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SHOW UP & BE SEEN: A STUDY TOWARDS QUANTUM LEADERSHIP IN QUANTUM ERA

Soh Wan Geok^{1*}, Amiruddin Shaari²

¹Cluster of Education and Social Science, Open

University Malaysia, Jalan Ibrahim Sultan, 80300 Johor

Bahru, Johor, Malaysia.

² Physics Department, Faculty of Science, Universiti Teknologi Malaysia, 81310 Johor Bahru, Johor,

Malaysia

Co-author: sohwangeok@gmail.com

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ABSTRACT

Context: The study reports an overview on the consciousness towards quantum leadership in quantum era and explored the consciousness of this new paradigm leadership style in Malaysia, a developing country in South East Asia.

Objective: To draw attention towards quantum leadership examining the paradigm of quantum leadership in organizations through literature review and preliminary study of quantum leadership in Malaysia context.

Data sources: Searching is done through major databases like SCOPUS, Web of Science, ProQuest, Dimension.ai, Science Direct, ERIC, Ebscohost, Google Scholar, and DOAJ.

Study selection: Any related articles which consist of quantum leadership and quantum leader in the organization or corporate perspective by the authors using search string in the databases.

Methodology: A qualitative research approach is conducted in the preliminary study to attain an overview of quantum leadership style in organizations.

Findings: Quantum leadership is a novel leadership approach for the business organizations to cope with the global challenges. Feedback from the respondents added that being adaptive and flexible are some of the qualities presumed in a quantum leader within a complex environment.

Limitation: There is scant research study on quantum leadership in Malaysia context and limitation keeping up with new knowledge to influence the trajectory of change in industry.

Conclusions & Recommendation: Organizations management will see many parallels between the science and systems while future exploration may consider whether quantum

leadership have a huge relationship with much of the characteristics like genuineness, uprightness, and moral practices in organizations.

INTRODUCTION

The need for this study

The quantum era is upon us and everything shifts before our eyes with unlimited possibilities. There is no part of human life that is unaffected by the shift of age and its modern nature. The effect on management and leadership has begun to define in the quantum age. It is a revolution in business thinking and practice. Characteristics of management role changes are necessary to thrive in the new era, in which a whole new mindset must emerge in the leaders of organizations, particularly the manager.

The quantum era that we have today is represented as the pinnacle of technical age with maturing fields of technologies that provide the opportunity for a comfortable and robust society but at the same time, challenges posed by the development in society. Rapid shift into the technological age has caused today's leaders to adapt and accommodate to new and innovative ways of thinking. The old Newtonian business thinking which giving the assumptions that organizations and market are operating with simple law-abiding certainty and predictability, stable and controllable, best managed with low risk and assures equilibrium is no longer fit now. Likewise, traditional linear for system management is no longer workable in this world of technological upheaval, chaos, threats and this is how quantum theory and quantum leaders come into the lens of relational and whole system model (O'Grady, 2020). In the midst of major social transformation, embracing the fact of changes are required is inevitable and unavoidable due to world including matter, is a transcendent form of consciousness.

Most leaders in the business organizations would probably believe that quantum physics is an exotic science that has nothing to do with organizational leadership. We are living in the world surrounded by matter and everything around us is made of energy. This is physical science and proven by quantum physics scientifically. Even the smallest particles in the universe are constituted of energy and vibrate at a certain frequency. Hence, many leaders believe that an organization is sort of like a machine to be operated by pulling levers, setting performance indicators and giving rewards. In fact, on the reality side, an organization is a living system with human beings and sensitive to energy which influenced by the energy of the leaders and all the employees (Razavi, Hosseini, & Sanavi, 2013). The level of energy would directly relate to the level of consciousness.

