



Dominance One-Roof Schools Principal Excellent Leadership in the Digital Age in Indonesia

JUHARYANTO¹ Imron ARIFIN² SULTONI³ Maulana Amirul ADHA⁴

ARTICLE INFO

Article History:

Received: 23 Jan. 2020

Received in revised form: 14. Sept. 2020

Accepted: 23 Feb.2021

DOI: 10.14689/ejer.2021.93.10

Keywords

leadership strategy, dominant leadership, principal, one-roof school, rural area, the digital age

ABSTRACT

Purpose: This study aims (1) to determine the ORS principals' excellence leadership factors in the digital age, (2) to explain the most dominant excellent leadership factor of the principals in the digital era, and (3) to determine the level of tendencies of each of the principals' excellent leadership strategies in the digital age. **Research Methods:** A quantitative approach is used in this research. This study's respondents were 147 school principals, teachers, school committees, supervisors, and education personnel in three districts and two provinces in Indonesia. The data analysis used was a factor and descriptive analysis. **Findings:** The results showed that (1) the excellence principal's leadership factors in the digital age were spiritual leadership, transformational leadership, instructional leadership, and entrepreneurial leadership, where

spiritual leadership was the most dominant factor; and (2) The level of influence of each of these factors, from the highest, includes spiritual leadership, transformational leadership, instructional leadership, and entrepreneurial leadership. **Implications for Research and Practice:** The study's main findings indicate that spiritual leadership is the most determining factor in ORS principals' success in a rural area. The implication is that principals in rural areas should consider integrating spiritual leadership values in improving the schools' quality, especially in the digital age context.

© 2021 Ani Publishing Ltd. All rights reserved

¹ Corresponding Author, Juharyanto Universitas Negeri Malang, INDONESIA, e-mail: juharyanto.fip@um.ac.id, ORCID: <https://orcid.org/0000-0003-3969-584>

² Imron Arifin Universitas Negeri Malang, INDONESIA, ORCID: <https://orcid.org/0000-0002-1325-4988>

³ Sultoni Universitas Negeri Malang, INDONESIA, ORCID: <https://orcid.org/0000-0002-8300-2532>

⁴ M. Amirul Adha Universitas Negeri Malang, INDONESIA, ORCID: <https://orcid.org/0000-0001-8707-7518>

Introduction

A competent school principal is needed to ensure that schools can provide quality services for all through the effective and efficient utilisation of all sources (Brinia et al., 2014; Malakolunthu et al., 2014). The principal must own the ability to work in the fields of school management. It is believed that conducive school culture and climate will have more easily endeavoured. Several studies on educational leadership in schools found that school effectiveness was only obtained from high-quality leadership awareness, meaningful interactions, and the integration of leadership values with the community's cultural context.

Principals are not only aware that they are with them, but furthermore that they are dynamic human resources who have aspirations for the future and need a place and opportunity to optimally develop for the organisation as their learning community (Bafadal et al., 2018; M Fullan, 2013; Triwiyanto, T., Kusumaningrum, D.E., Juharyanto, 2017). Therefore, effective leadership will only occur if ethics and leadership values become the primary basis for leaders in carrying out their leadership (Juharyanto, Sultoni, et al., 2020; Miller & Martin, 2014). These ethical values are inherent in various sources, both in the organization and in a broader context.

Thus, the definition of effective leadership practices depends very much on several things, including the diversity of cultures, forms, and contexts of the organisation, the dynamic uniqueness of individual organisations, and the issues met, experienced, and will occur. The concept of leadership must ultimately be interpreted in a broader, more meaningful, and more relevant context. However, schools have now crossed the digital world as a logical consequence of the super-fast and unstoppable development of information and communication technology. The digital era is not just a change of data from manual, mechanical, and analogue to digital data (A. Jones & Buntting, 2015; M. Jones & Ryan, 2014). The digital era has led to the opening of world boundaries with all the facilities it brings to various aspects of life, such as economy, socio-culture, politics, defence and security, health, and education (Collin et al., 2014). At least two macro aspects of the digital era are important to be understood by school principals. First, the definite change will continue and must be faced; second, these aspects of change eventually become the basis for standardising the quality of education. Principals who are sensitive to digital values will control effective school development in producing quality processes and graduates. Although the school's location is in a rural area, digital-based information is available through various devices, applications, and plug-ins in real-time. Of course, comparing or equating rural schools with all the limited access and infrastructure to urban schools is unfair. It takes an arduous struggle for the rural schools' principal, especially one roof schools, to develop. Therefore, the formulation of the same quality standard between the two is not a wise action.

The leadership approach is oriented towards improving quality through community involvement to build and develop school achievements jointly, both academic and non-academic (Bafadal, 2004; Phipps, 2012). There are four excellent leadership behaviours for school principals, which are considered capable of

supporting school achievements in rural areas, including spiritual leadership, transformational leadership, entrepreneurial leadership, and instructional leadership (Juharyanto, Imron Arifin, 2018; Juharyanto, 2017). It would be different if these factors were applied in different contexts.

ORS, Rural Area Schools and Their Growth in the Digital Age

In making efforts to manage development priorities in various sectors in Indonesia, the Ministry of Villages, Development of Disadvantaged rural, and Transmigration of the Republic of Indonesia established rural conditions into two statuses: developing and disadvantaged rural (Village Minister Decree, PDTT, Ministry of Villages, Development of Disadvantaged Areas, and Transmigration of the Republic of Indonesia, 2017). Disadvantaged regions are less developed regions and communities compared to others on a national scale. Underdeveloped regions are a collection of underdeveloped villages. They are generally located in rural areas, known as outermost, rural, and disadvantaged (3T). Underdeveloped villages are villages that have the highest level of need for the overall development of their resources. The spirit of regional autonomy, including in education, developing schools through the School-Based Management policy, has an impact on motivation to develop schools according to the local community's contextual values (Juharyanto, Bafadal, et al., 2020; Triwiyanto, T., Kusumaningrum, D.E., Juharyanto, 2017; Winarti, 2011).

