Initializing The Need For Digital Leadership: A Meta-Analysis Review On Leadership Styles In Educational Sector

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Abstract

This article systematically reviews 17 theoretical and empirical journal articles on the topic of leadership styles within the context of educational sector. The following themes were used to assess the selected studies: (1) role of leadership styles, (2) effect of leadership in education sectors, (3) the methodological approach adopted in leadership studies within educational sector. Based from our analysis, there is a utility to develop a new form of leadership that could enhance student development suited with the need of digitalization of the business environment. We suggest a new definition of digital leadership and propose for a sequential exploratory design study of digital leadership. This is based from the existing gap on the methodological aspect of existing literature on leadership studies in educational sector.

Keywords: digital leadership, meta-analysis, leadership styles, education.

I. INTRODUCTION

A leader is an essential element in the organization since they oversee selecting, preparing, training, and influencing followers (Winston & Patterson, 2006). In addition, as the epidemic ravaged the country, all educational sectors in Malaysia have fully integrated information and communication technology (ICT). Thus, institution leaders are critical components in ICT implementation because they must first understand innovative technology usage, have personal ability in their use, and prove a culture that encourages the study of new techniques in teaching, learning, and administration (Arokiasamy, Abdullah & Ismail, 2015).

Previously, leadership styles began with a conventional strategy centered on controlling, competitive, and aggressive traits; however, the continually changing era has appeared new leadership styles (Lipman-Blumen, 1992). In addition, a new leadership capability is needed for the organization to support its competitive advantage considering technology breakthroughs that have prompted organizational changes, such as digitalization of the workplace (Erhan, Uzunbacak & Aydin, 2021). Conventional leadership focuses solely on leaders and their functions, emphasizing the concept as the sum of the leaders' performance within the organization. In other words, conventional leadership results from the characteristics of the leaders and the environment (Barker, 2001).

However, in today's new era, the leaders must follow technological development and learn about the current changes in the organizational

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structures. Moreover, these changes bring unavoidable expectations for the organization to engage in the digitalization of the business world. As a result, compared to conventional leadership, the need for digital leadership appears, as today's organization tends to transform into digital workplaces. Digital workplaces refer to the physical, cultural, and digital arrangements that simplify working life in the complex, dynamic, and often unstructured working environment (Dery, Sebastian & van der Meulan, 2017). Staying up to date on digital advances is critical for business leaders' competitiveness and survival. Moreover, survival is critical for the business since changing technology has caused employees to adjust to their existing circumstances, and they must also be prepared to meet the various demands of consumers and stakeholders.

Although the importance of leadership has been proven in many disciplines, effective leadership in higher education has received little attention in the literature (Arokiasamy et al., 2015). As a result, the concept of leadership has begun to generate challenges for the school of business executives in the public sector, notably in the realm of higher education institutions (HEIs). In addition, the absence of effective leadership has been discovered to be a concern in the context of schools. business like everv other organization, regardless of its size or type (Bryman, 2007 & Scott, Coates & Anderson, 2008).

Business schools and educations aid students in developing their abilities to think critically, enhance their communication skills and teach them how to manage the business successfully so that they can successfully and responsibly serve the community (Hassan et al., 2018). Many countries are working towards strengthening their educational institutions to become more competitive in the increasingly global economy. Past research has suggested that more research should be conducted for

both the leaders in the educational area as it has been the subject of discussion (Cavico & Mujtaba, 2009; Gigliotti & Ruben, 2017).

Based on the literature review, the researchers discovered that limited research had been done on the responsibilities and functions of leaders in higher education since most research focused on primary and secondary school. It is consistent with Davies and Thomas (2009) conclusions that just a few studies among educational leaders have been conducted, despite the importance of having skilled leaders being stressed. As a result, there is an urgent need to address leadership effectiveness difficulties in the educational system because failures in this area would result in poor leadership quality (Hassan, Galler Sivarajah, 2018).

Furthermore, Arokiasamy et al. (2015)discovered a lack of literature and information about the current state of ICT usage among Malaysian educational leaders. Besides, the literature on the effectiveness of leadership styles in students' development has remained inconclusive. Most earlier studies revealed that most educational institutions adopt conventional leadership styles in implementing ICT in their institutions (Arokiasamy et al., 2015). Furthermore, it is found that earlier research focused on traditional leadership styles rather than digital leadership, and most of the studies were shown to be conducted among employees, with only a limited amount of study conducted among university students.

Therefore, to aid employees in facing the difficulties of the digital sphere. organization needs a leader who can guide them in understanding the significance of digitalization in the twenty-first century. As a result. this study proposed that organization's leaders should adopt digital leadership style in guiding and aiding the human workforce through this challenging moment. According to De Waal, Van Outvorst, and Ravesteyn (2016), digital

leadership refers to the combination of transformational leadership styles and digital technology usage during employees performing their duties. Thus, it is argued that digital leadership might be defined as the ability to lead people and organisations toward digital transformation and to be adaptable in a rapidly evolving digital context.