Leaders has to be adaptable and flexible in the quantum age not just knowing the organization system but also about whole entire structure, as technology will forever changing the landscape of the operation work environment but work is only valuable once it achieves its purpose and fulfilment. Quantum leaders could feel the excitement of change and catalyse others to rally in the journey of discovery and advancement through learning new skills and gain insights (O'Grady & Malloch, 2018). Conscious leaders and quantum leaders have no limits, only possibilities. In a quantum organization, quantum leaders customize their individual model to meet their organizational goals through

non-linear ways to evaluate the complexities within the organization and consider factors impede or facilitate growth.

In order to understand the contextual framework of innovation which sometimes to be an elusive concept, this is where leadership comes into picture. Quantum leaders of today need to understand the rationale, expectations, organizational structures and strategies that advance the integration of cost effective innovation (Otten & Chen, 2011; Sazesh & Siadat, 2019). The information availability via the internet has been a driving force behind innovation and innumerable. For this reason, quantum leader always remember the energy that affect the quantum field of the organization and have a gratitude practice which focus on contributing to others as the act of bringing positive energy in the field (Paz, Martelo, & Acevedo, 2018). Another important thing for leaders to achieve superior performance is to create an inspiring vision aligned with organizational level that seek meaning and purpose, not just profit alone. Quantum leaders embrace their own transformation and do inner work required to raise their potential energetic vibration.

Practically, organizations are quantum too. The dynamic energy systems are within the organization where conscious observers make reality to happen. Chaos and complexity fill into the physical systems every day. Under Newtonian or Classical paradigm, nature is seen as organized simplicity, lawabiding, and ultimately controllable. Watson, O'Grady, Deutsch, and Malloch (2018) added that Newtonian paradigm leads to an emphasis on delimiting role and controlling boundaries, where supposing internal dynamic causes behaviour, behaviour does not cause the form of internal dynamic. However, in new science, under the quantum paradigm, nature is seen as complex, chaotic, and uncertain. The thinking which associated with quantum physics and chaos and complexity science magnifies the creative potential and uncertainty, which invites leaders to rewire or reinvent themselves to think in a new way and become quantum leaders (Curtin, 2011; Akmal, 2019). When an organization being viewed holistically, there is no longer the need for human thinking machines. The quantum perspective stresses on free flowing of connections through internal dynamic, influences the behaviour on interactions, relationships, and forces.

Organizations in today's world are not stable, predictable and controllable. Companies are unable to remain sustainable on the habits and assumptions, the skills and the thinking tools that carry forward since start-ups. It is a necessity to rewire the brain, both individual and at corporate level. Quantum thinking moves the goalposts and take people to the edge of any particular model or perspective. This particle-like thing associated with thinking deals cum experience as a whole, but in a way that is blind to logic and rationality like wavelike (Laszlo, 2020). This would give the quantum system full flexibility to define itself as time goes along. In a quantum organization, every employee is a potential leader and competitive advantage rests with the best party to handle. Likewise, in a chaotic physical system, the future of creative can only emerge in a free-flowing dialogue with wider economic, political, social, and ecological environments.

Our business and us mutually define each other and make the world. This is a crucial insight of the new quantum worldview where quantum physical systems and processes have both qualities of particle (individual) and wave (network) to create energy and more lasting values. Uncertainty principle tells us we can only know one item of a pair of variables at a time, never know both position and momentum. This has enormous implications in both physical science and business world. Our paradigm will determine how we will act and therefore bring in changes. It is reminded that quantum physics is not a hard science of observable phenomena, but rather a science built on relationships and logic (Curtin, 2011). The path towards quantum leadership is above all an experiential one and not achievable through conceptual learning alone. It emphasizes on mindfulness, which engages heart, body and spirituality to awakening an experience of wholeness. Leaders who successfully pursue it found greater purpose and meaning through positive social impact and consciousness (Laszlo, 2019).

Companies throughout Malaysia spending millions each year on leadership development programme and yet on the other hand continuing to report an acute scarcity of good leaders in their ranks. Hence, the secret of great leadership might be lying at the confluence of quantum physics, psychology as well as spirituality. Chaos theory attempt to find an understanding of simple systems that may change in a sudden or unprecedented way (Akpil & Gündüz, 2016). Whereas complexity theory focuses on complex systems involving numerous interactions and often give rise of unexpected order. In short, quantum leaders are living in challenging times and by understanding the underlying foundation of quantum leadership, quantum skills can be developed and exploited to their maximum potential while playing a high degree of value in the organization that share a common vision (Lewis, 2008; Polat, 2015).