Access to education in Indonesia is a significant issue in the development of human resources in rural areas. Long distances, inadequate road infrastructure, inefficient construction of new school buildings, limited teacher resources, relatively low levels of the community's economy, and community awareness of education's importance are still unsolved educational problems. ORS, which number around 5,000 in Indonesia, are among the most strategic choices for overcoming this problem (Ministry of Education and Culture Strengthens "One Roof" Schools, 2016). ORS get a challenging mandate to build a reliable human resource future, of course with plural limitations. The ORS is an educational institution consisting of two schooling levels: elementary and secondary school (Wahyu J R, 2013). It is held in one school building alternately (elementary school), and is generally led by one school principal, taught by elementary school teachers, and integrates two different management systems.

Studies on people's actual conditions in various countries' rural areas indicate several factors that inhibit educational change due to geographical, demographic, cultural, economic, and educational awareness aspects. Additionally, high levels of social cohesiveness in an atmosphere of cooperation, kinship cohesion, mutual concern, high paternalistic attitude, and religious fanaticism are valid entry points for change (I. Arifin et al., 2018; Juharyanto, 2017; Wildy et al., 2014). Thus, it can be concluded that ORS can develop optimally under these factors' support in a rural area. Indeed, the definition and concept of educational development for ORS in the rural area require adaptation of particular local pearls of wisdom, which may not be equated with the definitions and concepts of education quality in general.

Being an ORS principal in a rural area is not easy. Appointing ORS principals in rural and inland villages by the government is also not easy. The ORS school principals' requirements for rural areas based only on formal and academic standards are still insufficient. Specific additional requirements are needed, where the principal represents a rural area's character (Juharyanto, 2017; Juharyanto, Bafadal, et al., 2020; Juharyanto, Sul-toni, et al., 2020). Effective principals of the rural area should meet the following fifteen characteristics, including: having a clear vision, high spirit, low profile, engaging in social activities, continuous learning, open to input and aspiration, commitment to the cooperation, never give up, sure to find ways out, creative, looking at the context in detail, patient, polite, sociable, and being good looking (Juharyanto et al., 2019).

Being an ORS school principal in a small area may have the same responsibilities as bringing the school to a digital character. The values inherent in strengthening schools in rural areas can become a soul for the ORS principal and replicate it into digital age values. The digital age has spread all around the world. Digital age products have forced or at least stimulated everyone to use them for various purposes. Whatever their occupation, the dependence on digital products has been the basis of every action in decision making, including education (Maisyaroh, Maisyaroh, et al., 2021). The availability of innovative education information is an opportunity for schools to present more compelling content, media, educational practices, and teaching strategies. With limited infrastructure and access to digital products, few schools have found creative solutions to integrate them with school programs as much as they can. Digital values that prioritise information based on IT development support real-time information's perfection and completeness (Erdem, 2020). So, the digital product of information offers an alternative solution to each school principal's problems and ideals. However, ORS principals of the digital age are not only responsible for digitising schools (Lonka & Cho, 2015) but rather become a driver of the use of digital values to all school stakeholders in maximising the quality of school program achievements (Hassel & Hassel, 2012). All parties must accept the ORS principal. The ORS principal becomes the inspiration for school change through changes in all school staff and stakeholders. In this context, the fifteen principles mentioned above are much needed by schools in the digital age (Juharyanto et al., 2019). Thus, ORS, led by principals of this character, can continue developing and dealing with the digital age. In short, ORS is not always identical to disadvantaged schools. The ORS principal quality in leading the school is the main factor to bring the school to meet the digital age effectively and efficiently.

Possibilities from impossibilities, the need for excellent ORS principal in the Digital Age

Being an ORS school principal in a rural area is similar to being a parent or critical figure responsible for school development through community etc. Geographical, demographic, cultural, economic, and educational awareness aspects are not necessarily obstacles to education progresses when school principals optimise other aspects such as cooperation atmosphere, kinship bonding, mutual concern, great

paternalistic attitudes, and religious fanaticism. Good practices in Japan, Zimbabwe, Western Australia, the United Kingdom, and other countries prove that the last five aspects are the wealth of rural area communities, as a strong support pillar for principals to develop schools to the maximum level (Areas, 2013; Lock *et al.*, 2012).

The acceptable practices from several countries as described above show that effective principals always have various ways to succeed (Areas, 2013; Lock *et al.*, 2012). Effective principals are not determined by the place where they are assigned. Effective school principals are appropriate school principals for places that need them, including the rural and digital age. Many great school principals come from rural areas.

Principals with character, as experienced by Japan, Zimbabwe, Western Australia, and even in some rural areas in Indonesia, show evidence that weak school resources in rural areas are not barriers to building communities to be aware and willing to help implement school programs. Principals' astute to be aware of their weaknesses and continue to rise with high spirits and prioritise the existing supporting aspects (religious fanaticism, community figure, social closeness, etcetera) trigger a movement to build schools with the community (Hörnqvist & Leffler, 2014; Kidwell, 2013; Kim & van Tassel-Baska, 2010). Rural area communities need school principals; they can reverse the impossibility of situations. Great school principals succeed in realising the community's dream to move forward, resulting in a better future generation.

The Objective of this Study

The purpose of this study is to (1) show the excellent leadership strategy of OSR principals in the digital age, (2) explain the most dominant excellent leadership strategy of OSR principals in the digital age, and (3) find out the level of the tendency of each excellent leadership strategy of OSR in the digital age.

Method

Research Design

A quantitative approach was used in this study, with factor analysis and descriptive research design. This study aimed to describe the excellent leadership strategy and the most dominant leadership strategy. The gradation of each excellent leadership strategy's dominance would be very pragmatically important.

Research Sample

This study was a population study, where all members of the population were the subject of research. The study subjects were OSR principals, school teachers, school committees, supervisors, and educational officers spread across three regencies and two provinces in Indonesia. They were Bondowoso, East Java, Polewali Mandar and Mamuju, and West Sulawesi, which amounted to 147 respondents. The subjects' research distribution can be seen in Table 1 below. For information, OSR located in rural areas is small category schools, with a small number of students and teachers. As

an archipelago with about 17.000 islands in Indonesia, at least two things caused the situation: the school is in a small population, and the distance between people's houses is far from each other. They are separated by forests, steep valleys, mountains and hills, and small beaches.