Thus, the primary purpose of this research is to clarify the role of leadership styles in the educational sectors by supplying an overview of the prior literature on leadership styles being practiced. Secondly, the study conducts a meta-analysis to examine studies on leadership styles' respective and reflective effects on educational sectors. Finally, this study intents to propose a new leadership style within the context of universities in Malaysia, which is in line with the digital age and suited with the generation of the students presently.

2. LITERATURE REVIEW

Role of Leadership Styles in the Educational Sector

It has been acknowledged that leadership styles among leaders in educational sector that include the teachers and principals have major influence and impact on the students' outcomes and schools' performance and effectiveness (Adams et al., 2017; Hallinger et al., 2018; Louis et al., 2010; Harris et al., 2013). The leadership development at educational institutions is important to develop effective school leaders that are capable to abstain current demand and future challenges especially within the context of digital information to achieve desired outcomes.

The role of academic leaders is not only focusing on developing and supporting current curriculum standard and development. In addition, they are recognised as the engine of community development since they educate and produce future leaders who can think critically, communicate effectively, and act

following the needs of the current economic environment. (Hassan et al. 2018).

Overview of Leadership Styles in the Educational Sector

Current study emphasizes the importance of leadership studies in higher education. According to Pfeffer (2009), leadership studies should begin at the university level since it can help students in building leadership skills before, they begin their professions. It has been showed that institutional leaders play a crucial role in enhancing institutional outcomes and fostering a learning environment (Perera, Adams & Muniandy, 2015; Ghani, Siraj, Radzi & Elham, 2011; Jamilah & Yusof, 2011 & Tee, Hoon, Liu, Ting & Porodong, 2010).

Many leadership styles have been related to organizational improvement and institutional leaders' unique features or characteristics, which have become the focus of most scholars in recent years (Hallinger & Lee, 2013; Robinson, Lloyd & Rowe, 2008). As a result, policymakers worldwide continue to push for more leadership development to improve educational outcomes (Harris & Jones, 2015a).

The Significance of Digital Leadership on Student's Development

There are many studies undertaken to examine the association between leadership styles and individual behavioral outcomes (Erhan et al., 2021). Several authors have explored distinct leadership styles with innovative work behavior, such as transformational leadership (Li, Sajjad, Wang, Muhammad Ali, Khaqan & Amina. 2019), participative leadership (Fatima, Majeed & Saeed, 2017), and ethical leadership (Iqbal, Abid, Contreras, Hassan & Zafar, 2020). Institutional leaders have been shown to have a significant impact on organization performance, and outcomes (Hallinger, 2013; Leithwood & Sun, 2012; Adams, Raman Kutty & Mohd Zabidi, 2017; Hallinger, Adams, Harris & Jones, 2018; Ahmed Jami, Burton & Chapman,

2012), and they will make a difference in school performance (Harris, Day, Hopkins, Hadfield, Hargreaves & Chapman, 2013).

In line of this, the purpose of this study is to conduct a literature review within the framework of the education sector, focusing on the leadership styles which have been applied to the development of pupils. Studies show that incorporating ICT into educational environments can boost student achievement and learning (Becker, 1993; Butzin, 1992; Kozma & Croninger, 1992). Consequently, educational leaders must include ICT into their daily practices and to provide consistent and constructive leadership for the implementation of technology in the teaching-learning process.

3. METHODOLOGY

Literature Search

A meta-analytical technique was employed in this study to confirm the effectiveness of leadership styles on student development. According to several authors, meta-analysis has been widely used in various fields to systematically analyze and synthesize available literature (Ali, Lynch, Melewar & Jin, 2015; Ceri-Booms, Curseu & Oerlemans 2017; Barari, Ross, Thaichon Surachartkumtonkun, 2021). Figure 1 presents the multi-step procedure to conduct a metaanalysis for this study.

From January 2012 to January 2022, both published research articles studies were examined for leadership styles. Firstly, using online databases library services, a computerbased search was undertaken for published studies with the keywords "leadership," styles," "student," "leadership "student development" and "education" from Emerald and Scopus databases. The search was restricted to the title, published date, and article types (journal article). In addition, the most recent conference presentation and other sources were included to obtain the most substantial number of articles possible.

The second step resulted in the creation of 1436 articles. To prevent publication bias in meta-analysis, the results included all relevant unpublished papers (Stone & Rosopa, 2017). However, out of 1146 articles, only the researchers can access 436 journal articles. Then, the articles or documents were filtered to several relevant studies in the second stage. The papers were chosen based on 2012 to 2022, the article category (Journal Article), and the only content available to the researchers. Therefore, the 51 articles named and kept as those articles meet the requirement set by the researchers.