Through quantum paradigm, it is useful to understand unfamiliar events in complex living systems that are in turbulent environments of today especially during strong pressures to change, events seem to be chaotic, objectives have become ambiguous, and order seems to emerge of its own accord. The key success for the quantum leader is through enthusiasm, energy, and well adept at accommodating point of views. When we put ourselves as an integral part of the natural world rather than separate from it, we would become more attuned to how our actions affect not only on other human beings but all life on earth.

With the potential changes emerging out of recent virus outbreak pandemic, new leadership insights will be continually needed. Regardless of the amazing increment in the volume of insightful articles that analyse the role in quantum leadership, there is an absence of experimental proof to illuminate the scant research in this new paradigm of professional governance and practices of quantum leadership that positively impact the action of organization leaders.

Research questions

Research focus will be concentrated on two points for this case study. First, respondents will be asked about their awareness on quantum leadership or any knowledge about quantum leadership. Second research question will be on the

expectations from organization leaders pertaining to leadership style and skills that should be possessed.

DATA SEARCH

Data selection

The method used in this section is retrieving any articles related to quantum leadership, quantum leader(s), and quantum directorship in the organization or corporate perspective by the authors in the databases. Rigorous searching is adopted through searching in few major databases like SCOPUS, Web of Science, ProQuest, Dimension.ai, Science Direct, Education Resources Information Centre (ERIC), Ebscohost, Google Scholar, and Directory of Open Access Journal (DOAJ) by using Boolean operators (OR and AND) and truncation in the search strings.

Data search flow is based on the following procedures which run an identification review of literature, exclusion criteria, manual screening which applied inclusion and exclusion criteria, full text assessment for eligibility purpose, data extraction and analysis. Timeline in searching the scholarly articles included past 10 years and inclusion of conference proceeding. On the exclusion part, non-English papers and keywords that reflected in the references are excluded. Full article assessment is based on the contents that only focus on quantum leadership paradigm and quantum leader roles in organizations. Data search flow diagram is as shown below

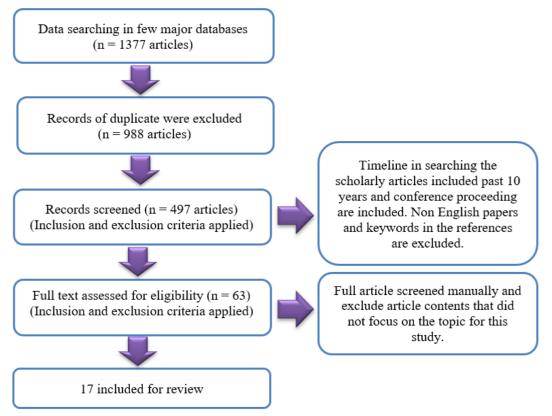


Figure 1.0 – Data search flow diagram

Outcome assessment in literature

A considerable amount of literature has been published on quantum leadership for the past one decade. These studies putting effort in creating the awareness and striving to bring in the new paradigm of leadership style in this quantum age. The generalizability of much published research on this leadership is that quantum leaders are capable of leaping beyond the traditional constraints while creating quantum leaps cultures of many levels. The new paradigm of possibility comes into picture with a complementarity of both inner and outer, logical and emotional, self and other, consciousness and physical matter (Barrash, 2012). In Barrash (2012) study, researcher also pointed out a new set of operating assumptions in a consciousness infused paradigm of interconnectedness, which acknowledges a new connection between intuition and logic, parts and wholes, also mind and matter.