We visited several schools by travelling for hours by boat to the outskirts school in Polewali Mandar, renting a car and moving through the narrow road along Mount Ijen Bondowoso or Mamuju. The beauty of the scenery entertains researchers who can turn fatigued into joy. The residents' enthusiasm for welcoming us to the rural village where the ORS was located convinced us of this research's success; this is a glimpse of why the number of respondents in this study was small.

Table 1

Distribution of Subjects Research

No.	Schools	Regency	Province	Principals & Teachers	Schools Committee	Supervisors	Educational Officers	Total Amount
1	SDN 023 Kampungbaru	Polewali	Western	10	1	1	1	13
2	SDN 032 Kunyi	Mandar	Sulawesi	11	1			12
3	SMP SATAP Katumbangan			12	1			13
4	SMPN SATAP Pulo Battoa			11	1			12
5	SMPN SATAP Kunyi			Mamuju	Western	10	1	1
6	SD Pangasaan	Mamuju	Sulawesi	5	1			6
7	SMP Pangasaan			11				11
8	SD Mappu			8	1			9
9	SMP Mappu			10				10
10	SD Tlogosari			Bondowoso	East Java	9	1	1
11	SMP Tlogosari	Bondowoso	East Java	11				11
12	SD Sempol			10	1	1	1	13
13	SMP Sempol			12				12
Jumlah				130	9	4	4	147

Research Instruments and Procedures

For data collection, questionnaires (closed), media (google form), observations, and Group Discussion (FGD) forums were used. A closed questionnaire was prepared so that respondents could choose the appropriate answers that are deemed appropriate (Caldas, 2003; Wiyono, 2007). FGDs are conducted face-to-face with the school principal, supervisors, school committees, and local education service officials. The observation was carried out directly by visiting ORS in rural areas by taking dense terrain, tiring long trips, with adequate transportation (e.g., rowboats, motorbikes, and walking). Observations were carried out while still referring to the available observation guidelines, compiled based on preliminary data obtained through questionnaires. This activity was combined with small talk, jokes, a friendly atmosphere, and unstructured interviews, both formal and informal. Observation notes were then designed and developed for FGD purposes. The venue and time of the FGD were adjusted according to the research team's agreement with the research subjects. In the Bondowoso regency and Mamuju, the FGD was held at the Regency District Education Office. Katumbangan One-Roof Junior Secondary School was

where FGDs were done for principals and Polewali Mandar Regency principals. After direct observation and verification, each FGD was carried out directly with the principal and teachers in each school.

The questionnaire was prepared based on ORS principals' four excellent leadership strategies: spiritual, transformational, instructional, and entrepreneurship (Juharyanto et al., 2019). It was then developed into 23 indicators and 31 main question items. The closed questionnaire was distributed to respondents through a google form. After all data were collected, random observations were made with specific locations, and FGDs were conducted with this study's respondents. This research attempted to broaden previous research studies, relate them to the digital age characteristics, and analyse the leadership strategies that have the most dominant impact on the ORS principals' success.

Data Analysis

Data analysis techniques used were factor and descriptive analysis. Factor analysis is a statistical technique for identifying factors in small numbers representing a set of interrelated latent variables (Taylor, 2001; Yong & Pearce, 2013). In contrast, descriptive analysis is used to analyse the data by describing the data to conclude that it is generally accepted or generalised (Loeb et al., 2017; Sugiyono, 2012). In this study, the researchers used SPSS 24.0 to help the researcher get more straightforward final and fixed data.

Results

Principal Excellent Leadership Strategy

The factor analysis test conducted using SPSS 24.0 found four groups shown in Table 3 below. These four groups were then given names as new factors according to grouping statement items. The analysis results also obtained the Kaiser Meyer Olkin (KMO) Measure of Sampling Adequacy at 0.714 and Bartlett's Test of Sphericity at 4545.558 with a significance of 0,000 (Table 2 below). If a KMO value is greater than > 0.5, then it means that factor analysis is appropriate. It also impacts Bartlett's Test of Sphericity, which is large and significant, so that the analysis of these factors can be justified.

Table 2

KMO Test Results and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,714
Bartlett's Test of Sphericity	of Approx. Chi-Square	4545,558
	df	465
	Sig.	,000

The number of coefficients *eigenvalue* of ≥ 1 can be four identified factors and the cumulative percentage of 63.085%. This analysis can interpret the factors that emerge

so that this study can explain ORS principals' excellent leadership strategy in the digital age in rural areas. The results of the factor analysis can be seen in Table 2 above.

Table 3

Leadership Strategy Analysis Results

Item Code	Descriptors	Load Factor
L4	The principal is always generous to the school community.	0,543
L5	The principal always appreciates the work done by others.	0,609
L6	The principal inspires subordinates to show their best performance.	0,495
L7	The principal fosters the enthusiasm of the members of the organisation through optimism.	0,542
L8	The principal develops the commitment of the members of the school organisation in achieving its goals.	0,795
L12	The principal encourages school personnel continuously.	0,749
L13	The principal consistently acts according to the values held.	0,554
L19	The principal held a meeting to discuss student progress with the teachers.	0,715
L24	The principal can think and act more ahead of others in achieving school goals.	0,634
L1	The principal formulates the vision of the school clearly.	0,785
L9	The school principal actively invites school resources to play an active role in carrying out the program according to their respective roles to achieve school goals.	0,633
L16	The principal treats teachers as individuals with different needs, abilities, and desires.	0,743
L17	The school principal formulates the school's vision and mission in a way that the teacher quickly understands.	0,653
L18	The principal discusses the observations of the teaching and learning process of the teacher in class and provides feedback.	0,681
L20	The principal can create a work atmosphere that supports the development of teacher professionalism.	0,812
L23	The principal focuses teacher's attention on what must be done to succeed.	0,754
L27	The principal can create innovation and creativity programs in schools.	0,548
L28	The principal can bring up the value of more than a few or all school system elements.	0,589
L3	The school principal behaves honestly with all school residents.	0,703
L11	The principal stressed the importance of commitment to what was believed.	0,855
L15	The principal gives valuable advice or direction for teacher development.	0,663
L21	The principal gave awards in the form of career development opportunities for teacher professionalism.	0,582
L22	The school principal supports the new skills/knowledge acquired by the teacher if applied in the classroom.	0,764
L26	The principal instilled in the school community that learning was a lifelong process.	0,582
L29	The principal establishes partnership relations with various parties, both internal and external.	0,650
L2	The principal always thinks forward for school development.	0,799
L10	The school principal is independent of the school through school entrepreneurial efforts.	0,680
L14	The principal suggests new ways of getting work done.	0,618
L25	The principal has high confidence in realising innovative ideas in the school.	0,563