The researchers manually shown and eliminated any irrelevant entries in the final stage. It was also made sure that the complete text of articles was available for next extraction of the necessary information. At the end of this stage, there were a total of 17 articles available. The fifth stage involved conducting a manual review of these 17 articles. These manual evaluations ensured that the researchers kept just those publications for future investigation.

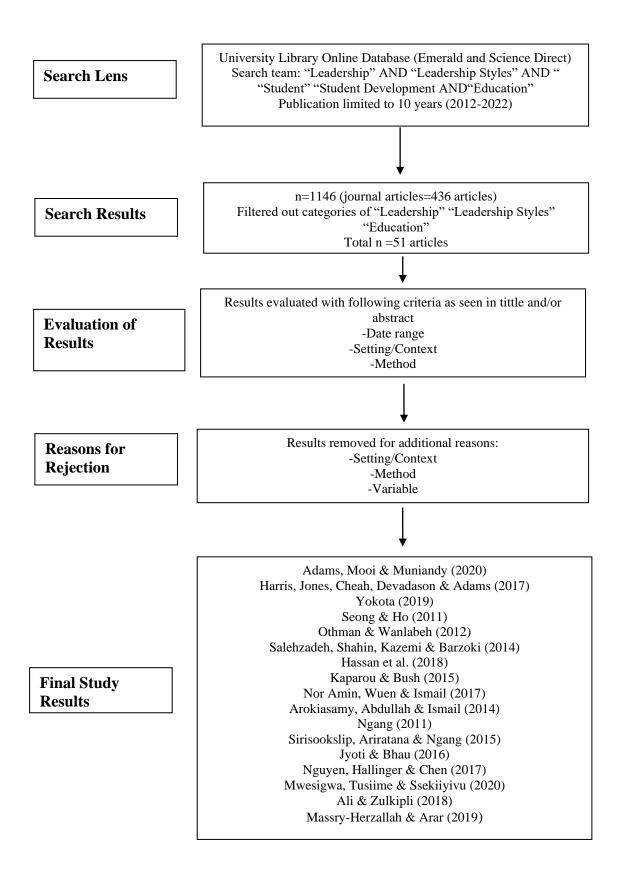


FIGURE 1 Multi-step procedure to conduct a meta-analysis

2. FINDINGS

Leadership Styles Practiced in Educational Sector

Table 1 is a selection of leadership publications from earlier studies in the educational sector. The researchers kept 17 publications out of 51 that satisfied the criteria for examining leadership styles in educational sector. The seventeen publications listed below represent the research on the leadership styles

of school administrators. Each investigation's result summaries in the table. Furthermore, instructional leadership, transformational leadership, transactional leadership, distributed leadership, supportive leadership, and directive leadership styles are shown to be used by many principals. None of the research below revealed that the institution's leaders employed digital leadership to manage their institution and workforce.

Table 1 Selected Articles Of Leadership Styles In Educational Sectors

No.	Author/Years	Title	Material	Findings
			type**	
1	Adams, Mooi &	Principal	Journal	According to the findings of this
	Muniandy	Leadership	Article	study, school principals should be
	(2020)	Preparation		encouraged to be instructional
		towards High-		leaders to improve students'
		Performing School		development and performance.
		Leadership in		Furthermore, Malaysia's top
		Malaysia		leadership training program has
				effectively qualified principals for
				instructional leadership, ensuring
				high-performing school leaders in
				every school.
2	Harris, Jones,	Exploring	Journal	Based on the findings, the
	Cheah,	Pricipals's	Article	interviewed Malaysian principals
	Devadason &	Instructional		could propose strategies to
	Adams (2017)	Leadership		improve their instructional
		Practices in		practice. Furthermore, it has been
		Malaysia: Insights		discovered that several of the
		and Implications		roles and actions performed by
		•		principals in managing their
				schools are congruent with
				instructional leadership methods.
3	Volcota (2010)	Manning form	Journal	This study was undertaken in
3	Yokota (2019)	Mapping four	Journal Article	This study was undertaken in
		leadership styles in	Arucie	Japan to investigate the four
		Japan: how has the role of the		leadership styles that have arisen
				in the Japanese school system
		principal been		(transactional, transformational,
		shaped by		instructional, and distributed).
		policies?		The author discovered that Japan