What we know about quantum leadership is largely based upon empirical studies that investigate how this leadership is a conceptual and practical framework for managing organizations. As per the study conducted by Hanine (2019), quantum leadership is a multidimensional concept, including cognitive, relational, ethical, emotional and spiritual dimensions, considering organizations from a quantum theory perspective that suggests management approaches and techniques for effective service delivery. In the dynamic of changing nature, most organizations need leaders who are fully engaged, creative, energetic and competent to lead effectively with different strategy and approaching in improving the quality of organization's environment (Haris, Budiman, & Haris, 2016). These multitasking competencies could be realized through quantum leadership.

Over the last ten years, much research has examined and more information has become available on quantum leadership in clinical and education settings. In Kayman and Ercetin (2011) study, the level of fulfilment of quantum leadership behaviours in accordance with the education level of the principals or deputy principals shows no significance difference. Leaders should be encouraged to have postgraduate degrees so that they are able to lead and manage school easily, gaining problem solving, lifelong learning skills as well as increasing creativity. As commonly known, education institutions are affected by the constant change to understand, capture and interpret and therefore, training development and lifelong learning are needed to cope with change (Kayman & Ercetin, 2011).

Writing have been concentrated expressly on the connection among types of leadership styles and mostly pointed quantum leadership is a new paradigm for advanced organization. It paves the way through the unpredictable, non-linearity and highly complex organizational environment. Obviously, it is a novel leadership approach for the business organizations in order to cope or handle with the emerging challenges in this globalized world. Quantum leaders not only possess the intellectual, analytical ability, technical skills, and appropriate competency, but also the ability to understand human beings and manage relationships. This is a recognition in the new age of work where concepts of quantity and have basic conflict management skills. The principle of accountability is always applied in their organization and turned out to be the most dominant approach. As mentioned in Kocak (2020) paper, quantum leadership is the organizational capacity to create an atmosphere of trust, confidence, and a sense of belonging among employees to achieve organizational

goals. Basis of complexity science has contributed in the conceptual structure and social application where globalization, computerized world and widespread of internet have brought uncertainties and complexities to most organizational structures in this 21st century. Hence, conventional organizations with leadership based on Newtonian understanding shall deem obsolete to overcome new challenges and new business management as well as leadership styles are required to operate with the rules of quantum physics (Kocak, 2020).

Several literatures have revealed that leadership as a complex process is where leaders' introspection in improving today's quality of education. Quantum leadership as a leadership concept can influent students in the teaching and learning process, conducive as well as effective (Nurrohim, 2010). In the field of contemporary management, new thing will become out dated and assumptions will be losing its validity. The interesting part is seldom have people feels a necessity of a vision on how to change leadership or leader assumptions in new searching efforts. The use of potential complexity and changing paradigm or quantum leap in leadership must shift from targets and results of leader due to uncontrollability and unknown phenomena where there is indeterministic, chaotic and complex nature. Papatya and Dulupçu (2016) had presented the study that the process of leadership would demand the uncertainty, the unknown and having a flexible structure for the dynamics which waiting to be discovered in the quantum world. The attempts to correct indeterminacy or uncertainty principle will always be unsuccessful as leadership is not a deterministic and controllable phenomena (Papatya & Dulupçu, 2016). There is a need to understand and discover leadership universe and potential energy.

In recent study, attention to quantum thinking and its point of view is a necessity to achieve quantum leadership. Hence, there are four main factors which can be pointed out in explaining quantum leadership, they are uncertainty phenomena, environmental complexities, extensive and reciprocal interactions towards continuous and rapid change of the quantum paradigm. Management and quantum each of this element is unable to stand alone for the success of the organization. It requires a balance between management and quantum where the principles of quantum mechanics place great emphasis on characteristics, behavioural and contingency approaches (Bozorgi et al., 2020). Besides, creativity and knowledge are the keys to organizational success and employees participation contributed a significant impact to the organizations' overall performance. Likewise, there is new balance between insight and oversight, control and adaptability in the new degree of leadership choice in which leaders can bring a new level of optimism based on a paradigm that increase potential and reducing fear, building sense of interconnectedness and create hardworking love and develop fullest capacities (Barrash, 2012).