Item Code	Descriptors	Load Factor
L30	School principals can create teamwork, leadership attitudes, togetherness, and solid relationships with school members.	0,703
L31	The principal is determined to work hard in carrying out tasks and overcoming problems for school success.	0,585

Table 3 above shows the grouping of statement items after it has been rotated and followed by new concepts for each factor as a variable. The naming of these factors is based on the statements regrouping rationalisation allied to the factors. Table 2 above shows the factors of spiritual leadership consisting of items 4, 5, 6, 7, 8, 12, 13, 19, and 24. The item indicates the relationship with spiritual leadership. This factor is the first factor excellent leadership of ORS principals in the digital age.

Transformational leadership strategy consists of items 1, 9, 16, 17, 18, 20, 23, 27, and 28. The item indicates the relationship with transformational leadership. This factor is the second leading superior factor of ORS principals in the digital age. Instructional leadership strategy consisting of items 3, 11, 15, 21, 22, 26, and 29. The item shows the relationship with learning. This factor is the third factor of excellent leadership of ORS principals in the digital age.

Meanwhile, entrepreneurial leadership strategies were distributed in items 2, 10, 14, 25, 30, and 31. The item shows the relationship with entrepreneurship. This factor is the fourth factor of excellent leadership of ORS principals.

The Most Dominant Rural area Excellent Principal Leadership in the Digital Age

The most dominant strategy of excellent primary school principals in rural areas in the digital age is spiritual leadership. The spiritual leadership factor has a high variance value compared to other factors. This can be seen in Table 4 below.

Table 4

Ranking of Leadership Strategy Analysis Results

Rank	Factor Name	% Variance
1	Spiritual Leadership strategy	21,48%
2	Transformational Leadership strategy	17,98%
3	Instructional leadership strategy	14,94%
4	Entrepreneurship Leadership strategy	8,69%
Total		63,09%

Table 4 above shows that the spiritual leadership factor has the highest variation in the excellent leadership of primary school principals in the rural area of 21.48%. The transformational leadership factor has a high variation in ORS principals' excellent leadership by 17.98%.

The instructional leadership factor has a reasonably high level of variation at 14.94%. Meanwhile, entrepreneurial leadership strategies have less variation of 8.69%.

The strategy analysis results based on the value of variance can be seen in Figure 1 below.

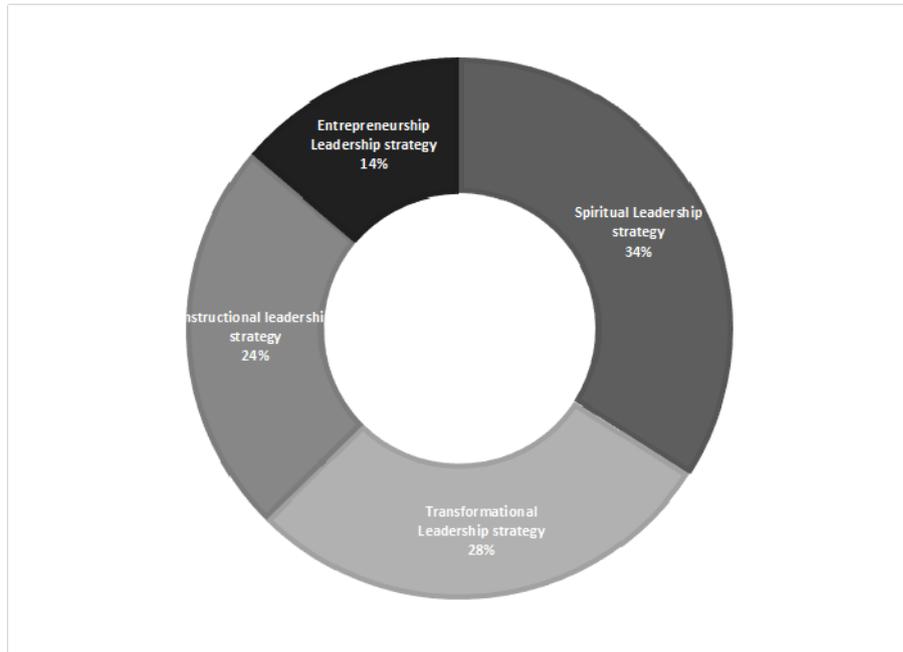


Figure 1. Dominance Leadership Strategy Analysis Results Based on Variance Values

The level of the tendencies of each excellent leadership strategies can be seen in Table 5 below.

Table 5

Results of Statistical Descriptive Analysis

Statistics		Spiritual Leadership	Transformational leadership	Instructional leadership	Entrepreneurial Leadership
N	Valid	147	147	147	147
	Missing	0	0	0	0
Mean		32,6803	28,9660	23,9864	19,3333
Median		34,0000	30,0000	26,0000	22,0000
Std. Deviation		3,38204	3,92989	2,70992	2,13196
Minimum		24,00	23,00	14,00	17,00
Maximum		36,00	36,00	28,00	24,00

The spiritual leadership factor is the most dominant strategy describing primary school principals' excellent leadership in rural areas. The data on spiritual leadership

was obtained from a questionnaire consisting of 9 statements with four alternative answers; (1) very good, (2) good, (3) deficient, and (4) not good. Based on the formula determining the interval class's length, the results are 6.75 (rounded up to 7). The results also find out the frequency of each category, as shown in Table 6 below.