				has not fully described the characteristics and competencies expected of the principal.
4	Seong & Ho (2011)	How leadership for an ICT reform is distributed within a school	Journal Article	The study found that for schools to use ICT, a combination of distributed leadership, transformational leadership, and instructional leadership is needed.
5	Othman & Wanlabeh (2012)	Teachers' perspectives on leadership practices and motivation in Islamic private schools, Southern Thailand	Journal Article	The study was conducted among teachers in Southern Thailand to find their perceptions of their principal's leadership practices by focusing on Islamic perspectives. The findings showed that the principal's transformational leadership styles influence the teacher's level of motivation. Thus, to improve teacher motivation, it is proposed that the principal show two transformational leader characteristics, which are individual consideration and intellectual stimulation.
6	Salehzadeh, Shahin, Kazemi & Barzoki (2014)	Proposing a novel approach for evaluating the situational leadership theory based on the Kano model: The case of university students	Journal Article	This study's population consists of undergraduate, postgraduate, and PhD students at the University of Isfahan, with the primary goal of proposing a novel approach for analyzing situational leadership theory (SLT). Furthermore, the study extends the literature on SLT and the Kano Model, and it helps lecturers in leading and motivating their students.
7	Hassan, Gallear & Sivarajah, (2018)	Critical factors affecting leadership: A higher education context	Journal Article	In the context of higher education, this study emphasizes a critical examination of leadership styles. As a result, this research provides a better understanding of the critical elements influencing the

				leadership practices of business school deans and the influence of leadership styles on leadership practices.
8	Kaparou & Bush (2015)	Instructional leadership in Greek and English outstanding	Journal Article	This study investigates the educational environment of instructional leadership (IL) in secondary schools in Greece and England. The findings from Greek schools are related to the formal assumption that principals serve as administrate rather than instructional leaders.
9	Nor Amin, Wuen & Ismail (2017)	Leadership style desired by youth in Asia	Journal Article	The main goal of this study is to determine the leadership styles desired by Asia youth, specifically in Brunei and South Korea. Based on the Path-Goal Theory approach, the leaders with preferred leadership tend to motivate and affect the youth. Besides, it is found that Bruneian youth prefer directive leadership, while South Korean youth choose supportive leadership. This discovery was based on the youth's preferred styles, influenced by their culture.
10	Arokiasamy, Abdullah & Ismail (2014)	Correlation between cultural perceptions, leadership style and ICT usage by school principals in Malaysia	Journal Article	This study aimed to prove the extent to which secondary school principals in Malaysia use computers and the factors that influence their use. The findings show that school principals use computers for educational and administrative purposes, have a moderate understanding of computer applications, and use on their computers a few times a week. Cultural attitudes and transformational leadership also influenced the level of computer use among principals.

11	Ngang (2011)	A comparative study on teacher leadership in special education classroom between China and Malaysia	Journal Article	This research examined education instructors' leadership styles to see which leadership styles were most effective in managing the classroom, including controlling the classroom atmosphere, teaching skills, and children's performance. Based on the findings, particular education instructors practice, implement, access, and support a high degree of teacher leadership.
12	Sirisookslip, Ariratana & Ngang (2015)	The Impact of Leadership Styles of School Administrators on Affecting Teacher Effectiveness	Journal Article	The purpose of this study was to examine how school administrators' leadership styles affect teacher effectiveness. The findings revealed that school administrators have two types of leadership styles, supportive leadership, and participative leadership styles, which affect teacher effectiveness.
13	Jyoti & Bhau (2016)	Empirical investigation of moderating and mediating variables in between transformational leadership and related outcomes: A study of higher education sector in North India	Journal Article	The focus of this study is to assess the multi-layer influence of transformational leadership (TL) on employee-related outcomes, such as relational identity (RI) and satisfaction with the leader (SWL) in the higher education sector. The findings show that the relationship between TL and LMX is moderated and the TL, RI, and SWL relationships are all mediated by LMX. Finally, it was discovered that TL had a moderated-mediated effect on RI and SWL.
14	Nguyen, Hallinger & Chen (2017)	Assessing and strengthening instructional leadership among primary school principals in Vietnam	Journal Article	This study aims to contribute to the body of knowledge related to educational leadership and management in Vietnam. This study aims to translate, adapt, and confirm the Principal Instructional Management Rating

				Scale (PIMRS) Teacher Form used in Vietnam. Next, this study describes instructional leadership practiced by school principals both in urban and rural areas. The findings found that the school principals are practicing instructional leadership and in line with the past studies that show the more vital instructional leadership was more decisive among female principals even though the pattern was not prominently strong.
15	Mwesigwa, Tusiime & Ssekiiyivu (2020)	Leadership styles, job satisfaction and organizational commitment among academic staff in public universities	Journal Article	This paper investigates the relationship between leadership styles, job satisfaction, and organizational commitment among academic staff at Ugandan public universities. It is found that the organizational commitment among staff is influenced by their age, job tenure, level of position, leadership styles used, and job satisfaction. In addition, the result shows that job satisfaction significantly mediates the relationship between leadership styles and organizational commitment.
16	Ali & Zulkipli (2018)	Validating a model of strategic leadership practices for Malaysian vocational college educational leaders: A structural equation modeling approach	Journal Article	This research aims to design, validate, and confirm a hypothesized model of strategic leadership practices among Malaysian vocational college leaders using structural equation modeling (SEM). Based on the findings, Malaysian vocational college educational leaders have a strong tendency and inclination to practice strategic leadership at work. In addition, there was evidence that the educational leaders of the Malaysian vocational institution used

