean being commercial and abandoning its social values. In fact, by nourishing the school with sound business and management principles, it can increasingly carry out its social mission. If schools are allergic to business terms which result in poor management and setbacks, it will also impact limitations in carrying out social missions [25].

The seventh problem, leaders, and schools do not build excellence and do not focus on excellence. Schools that run below the standard usually have weak selling points, do not have competitiveness, and their human resources cannot compete. The school personnel will be subjected to physical and mental stress for running substandard with weak welfare. Weak standards are also related to the weak abilities of the teachers [20].

Respondents mentioned some characteristics of leaders who can face today's complex challenges, which researchers summarize with the term holistic leadership. Some of the characteristics mentioned are as follows. First, leaders in this complex world are leaders with a systems mindset. This model leader is mobile, flexible, and practical, especially in networking and collaboration. Second, the leader is adaptive to culture, technology, and community needs. One respondent exemplifies this adaptive trait with the great concept of Ki Hajar Dewantara. The concept states that a good leader should lead by example, motivate when in the middle, and encourage when behind. The position can be very flexible and adaptive. Third, leaders must be empowering and collaborative. By thinking in an organic, flexible, and agile systems way, the leader encourages the participation of all parties and builds teamwork. This model leader can identify all the potential and motivate everyone to achieve their best potential.

Fourth, the leader is responsive to needs and challenges. With this, the respondents emphasized that the leader needs to move quickly, respond quickly, and pay attention to the advances, criticisms, suggestions, and voices of other parties, especially the voices of stakeholders. One respondent stated that the key is data, data, and data. Leaders must always collect data, dig it up, and analyze it before making a decision. Fifth, leaders are competitive because they have competencies that match the era's situation, needs, and challenges.

The respondents gave suggestions to schools and leaders on producing holistic leaders. The first step is to explore and practice systems thinking. The situation of change, disruption, and then the COVID-19 pandemic left many school leaders with no choice. They must practice new ways and strategies to survive and thrive in this very fast-changing world.

Changes that often place leaders must move and work fast, prompting respondents to state that school leaders need to understand a new model of leadership that fits the current situation. They have to move from leaders with authority who can make their own decisions (top-down approach) to leaders who work together, explore data, analyze data, and then make decisions (participatory). Leaders cannot make decisions alone but make decisions together by digging and analyzing data. Thus, the organization is not mechanistic but organic. Standards and procedures must be in place, but certain things can make a leader go further than those standards and procedures because he is trying to work in an extensive network and partnership.

The planning strategy is turned into a search process. Systems thinking in organic organizations

encourages organizations to continually explore new possibilities. By emphasizing networking, all fields are expected to contribute, not only in ideas but also in hard work, searching, and learning for alternatives. All are encouraged to work, seek and learn. Another key word in systems thinking is that all parts work in openness and transparency.

The second step is to turn the structural organization into a network. School organizations have job descriptions and structures but are always open to the process. Organization, structure, and job descriptions cannot limit work. This network model encourages all parts to be able to contact each other and collaborate, leaving structural barriers. The rigid hierarchical model was abandoned for effective collaboration. Work no longer emphasizes the leadership and subordinates but how to build networks connections, creations, and new alternatives.

The third step is to have an organic systemic mindset. The leader mindset is no longer an analog that emphasizes authority (top-down approach) but a digital mindset based on data, the latest and contextual developments, analysis, and participatory decisions.

4.   CONLUSIONS AND RECOMMENDATIONS

Today's school leaders face complex challenges because they are in a world undergoing rapid change, including changes in paradigms, community needs, and the peculiarities of their generation. This paper aims to see how holistic leaders can be a solution for school leadership in Indonesia after looking at the main current educational problems, the character of leaders needed, and the corrective steps needed.

Using a qualitative case study method, the researcher interviewed several school leaders in a focus group discussion, which began with an explanation of holistic leadership and the reality of the school and its current problems.

This research resulted in three crucial points related to the main problems of schools that need to be answered in a new way, namely, organic and systemic model, the character of leadership in this era of disruption, and corrective steps that must be taken. School problems that should be responded to with holistic leadership include unbalanced leaders, leaders who do not use data, leaders who do not have development tools, leaders who are not adaptive, leaders who are allergic to the business world, leaders who are not technology literate, and leaders who do not develop unique advantages.

Therefore, leaders need to have the character of systems thinking, adaptive, empowering and collaborative, responsive, and competitive. Improvement steps for schools can be in the form of changing the organizational structure to be flat, the network to be flexible, and empowering all potential.

This research contributes to private schools struggling with student shortages, teacher discomfort, weak teacher potential development, and weak competitiveness. The system's way of thinking can reach the voices of all stakeholders and can encourage participation and collaboration so that all potential can be accommodated and empowered.

This research is limited to the perception of only seven successful private school leaders affiliated with a particular religion on the islands of Java and Sumatra. They represent only successful leaders from a tiny group. Further research involving a larger community and school

leaders from various regions and groups will be beneficial in capturing a more comprehensive range of school problems and needs.

This research can advise school leaders to always work based on data, reduce authority models, and prioritize collaboration and empowerment. This holistic leadership model can effectively deal with disruption, often unexpected, even uncontrollable changes. Decision makers, namely the Ministry of Education and Culture, can use systems thinking and holistic leadership models as new models to be implemented after the COVID-19 pandemic. After seeing that many schools are stuttering and confused about the recent changes in educational situations, the government can offer a leadership model that responds well to the current situation. Holistic leadership becomes a good model to improve the quality of the school in the changing era and very fast-changing world.

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