Table 6

Frequency Distribution of Leadership Strategy

No.	Leadership		Interval	Frequency
	Strategy	Category		
1	Spiritual	Very good	30 – 36	118
		Good	23 – 29	29
		Deficient	16 – 22	0
		Not good	9 – 15	0
2	Transformational	Very good	30 – 36	76
		Good	23 – 29	71
		Deficient	16 – 22	0
		Not good	9 – 15	0
3	Instructional	Very good	30 – 36	76
		Good	23 – 29	71
		Deficient	16 – 22	0
		Not good	9 – 15	0
4	Entrepreneurial	Very good	30 – 36	76
		Good	23 – 29	71
		Deficient	16 – 22	0
		Not good	9 – 15	0

Number 1 in Table 6 above shows that the level of spiritual leadership strategy has a 'very good' frequency of 118 respondents, 29 'good' respondents, 0 'deficient' respondents, and 0 'not good' respondents. Based on Table 4 (Page 13), a mean of 32.68 is obtained, which is located at 30 - 36 intervals in the 'very good' criteria. It can be concluded that the level of spiritual leadership strategy included in the criteria is outstanding.

Transformational leadership is the second most dominant strategy in describing ORS principal leadership excellent in rural areas. The data on spiritual leadership was obtained from a questionnaire consisting of 9 statements with four alternative answers; (1) very good, (2) good, (3) deficient, and (4) not good. Based on the formula determining the interval class's length, the results are 6.75 (rounded up to 7). The results also identify the frequency of each category as shown in Table 6 number 2 above. It also shows that the level of transformational leadership strategy has a 'very good' frequency of 76 respondents, 71 'good' respondents, while 'deficient' and 'not good' had 0 respondents. Table 5 (Page 14) obtained a mean of 28.97, located at the 23-

29 interval in both criteria. It can be concluded that the level of transformational leadership strategy is included in both criteria.

Instructional leadership is the third factor of excellent leadership of ORS principals in rural areas. This instructional leadership data was obtained from a questionnaire consisting of 7 statements with four alternative answers; (1) very good, (2) good, (3) deficient, and (4) not good. Based on the formula determining the interval class's length, the results are 5.25 (rounded up to 6). The results can also be used to determine each category's frequency, as in number 3 in Table 6 above. This table also shows that the instructional leadership strategy level obtained a frequency of 78 respondents in the 'very good' criteria, 55 respondents in the 'good', 14 respondents in the 'deficient', and 0 respondents in the 'not good' criteria. Table 4 (Page 13) obtained a mean of 23.99, located at the 19-24 intervals in both criteria. It can be concluded that the level of instructional leadership strategy is included in both criteria.

The Entrepreneurial leadership factor is the smallest factor describing ORS principals' excellent leadership in rural areas. The data on entrepreneurial leadership was obtained from a questionnaire consisting of 6 statements with four alternative answers; (1) very good, (2) good, (3) deficient, and (4) not good. Based on the formula determining the interval class's length, the results are 4.5 (rounded up to 5). The results can also be used to determine each category's frequency, as in number 4 in Table 6 above. It also shows that the entrepreneurial leadership strategy level obtained a frequency of 78 respondents in the 'very good' criteria, 44 respondents in 'good', 21 respondents in the 'deficient', and 4 respondents in the 'not good' criteria. Table 4 (Page 13) obtained a mean of 19.33, located at the 16-20 interval in both criteria. It can be concluded that the level of leadership strategy is entrepreneurially included in both criteria.

Discussion, Conclusion and Recommendations

Based on the study results, principals' excellent leadership in rural areas stated four influencing factors. The spiritual leadership factor is the most dominant in realising excellent school principal leadership in a rural area in the digital age as it is today. Similarly, to that finding, Juharyanto states that spiritual leadership is the most critical in implementing leadership to support effective schools' creation (Juharyanto, Sul-toni, et al., 2020). In the current digital era, school principals, as the highest leaders in educational institutions, need to demonstrate spiritual leadership for their followers, including the school community (Louis W Fry, 2008).

Spiritual leadership is a combination of leaders' attitudes, values, and behaviours needed to encourage others (Louis W Fry, 2008). Actions and deeds show the principal's spiritual leadership behaviour. Spiritual leadership can inspire, awaken, influence, and mobilise through role models (Imron Arifin et al., 2018; L. W. Fry, 2005). A principal is always generous to the school community and appreciates the work done by others. It means the principal shows generous love to inspire subordinates to deliver their best performance. It illustrates that school principals' examples and

values positively impact followers' performances (Louis W. Fry et al., 2017; Juharyanto, Sultoni, et al., 2020).

The principal fosters the organisation members' enthusiasm through optimism, develops commitment, and invites members to play an active role in carrying out the program to achieve goals. These leadership behaviours give members confidence and high commitment to the organisation. Spiritual leadership positively impacts vision, mission, and leaders (Juharyanto, Sultoni, et al., 2019; Phipps, 2012). The ability to formulate a clear vision is vital for a leader to have spiritual leadership. Which can be shown by indicators of vision, hope/honesty, altruistic love, soul calling, involvement, commitment, and productivity (Louis W Fry, 2008; Juharyanto et al., 2018).

The principal must be an example and role model for their followers. A principal integrating values into all school resources is spiritual leadership, which effectively contributes to school achievements (Nurabadi, Ahmad; Irianto, Jusuf; et al., 2021). Future leaders have an essential characteristic: always trying to be a role model and communicating these examples through their daily life (Brown & Treviño, 2006) or resonant leadership (Boyatzis & McKee, 2010).