				strategic leadership approaches to a prominent level or degree.
17	Massry- Herzallah &	Gender, school	Journal Article	Teachers in the Arab school
		leadership and	Article	system were interviewed for the
	Arar (2019)	teachers'		study. The researchers investigate
		motivations:		the educational system and how
		The key role of		their principal's leadership and
		culture, gender,		gender affect their motivation.
		and motivation		The findings reveal three themes
		in the Arab		that reflect teachers' beliefs of
		education system		principal leadership styles on
				gender, involvement, school
				operations, and decision-making
				sharing. The autonomy and
				engagement given to teachers can
				help to boost teacher motivation.

^{**}Inclusion criteria: Journal Article and Proceeding

Table 1 also reveals that most leadership styles in the educational sector were undertaken among school personnel, and as far as the researcher's concern, there are no studies that included students' perception of the leadership styles being practiced by the institution leaders, specifically digital leadership. Finally, the results suggest that most studies were conducted in Western countries, with only a small quantity of studies conducted from an Asian perspective. The culture of Western countries may differ from that of Asian countries since the cultural aspect like power distance may be different between these countries against the westerners. As a result, there is a potential utility of digital leadership style being develop in Asian countries that could help students perform better.

Methodological Approaches

The method approach employed by earlier studies in investigating leadership styles in educational sector is presented in Table 2. Our review shows that within the period of 2012-2022, out of 17 publications selected, most of the studies on leadership styles in educational sectors employed a quantitative approach

(n=9) and a qualitative approach (n=7). Only one study from Nguyen et al. (2017) used a mix-method approach in their study.

Adams et al. (2020) used a qualitative approach to study principal leadership towards preparation Malaysia's highperforming school leadership. The qualitative technique was chosen, and 102 principals were given open-ended questions to answer and were examined on their leadership roles and practices. A qualitative technique employed in another study by Nawab and Asad (2020) to investigate the leadership behaviors of a school principal in urban Pakistan. According to the authors, the adoption of a qualitative technique was justified by the study's necessity to focus on unique contexts in speaking with individuals in real scenarios, which resulted in rich and indepth data.

However, in a study by Othman and Wanlabeh (2012), they have decided to use the quantitative approach in deciding the teacher's perspective on leadership practices in Thailand. The use of the quantitative approach was because this approach allows researchers to own a more systematic management system

to organize many respondents of the study. In addition, Afiqah et al. (2017) also used a quantitative approach in investigating desired leadership styles by youth in Asia and were able to verify the Path-Goal Theory to assess on leadership preferences.

As shown in Table 2 below, there is only one research adopted a mix-method approach in studying leadership conducted by Nguyen et

al. (2017). Those researchers used the mixmethod approach in studying educational leadership and management in Vietnam. The mixed method was selected as they intended to generate a profile of instructional leadership principles and assess the relationship between the selected variables. Besides, the researchers also wanted to gain insight from the teacher's perspective on their principal leadership styles in Vietnam.

Table 2 The Methodology Approach By The Past Studies

Methodology	Frequency	Study/Author (s)
Qualitative	7	Adams et al. (2020)
		Harris et al. (2017)
		Yokota (2019)
		Seong & Ho (2011)
		Kaparou & Bush (2015)
		Massry-Herzallah & Arar (2019)
Quantitative	9	Othman & Wanlabeh (2012)
		Salehzadeh et al. (2012)
		Nor Amin et al. (2017)
		Arokiasamy et al. (2015)
		Ngang (2011)
		Sirisookslip et al. (2015)
		Jyoti & Bhau (2015)
		Mwesigwa et al. (2020)
		Ali & Zulkipli (2020)
Mixed-Method	1	Nguyen et al. (2017)
Critical Review		Hassan et al. (2018)

3. DISCUSSION

This review intends to discover the existing research on leadership within the context of educational sector. Based from the analysis, there is a convincing evidence of multiple leadership roles in the educational sector. It can be seen from the earlier research findings that most of the studies on leadership styles in the educational sector were using conventional instructional leadership styles such as leadership, transformational leadership, transactional leadership, distributed leadership, supportive leadership, and directive leadership styles. Moreover, it is found that only a few of the leaders are associated with **ICT** implementation in educational areas (Anderson & Dexter, 2005; Feldner, 2003). Even though there have been a few studies on leadership for technology reform educational sectors, leadership has been regarded as a vital aspect for successful ICT deployment.

Furthermore, most of the studies focused on showing the different leadership styles used by school principals. There has been a lack of studies looking into the leadership styles used in higher education and how these styles can help students and preparing them to be future

leaders. As a result, the researchers of this study believe that performing this research at the university level will allow the researchers to see the link between leadership styles and the success or failure of students as future leaders. Since earlier research has only focused on academician perspectives, it is critical for the study to include the students' beliefs of the leadership styles used by institution leaders. According to Bloom and McClellan (2016), students are also considered followers of institutional leaders when studying leadership discourse.