In Dargahi, Mehrani, & Shayan (2017) study, quantum leadership approach causes efficient and effective procedures among health care organizations like clinical laboratories and expected this paradigm may change the management in the near future to desirability of quantum leadership dimensions. The infinite potential of the quantum field is accessed in order to achieve organizational excellence and further matter hoping leaders who have quantum skills potentially present a highly developed self-sense and the ability to improve outcomes for organizations (Dargahi, 2013). We could see the praxis of this paradigm is based

on a symbiotic relationship between the organization and quantum mechanics, where it links the idea of quantum mechanics, chaos theory and complexity theory to the organizational issues as well as challenges faced by business leaders. Perhaps the heart of the system of defining meaning, using new science to reformulate the organization's thinking conferring to act with wisdom and compassion while maintaining inner awareness and out peace under all circumstances come into perspective (Hanine, 2019).

In addition, quantum leadership plays an important role in improving education quality with some characteristics like seeing and dreaming, nurture with respect, nurture with love, nurture with care, visionary supervision, creating point for society, showing empathy, empowerment, helping students to develop and success, placing students as top priority, ethically in behavioural and persuasive communication (Mundiri & Ningtias, 2019). All these are part of the competencies that provide quantum leaders with new abilities and capabilities to understand current problems in business management and problems solving (Kocak, 2020).

We could observe worldwide patterns, for example, budgetary emergency and new social natural difficulties that have prompted the requirement for new business sectors to arise. Benefit driven incomparability model which has made material abundance to the detriment of the consumption of regular assets, contamination and lopsided characteristics in pay circulation which is a significant change where associations are needed to assume new jobs and become change specialists, esteem maker, as far as financial as well as social and ecological (Nigri and Agulini, 2019). In this investigation likewise brought up there is a significant move in business center that is engaging organizations to be moral firms which do great through a wide scope of practices that create connectedness consolidating with scientific intellectual aptitude at a higher cognizance level. While changing individuals at a profound natural level gives the way to more noteworthy viability and prosperity at work which therefore help to coordinate ecological, social and administration into a general corporate supportable presentation the board framework, Nigri and Agulini (2019) dissected this marvel could lead the best approach to quantum initiative where association can arrive at a more significant level of cognizance and consistent with its structure and culture.

It is commonly known that business can run eminently if members in the organization know and trust each other. Organizational long term success has strong link to its thinking of quality entirely including empowerment, participation, and team work (Nurrohim, 2010) from the people who join in as a team. In support of this, the idea studied by (Paz et al., 2018), leadership is one of the management tools used to face the changes by the fluctuations generated by effects of crisis, a fundamental phenomenon in the history of human society in the development and durability of social organization. There is ample evidence supporting the quantum leadership, is an art of changing a person to drive others to the evolution and transformation. The study suggests it is one of the skills manager should possess to make work effective, allow him or her to expand in order to achieve the objectives for the organization (Paz et al., 2018).

Several landmark studies observed the emerging leaders in quantum paradigm, described a practice grounded in complexity science where they shared the importance of emergence in understanding and creating change in complex environments (Root, Denke, Johnson, McFadden, & Wermers, 2020). The authors have identified multiple relationships and interconnection required for the development of new structures and processes including merging innovation and change within a traditional structured system. It is clear from the extensive evidence in literature the creation of a dynamic, diverse team, willing to respond and adaptability to ongoing change promotes innovation, positive and measurable outcomes. Also, in the literature, there have been extensively demonstrated classical management skills in mechanical organizations laid a burden on leaders due to its belief and rigid order command system where these leaders are expected to plan strategy of winning. However, it seems that leaders of today's organizations must possess new ability which suitable for the new quantum era that is totally different discipline for social studies. Moreover, quantum leaders give importance and emphasize to the teamwork as this leadership styles focus on interaction and sharing (Senses & Temoçin, 2018).