The next factor is transformational leadership. Transformational leaders can motivate others to do something more than what they have to do (Bass & Steidlmeier, 1999) by increasing awareness of the importance of the values and suggesting ways to achieve them. Leaders should encourage people to achieve goals beyond personal interests and help them better see the organisation or school's interests. Transformational leadership is when a leader can unite the organisation to achieve goals. Transformational leaders convey their vision to groups or subordinates and master the situation so that subordinates are motivated to enthusiastically conduct their work (Braun et al., 2013).

Transformational leaders consistently act by the adopted values and continuously motivate school personnel to focus on what must be done to succeed by using new methods or creative techniques to complete their assignments. The behaviour shows that the principal's transformational leadership has the ideal influence, inspirational motivation, intellectual stimulation, and individual consideration (Al-husseini & Elbeltagi, 2018; Braun et al., 2013). Transformational leaders bind themselves to the values that apply in the form of everyday behaviours. Followers finally awaken a sense of admiration, trust, and respect for leaders who always motivate school personnel to do more and do something more than their expectations (Bafadal et al., 2018; Michael Fullan, 2014).

The third factor is instructional leadership. Several studies have shown that good principals' instructional leadership significantly influences school effectiveness (Ahmad & Hussain, 2012; Nurabadi, Ahmad; Irianto, Jusuf; et al., 2021; Pan et al., 2015). Instructional leadership is an action taken to develop a productive and conducive work environment for teachers and develop students to learn comfortably. A good principal always thinks deeply about how all personnel could develop the quality of instructions. School policies are used to maximise the school's instructional quality processes, where students get easier access to develop their potency. Instructional

leadership is essential because of their ability to build learning communities and change schools into learning societies/communities (Lunenburg, 2010).

Instructional leadership is shown in principals' behaviours regarding the clarity of vision and mission, their focus on learning, and creating a conducive work climate (Lunenburg, 2010). Based on this, the principal as an instructional leader should have (1) a clear vision of what the school wants to achieve, (2) the ability to set school goals and objectives by that vision and convey it to the school community, (3) the ability to monitor school progress, and (4) have a supportive and corrective attitude if there are deviations in the implementation of activities that do not lead to the vision of the school (Southworth, 2013). Principals must be committed to learning for effective school achievements.

The entrepreneurial leadership factor is the final factor in realising excellent school principal leadership in a rural area. The following nine behaviours demonstrate entrepreneurial leadership: independence culture, clear vision understanding, belief in success, lifelong learning culture, imagination power, multidimensional value-based, empowerment, collegiality, and fighting values (Kuratko, 2007). Entrepreneurial leadership is a combination of entrepreneurial skills and leadership qualities, where the two qualities are integrated into a person.

Good entrepreneurial leadership starts with the principal's efforts to make the school independent through school entrepreneurship efforts. Understanding visions and missions are key to effective school achievements (Phipps, 2012; Triwiyanto, T., Kusumaningrum, D.E., Juharyanto, 2017). The principal should encourage school personnel to achieve a shared vision. Entrepreneurial leadership has a strong imagination supported by high commitment and creativity, which always finds new energy and ways that support organisational life (Litzky et al., 2010; Reiter-Palmon & Illies, 2004). By their strengths, they will be able to make something impossible possible. Future leaders must be agents of change and transformation; this will be possible when they are equipped with spiritual and entrepreneurship values.

The analysis of the research shows that (1) the excellent leadership strategy of principals in the digital age are (a) spiritual leadership shown by indicators of vision, hope/honesty, altruistic love, soul calling, involvement, commitment, and productivity, (b) transformational leadership shown by indicators of ideal influence, inspirational motivation, intellectual stimulation, and individual consideration, (c) leadership learning is indicated by indicators of clarity of vision and mission, focus on learning, and a conducive work climate, and (d) leadership entrepreneur, which is shown by several indicators of independence culture, clear vision understanding, belief in success, lifelong learning culture, imagination power, multidimensional value-based, empowerment, collegiality, and fighting values; (2) the most dominant factor, being the spiritual leadership factor; and (3) the level of tendency of each factor (the first is spiritual leadership, the second is transformational leadership, the third is instructional leadership, and the fourth is entrepreneurial leadership).

This research was conducted on one-roof schools in rural areas spread in three districts and two provinces in Indonesia. To generalise this study's findings to more

outstanding schools (urban or advanced schools), other similar research needs to be carried out by researchers. This study limits the excellent school principal leadership as a continuation of previous researchers' findings. Other researchers can follow up by examining excellent leadership in a more varied context so that subsequent findings will further enrich this research, both in theoretical and practical contexts.

References

- Ahmad, S., & Hussain, M. (2012). *Instructional Leadership Practices of the Excellent School Principals in Aceh , Indonesia : Managing the Instructional Program*. 1-15.
- Al-husseini, S., & Elbeltagi, I. (2018). Evaluating the Effect of Transformational Leadership on Knowledge Sharing Using Structural Equation Modelling : the Case of Iraqi Higher Education. *International Journal of Leadership in Education*, 21(4), 506-517. <https://doi.org/10.1080/13603124.2016.1142119>
- Areas, I. (2013). *Education in Remote and Isolated Areas in Japan* (pp. 1-7). National Association for Study of Education in Remote and Isolated Area.
- Arifin, Imron, Juharyanto, et al. (2018). *Islamic Crash Course as a Leadership Strategy of School Principals in Strengthening School Organizational Culture*. *SAGE Open*, 8(3), 215824401879984. <https://doi.org/10.1177/2158244018799849>
- Bafadal, I. (2004). *Peningkatan Profesionalisme Guru Sekolah Dasar*. Bumi Aksara.
- Bafadal, I., Juharyanto, J., et al. (2018). *Principal Leadership and its Relationship with Student Learning Achievements: A Regression Analysis*. <https://doi.org/10.2991/coema-18.2018.38>
- Bass, B. M., & Steidlmeier, P. (1999). Ethics, Character, and Authentic Transformational Leadership Behavior. *Leadership Quarterly*, 10(2), 181-217. [https://doi.org/10.1016/S1048-9843\(99\)00016-8](https://doi.org/10.1016/S1048-9843(99)00016-8)
- Boyatzis, R., & McKee, A. (2010). *Resonant Leadership: Renewing Yourself and Connecting with Others Through Mindfulness, Hope, and Compassion*. PT. Gelora Aksara Pratama.
- Braun, S., Peus, C., Weisweiler, S., & Frey, D. (2013). Transformational Leadership, Job Satisfaction, and Team Performance: A Multilevel Mediation Model of Trust. *Leadership Quarterly*, 24(1), 270-283. <https://doi.org/10.1016/j.leaqua.2012.11.006>
- Brinia, V., Zimianiti, L., & Panagiotopoulos, K. (2014). The role of the