There is a utility to embark on a new role of digital leadership on students' performance. However, before the researcher could delve deeper into the relationship between variables, it was necessary to prove why digital leadership was chosen as a leadership style that can help students perform better. Also, based from the review, it is shown that i) none of the selected studies have examine the use of digital leadership; and ii) there is only one study that has used youth or students specifically as their respondents.

Looking into the existing speed of business operation and transformation, business entities are expected to accelerate in exploring new business opportunities enabled by rapid digitalization. According to Tanniru (2018), working in a dynamic and faster acceleration of business ventures, firms are expected to exploit on entrepreneurial thinking that would allow for generation of innovative ideas that create value to customers, design digital, ITenabled services through advanced technologies, and strengthen organizational capability to live up to customer expectations. He also added that, for firm to be able to achieve this, they require agility in IT system and business strategies together with "coleadership of IT" amongs executives.

Academic sector, being the feeder to the workforce in the digital economy, needs to react and reform, parrellel to the need of the industry. Based form the gap found in this review, it is proposed for the leaders in the educational sector to practice digital leadership

in increasing the academic staff performance and enhancing the student's development. Currently, digital leadership is essential for the institution leaders as education sector is also affected by the Covid-19 pandemic. Education systems at all levels need to implement and adopt ICT, especially for the teaching and learning process with students. abovementioned issues show that integrating leaders and technology is essential for competitive advantage. The development of digital leaders should not start during the early stage of career development, but development of digital leaders must be started at the university level. Based from this, it is proposed that digital leadership could be defined as the ability to lead the people and organization towards digital transformation and being agile in a rapidly changing digital landscape.

Agenda for future research

Theoretically, this meta-analytic acknowledges that there is limited research within the context of leadership studies that implement a mixed method in investigating the issues. As a result, future study intends to use a mixed-method approach in studying digital leadership on the student's performance. The primary purpose of this future study is to develop a new measurement of digital leadership. It will use a mixed-method research design, specifically a sequential exploratory research design, to gather the information, data collection, and analysis. The mixed method is the most suitable method since this study aims to develop a new model, and this requires an in-depth exploration of the potential factors involved. This is followed by the verification and confirmation of the model developed. Thus, the combination qualitative and quantitative research plays a significant role in gathering more exact results. There are two phases involved. In the first phase (Qualitative), a focus group study will discuss the factors that will influence the development of the digital leadership model among students. Interview data will be

analyzed based on thematic analysis to generate a group of potential factors affecting digital leadership. This is also to be supported by the existing literature analysis on the factors involved in measuring digital leadership. Once factors have been confirmed, measurement items will be developed.

In the second phase (Quantitative), a questionnaire will be designed to gather information on a larger scale through a survey. A pilot study will be used as a preliminary study to confirm the measurement items before the actual data collection. This is an essential step after the focus group discussion to make sure the developed items are reliable and understandable by the group of population and Data collection will focus on the population and sample selected based on the current issues and problems. To ensure this study is comprehensive and generalizable, the selection sample forming students from a selected university in Malaysia and Indonesia will be included. The data collection method for this study will use a self-administered questionnaire via an online survey.

4. IMPLICATION AND CONCLUSION

Liebowitz & Porter (2019) also have argued that there is a utility in enhancing leadership capacities at educational institution. It is expected that the newly proposed leadership style, namely digital leadership may provide implications to the Malaysian educational sector. First, the enrichment to the body of knowledge on student development study and leadership, since limited existing research has used this digital leadership style to improve student development. Second, considering the change of the lifestyles of this younger generation in this digital age, the methodological aspect of the current study that is based on past research on leadership styles in educational sectors especially within the perspective Malaysian viewpoint should confirm the need of digital leadership in enhancing student development in the country. Most importantly, the academic sector would

be able to supply future employment candidates that are ready to accept the challenges in this digital age society.

5. REFERENCES

- 1. Adams, D., Mooi A. N. Y. & Muniandy, V. (2020). Principal leadership preparation towards high-performing school leadership in Malaysia. Asian Education and Development Studies, 9 (4), 425-489.
- Adams, D., Raman Kutty, G. & Mohd Zabidi, Z. (2017). Educational leadership for the 21st century. International Online Journal of Educational Leadership, 1(1), 1-4.
- Ali H. M. & Zulkipli, I. (2018). 3. model strategic Validating a of practices leadership for Malaysian vocational college educational leaders: structural equation modeling approach. European Journal of Training and Development. 43(1/2), 21-38.
- Ali, R., Lynch, R., Melewar, T. C., & 4. The moderating Z. (2015).influences the relationship on corporate reputation with its antecedents consequences: Α metanalytic review. Journal of Business Research, 68(5), 1105–1117.
- 5. Ahmed Jami, F., Burton, L. & Chapman, D.W. (2012). Does increasing instructional time lead to higher student achievement? Evidence from India. Asian Education and Development Studies, 1(3), 208-221.
- 6. Anderson, R. E. & Dexter, S. (2005). School technology leadership: an empirical investigation of prevalence and effect. Educational Administration Quarterly, 41(1), 49-82.
- Arokiasamy, A. R. A., Abdullah, A. G. K. & Ismail, A. (2015). Correlation between cultural perceptions, leadership style and ICT usage by school principals in Malaysia. Procedia Social and Behavioral Sciences, 176, 319 332.

- 8. Barari, M., Ross, M., Thaichon, S., & Surachartkumtonkun, J. (2021). A meta-analysis of customer engagement behavior. International Journal of Consumer Studies, 45(4), 457–477.
- 9. Becker, H. J. (1993). Teaching with and about computers in secondary school. Communication of the Association for Computing Machinery, 36(5), 69-72.
- 10. Barker, R. A. (2001). The nature of leadership. Human Relations, 54(4), 469-494.
- 11. Bloom, J. L. & McClellan, J. L. (2016). Appreciative administration: applying the appreciative education framework to leadership practices in higher education. Journal of Higher Education Management, 31(1), 195-210.
- 12. Bryman, A. (2007). Effective leadership in higher education: A literature review. Studies in Higher Education. 32(6), 693–710.
- 13. Butzin, S. (1992). Integrating technology into the classroom: Lessons from the project CHILD experience. Phi Delta Kappan, 74(4), 330-333.
- 14. Cavico, F. J. & Mujtaba, B. G. (2009). The state of business schools, business education, and business ethics. Journal of Academic and Business Ethics, 2, 73-86.
- 15. Ceri-Booms, M., Curs¸eu, P. L., & Oerlemans, L. A. (2017). Task and person-focused leadership behaviors and team performance: A meta-analysis. Human Resource Management Review, 27(1), 178–192.
- 16. Davies, J. & Thomas, H. (2009). What do business school deans do? Insights from a UK study. Management Decision, 47(9), 1396-1419.
- 17. Dery, K., Sebastian, I. M. & van der Meulen, N. (2017). The digital workplace is key to digital innovation. MIS Quarterly Executive, 16(2), 35-152.
- Dörner, K. and Edelman, D. (2015).
 What 'digital' really means [Online],
 McKinsey & Company. Available at

- http://www.mckinsey.com/industries/hig h-tech/our-insights/what-digitalreallymeans (Accessed 3 March 2022).
- 19. De Waal, B., Van Outvorst, F. & Ravesteyn, P. (2016). Digital leadership: the objective subjective dichotomy of technology revisited, 12th European Conference on Management, Leadership and Governance ECMLG, (November), 52-61.
- Erhan, T., Uzunbacak, H. H. & Aydin, E. (2022). From conventional to digital leadership: exploring digitalization of leadership and innovative work behavior. Management Research Review, Vol. ahead-of-print No. ahead-of-print. https://doi.org/10.1108/MRR-05-2021-0338
- 21. Feldner, L.M.C. (2003). The role of the school administrators in supporting teachers in the integration of educational technology into K-12 classrooms, unpublished doctorate dissertation, University of North Dakota, Grand Forks, ND.
- 22. Jamilah, A. and Yusof, B. (2011). Amalan kepimpinan sekolah berprestasi tinggi (SBT) di Malaysia [leadership practices in Malaysian high performing schools]. Journal of Edupres, (1), 323-335.
- 23. Jyoti, J. & Bhau, S. (2016). Empirical investigation of moderating and mediating variables in between transformational leadership and related outcomes: A study of higher education sector in North India. International Journal of Educational Management, 30 (6), 1123-1149.
- Ghani, M. F. A., Siraj, S., Radzi, N. M. & Elham, F. (2011). School effectiveness and improvement practices in excellent schools in Malaysia and Brunei. Procedia-Social and Behavioral Sciences, 15, 1705-1712.
- Gigliotti, R. A. & Ruben, B. D. (2017).
 Preparing higher education leaders: a conceptual, strategic, and operational

- approach. Journal of Leadership Education, 16(1), 96-114.
- 26. Hallinger, P. (2013). A conceptual framework for systematic reviews of research in educational leadership & management. Journal of Educational Administration, 51(2), 126-149.
- 27. Hallinger, P., Adams, D., Harris, A. & Jones, M. (2018). Review of conceptual models and methodologies in research on principal instructional leadership in Malaysia: a case of knowledge construction in a developing society. Journal of Educational Administration, 56(1), 104-126.
- 28. Hallinger, P. & Lee, M. (2013).