- principal's emotional intelligence in primary education leadership. *Educational Management Administration & Leadership*, 42(4 Suppl), 28–44. <https://doi.org/10.1177/1741143213513183>
- Brown, M. E., & Treviño, L. K. (2006). Ethical leadership: A review and future directions. *Leadership Quarterly*, 17(6), 595–616. <https://doi.org/10.1016/j.leaqua.2006.10.004>
- Caldas, M. P. (2003). Research design: qualitative, quantitative, and mixed methods approaches. In *Revista de Administração Contemporânea* (3rd ed., Vol. 7, Issue 1). Sage. <https://doi.org/10.1590/s1415-65552003000100015>
- Collin, J., Halén, M., Helenius, M., Hiekkänen, K., Itälä, T., & Korhonen, J. J. (2014). IT Leadership in Finnish Organizations and Digital Transformation. *ACIO-Research Team*, 1–30.
- Erdem, D. (2020). Multicultural competence scale for prospective teachers: Development, validation and measurement invariance. *Eurasian Journal of Educational Research*, 2020(87), 1–28. <https://doi.org/10.14689/ejer.2020.87.1>
- Fry, L. W. (2005). Introduction to The Leadership Quarterly special issue: Toward a paradigm of spiritual leadership. *Leadership Quarterly*, 16(5), 619–622. <https://doi.org/10.1016/j.leaqua.2005.07.001>
- Fry, Louis W., Latham, J. R., Clinebell, S. K., & Krahnke, K. (2017). Spiritual leadership as a model for performance excellence: a study of Baldrige award recipients. *Journal of Management, Spirituality and Religion*. <https://doi.org/10.1080/14766086.2016.1202130>
- Fry, Louis W. (2008). *Spiritual {Leadership}: {State}-of-the-*{Art}* and {Future} {Directions} for {Theory}, {Research}, and {Practice}* (pp. 106–124). Palgrave Macmillan US. https://doi.org/10.1057/9780230611887_7
- Fullan, M. (2013). *Great to Excellent: Launching the next stage of Ontario's education agenda*.
- Fullan, Michael. (2014). The Principal: Three Keys to Maximizing Impact. *Journal of Catholic Education*, 18(1), 208–211. <https://doi.org/10.15365/joce.1801152014>
- Hassel, B. C., & Hassel, E. A. (2012). Teachers in the Age of Digital Instruction. *Education Reform for the Digital Era*.
- Hörnqvist, M. L., & Leffler, E. (2014). Fostering an entrepreneurial attitude – challenging in principal leadership. *Education and Training*. <https://doi.org/10.1108/ET-05-2013-0064>

- Jones, A., & Buntting, C. (2015). *The Future of Technology Education*. <https://doi.org/10.1007/978-981-287-170-1>
- Jones, M., & Ryan, J. (2014). Successful teacher education: Partnerships, reflective practice and the place of technology. In *Successful Teacher Education: Partnerships, Reflective Practice and the Place of Technology*. <https://doi.org/10.1007/978-94-6209-677-6>
- Juharyanto, Imron Arifin, E. a. (2018). Effective Leadership on Curriculum 2013 Implementation in Religious Based Schools. *The Journal of Social Sciences Research*, *sp*(2), 40–48.
- Juharyanto, Sultoni, Arifin, I., Nurabadi, A. (2019). School Principal Leadership in Strengthening Multi-Stakeholders Forum: Problem and Solutive Strategy in Developing the Remote Area One-Roof School Quality. *Sekolah Dasar: Kajian Teori Dan Praktik Pendidikan*, *28*(1), 1–10.
- Juharyanto, Maisyaroh; et al. (2021). The Principals' Efforts in Facilitating the Freedom to Learn by Enhancing Community Participation in Indonesia. *Cakrawala Pendidikan*, *40*(1), 196–207. <https://doi.org/10.21831/cp.v40i1.36119>
- Juharyanto. (2017). Elementary Principal Excellent Leadership in Remote Area (Multisites Study at Elementary School in Bondowoso District). *Sekolah Dasar:Kajian Teori Dan Praktik Pendidikan*, *26*(1), 89–100. <https://doi.org/http://dx.doi.org/10.17977/um009v26i12017p089>
- Juharyanto, Bafadal, I., Arifin, I., Saputra, B. R., & Adha, M. A. (2020). The Use of Conventional Communication Technology as an Effective Principal Leadership Strategy in Strengthening the Role of Multi-Stakeholder's Forum for School Quality improvement. *Elementary Education Online*, *19*(4), 1963–1973. <https://doi.org/10.17051/ilkonline.2020.762773>
- Juharyanto, J., Sultoni, S., et al. (2020). " Gethok Tular " as the Leadership Strategy of School Principals to Strengthen Multi-Stakeholder Forum Role in Improving the Quality of One-Roof Schools in Remote Areas in Indonesia. 5. <https://doi.org/10.1177/2158244020924374>
- Juharyanto, Sobri, A. Y., & Nurabadi, A. (2018). The Principal Leadership in Strengthening Elementary School Education Character. *International Conference on Education and Technology (ICET 2018)*. <https://doi.org/10.2991/icet-18.2018.38>
- Juharyanto, Sultoni, Arifin, I., & Nurabadi, A. (2019). School Principal Leadership in Strengthening Multi-Stakeholders Forum: Problem and Solutive Strategy in Developing the Remote Area One-Roof School Quality. *Sekolah Dasar: Kajian Teori Dan Praktik Pendidikan*, *28*(1), 1–10.