 Mapping instructional leadership in
 Thailand has education reform impacted
 principal practice?" Educational
 Management Administration &
 Leadership, 42(1), 6-29.
- Harris, A., Day, C., Hopkins, D., Hadfield, M., Hargreaves, A. & Chapman, C. (2013). Effective Leadership for School Improvement, London, Routledge.
- Harris, A., Jones, M., Cheah, K. S. L., Devadason, E. & Adams, D. (2017). Exploring principals' instructional leadership practices in Malaysia: insights and implications. Journal of Educational Administration, 55 (2), 207-221.
- 31. Hassan, A., Gallear, D. & Sivarajah, U. (2018). Critical factors affecting leadership: a higher education context. Transforming Government: People, Process and Policy, 12(1), 110-130.
- 32. Kaparou, M. & Bush, T. (2016). Instructional leadership in Greek and English outstanding schools. International Journal of Educational Management, 30(6), 894-912.
- 33. Kozma, R. B., & Croninger, R. G. (1992). Technology and the fate of atrisk students. Education and Urban Society, 24(4), 440-453.

- 34. Leithwood, K. & Sun, J.P. (2012). The nature and effects of transformational school leadership: a meta-analytic review of unpublished research. Educational Administration Quarterly, 48(3), 387-423.
- 35. Liebowitz, D. D. & Porter, L. (2019). The effect of principal behaviors on student, teacher, and school outcomes: a systematic review and meta-analysis of the empirical literature. Review of Educational Research. 89 (5), 785 827.
- 36. Lipman-Blumen, J. (1992). Connective leadership: Female leadership styles in the 21st-century workplace. Sociological Perspectives, 35(1), 183–203
- 37. Louis, S.K., Dretzke, B. & Wahlstrom, K. (2010). How does leadership affect student achievement? Results from a national US survey, School effectiveness and school improvement, 21, (3), 315-336.
- 38. Massry-Herzallah, A. & Arar, K. (2019). Gender, school leadership and teachers' motivations the key role of culture, gender, and motivation in the Arab education system. International Journal of Educational Management, 33(6), 1396-1410.
- 39. Mwesigwa, Tusiime, I. & R., B. (2020). Leadership Ssekiziyivu, styles, job satisfaction and commitment organizational among academic staff in public universities. Journal of Management Development, 39(2), 253-268.
- 40. Nguyen, Hallinger & Chen. (2017).

 Assessing and strengthening instructional leadership among primary school principals in Vietnam.

 International Journal of Education Management, 32(3), 396-415.
- 41. Nor Amin N. A., Wuen, C. H. & Ismail, A. (2017). Leadership style desired by youth in Asia. Journal of Management Development, 36(10), 1206-1215.
- 42. Othman, A. & Wanlabeh, N. (2012). Teachers' perspectives on leadership

practices and motivation in Islamic private schools, Southern Thailand. Asian Education and Development, 1(3), 237-250.

- 43. Perera, C.J., Adams, D. and Muniandy, V. (2015). Principal preparation and professional development in Malaysia: exploring key influences and current practice in Harris, A. and Jones, M. (Eds). Leading Futures: Global Perspectives on Educational Leadership, SAGE Press, London, 125-137.
- 44. Pfeffer, J. (2009). Leadership development in business schools: an agenda for change. Research Paper, Research Paper Series, Stanford Graduate School of Business.
- 45. Robinson, V. M., Lloyd, C. A. & Rowe, K. J. (2008). The impact of leadership on student outcomes: an analysis of the differential effects of leadership types. Educational Administration Quarterly, 44(5), 564-588.
- 46. Scott, G., Coates, H. & Anderson, M. (2008). Learning Leaders in Times of Change: Academic Leadership Capabilities for Australian Higher Education, The Carrick Institute for Learning and Teaching in Higher Education, Strawberry Hills, NSW.
- 47. Seong, D. N. F & Ho, J. M. (2011). How leadership for an ICT reform is distributed within a school. International Journal of Educational Management, 26 (6), 529-549.
- 48. Stone, D. L., & Rosopa, P. J. (2017). The advantages and limitations of using meta-analysis in human resource management research. Human Resource Management Review, 27, 1–7.
- 49. Tanniru, M. R. (2018). Digital Leadership. In M. Pomffyova (Ed.), Management of Information Systems, (93-109), IntechOpen.
- 50. Tee, O. P., Hoon, O. P., Liu, O. P., Ting, H. & Porodong, P. (2010). Investigating the role of school principals in creating a harmonious 3R + 1R learning

- environment. Procedia-Social and Behavioral Sciences, 7, 181-190.
- 51. Winston, B. E., & Patterson, K. (2006). An Integrative Definition of Leadership. International Journal of Leadership Studies, 1, 6-66.
- 52. Yokota, H. (2019). Mapping four leadership styles in Japan; how has the role of the principal been shaped by policies? Journal of Educational Administration, 58 (2), 187-207.