- Kidwell, D. K. (2013). Principal investigators as knowledge brokers: A multiple case study of the creative actions of PIs in entrepreneurial science. *Technological Forecasting and Social Change*. <https://doi.org/10.1016/j.techfore.2012.05.004>
- Kim, K. H., & van Tassel-Baska, J. (2010). The relationship between creativity and behavior problems among underachieving elementary and high school students. *Creativity Research Journal*. <https://doi.org/10.1080/10400419.2010.481518>
- Kuratko, D. (2007). Entrepreneurial Leadership in the 21st Century: Guest Editor's Perspective. *Journal of Leadership & Organizational Studies*, 13(4), 1-11. <https://doi.org/10.1177/10717919070130040201>
- Litzky, B. E., Godshalk, V. M., & Walton-Bongers, C. (2010). Social Entrepreneurship and Community Leadership. *Journal of Management Education*, 34(1), 142-162. <https://doi.org/10.1177/1052562909338038>
- Lock, G., Budgen, F., Lunay, R., & Oakley, G. (2012). Welcome to the Outback: The Paradoxes of Living and Teaching in Remote Western Australian Schools. *Australian and International Journal of Rural Education*, 22(3), 117-134.
- Loeb, S., Dynarski, S., McFarland, D., Morris, P., Reardon, S., & Reber, S. (2017). Descriptive Analysis in Education: A Guide for Researchers. U.S. Department of Education, Institute of Education Sciences. *National Center for Education Evaluation and Regional Assistance*, March, 1-40. <https://doi.org/10.1094/PDIS.2003.87.5.550>
- Lonka, K., & Cho, V. (2015). Innovative schools in digital era. *European Parliament*.
- Lunenburg, F. C. (2010). The Principal as Instructional Leader. *NATIONAL FORUM OF EDUCATIONAL AND SUPERVISION JOURNAL*, 27(4), 1-7.
- Malakolunthu, S., McBeath, J., & Swaffield, S. (2014). Improving the Quality of Teaching and Learning through Leadership for Learning: Changing Scenarios in Basic Schools of Ghana. *Educational Management Administration & Leadership*, 42(5), 701-717. <https://doi.org/10.1177/1741143213510510>
- Ministry of Education and Culture Strengthens "One Roof" Schools, TheTanjungpuraTimes (2016)
- Miller, C. M., & Martin, B. N. (2014). Principal preparedness for leading in demographically changing schools: Where is the social justice training? *Educational Management Administration and Leadership*, 43(1), 129-151.

<https://doi.org/10.1177/1741143213513185>

- Mutale, Q. (2015). Challenges Facing School Children in Rural Zimbabwe : A Case of Tyunga and Luunga Wards of Binga District. *Research on Humanities and Social Sciences*, 5(9), 32–39.
- Nurabadi, Ahmad; Irianto, Jusuf; et al. (2021a). The Effect of Instructional, Transformational and Spiritual Leadership on Elementary School Teachers' Performance and Students' Achievements. *Cakrawala Pendidikan*, 40(1), 17–31. <https://doi.org/10.21831/cp.v40i1.35641>
- Pan, H.-L. W., Nyeu, F.-Y., & Chen, J. S. (2015). Principal instructional leadership in Taiwan: lessons from two decades of research. *Journal of Educational Administration*, 53(4, SI), 492–511. <https://doi.org/10.1108/JEA-01-2014-0006>
- Phipps, K. A. (2012). Spirituality and Strategic Leadership: The Influence of Spiritual Beliefs on Strategic Decision Making. *Journal of Business Ethics*, 106(2), 177–189. <https://doi.org/10.1007/s10551-011-0988-5>
- Reiter-Palmon, R., & Illies, J. J. (2004). Leadership and creativity: Understanding Leadership from a Creative Problem Solving Perspective. *Leadership Quarterly*, 15(1), 55–77. <https://doi.org/10.1016/j.leaqua.2003.12.005>
- Southworth, G. (2013). Instructional Leadership in School: Reflections and Empirical Evidence. In *Educational Management: Major Themes in Education* (pp. 171–190). <https://doi.org/10.4324/9780203463383>
- Sugiyono. (2012). *Educational Research Methods, Quantitative, Qualitative, and R&D Approaches*. Alfabeta.
- Taylor, A. (2001). A Brief Introduction to Factor Analysis. *Journal of Chemical Information and Modeling*, 53(1), 160. <https://doi.org/10.1017/CBO9781107415324.004>
- Triwiyanto, T., Kusumaningrum, D.E., Juharyanto. (2017). Community Participation Deficits in the Implementation of School-Based Management in Indonesia. *Journal of Education and Practice*, 8(January 2017), 67–74.
- Wahyu J R, O. (2013). Implementation of one roof school policy in Prampelan, Magelang Regency. *Spektrum Analisis Kebijakan Pendidikan*..
- Wildy, H., Siguraardottir, S. M., & Faulkner, R. (2014). Leading the small rural school in Iceland and Australia: Building leadership capacity. *Educational Management Administration & Leadership*, 42(4 Suppl), 104–118. <https://doi.org/10.1177/1741143213513188>

-
- Winarti, E. (2011). School-Based Management: the Challenges of Its Implementation in Indonesia. *Orientasi Baru*, 20(1), 85-106.
- Wiyono, B. B. (2007). *Research Methodology (Quantitative, Qualitative, and Action Research Approaches)* (Burhanuddin (ed.)). FIP Universitas Negeri Malang.
- Yong, A. G., & Pearce, S. (2013). A Beginner's Guide to Factor Analysis: Focusing on Exploratory Factor Analysis. *Tutorials in Quantitative Methods for Psychology*, 9(2), 79-94. <https://doi.org/10.20982/tqmp.09.2.p079>
- Village Minister Decree, PDTT, Ministry of Villages, Development of Disadvantaged Areas, and Transmigration of the Republic of Indonesia (2017). <https://doi.org/10.1017/CBO9781107415324.004>