A thorough study on quantum leadership has been presented in (Simbulan, 2011) study investing on dominant logic and quantum leadership of business students which can enhance the understanding of how a successful businessman works. Within the literature there has been much research surrounding concepts of dominant logic, quantum leadership, and entrepreneurial aptitude into their vision, mission, and objective of higher education institutions business curricula (Simbulan, 2011). Quantum leadership topic has been extensively explored in the literature for unitary nursing caring disciplinary paradigm lens and intersecting principles of caring science. Although it may not made explicit, the paper presented by (Watson, O'Grady, Horton-Deutsch, & Malloch, 2018) has uncovered and made explicit ontological philosophical disciplinary congruence between caring science and quantum leadership. The evolvement of quantum paradigm in healthcare leadership invites new provocative thinking and critique, both for the discipline as well as consciousness for all healthcare leadership.

One of these spearheading considers inspected how scholars may productively fuse the internal estimations of significant advancement into possibility theory of quantum leadership. It distinguished similitudes in the quantum leadership models, and propose an integrative model of hierarchical quantum leadership dependent on internal significance, leader esteems, vision and good models at various degrees of being (Laszlo, 2019; Watson et al., 2018). When a leader practices a Newtonian orientation, leader strive to encourage employees to develop individual attributes which related to their work or job scope. This is definitely desirable in the perspective of the members of the organization will then be able to achieve the organization's goal or objects more effectively. Nevertheless when the leader adopts a quantum paradigm, the encouragement towards development of both professional and selves of the employees, including different dimensions like technical, intellectual, affective, cognitive as well as well-being as a whole person, not merely an instrument or tool to achieve the organization's objectives (Dargahi, 2013; Kayman & Ercetin, 2011). Table of literature findings for the assessment as listed as below.

Table 1.0: Table of finding

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Title	Authors & Year	Countries	Literature Findings
Quantum Leadership, Team Leader, and Team Facilitation in Organization	Nurrohim, 2010	Indonesia	Concepts of Quantum Leadership :- Empowerment, self-leader, superleadership, followership.
Dominant Logic and Quantum Leadership: How both Relate to Entrepreneurial Aptitude among Business and Non- Business Students	Simbulan, 2011	Philippine	There are significant difference in the perceptions of business and non-business students about dominant logic and quantum leadership practices; Dominant logic and quantum leadership have significant correlation with entrepreneurial aptitude. Higher education institutions to develop quantum leaders by integrating the concepts of dominant logic, quantum leadership and entrepreneurial aptitude into their curricula.
The Level of the Trained School Principals' Fulfillment of Quantum Leadership Behaviors within Strengthening Vocational Education and Training (SVET) Project in Turkey	Kayman & Ercetin, 2011	Turkey	Level of fulfillment for Quantum Leadership behaviors among the principals is high; No significance between seniority and level of fulfillment of quantum leadership; Deputy and principal no significant difference. Education institution is affected by constant change, to understand, capture and interpret the change, lifelong learning and training are must to cope with change; Strengthening vocational education and training; School administration with lifelong learning may influence the quanlity of both service and education, improve leadership and human resource management skills.
Quantum Leadership in an Evolutionary New Paradigm	Barrash, 2012	Canada	Leveraging human capital; Leaders who can bring a new level of optimism; Increase potential, reducing fear; Building sense of interconnectedness; Creating hardworking love in this world.
Quantum Leadership: The Implication for Iranian Nursing Leaders	Dargahi, 2013	Iran	New leadership skills; leads the organization to future; modifies the organization to future perfections; exceptional in productivity, performance and profitability; Quantum leadership is a process to make everyone participate; Quantum leadership provides an important resource to advance Iranian nursing leadership to the organization excellence. Hope Iranian hospitals' nursing leaders who have quantum skills potentially, present a highly developed sense of self and the ability to improve nursing care outcomes in the hospitals.
Exploring Quantum Perspective in School Leadership : A Review of Effective Principal Leadership in the Changing Nature of School Management	Haris et al., 2016	Indonesia	Through Quantum Leadership, they can use the paradoxical differences to create highly innovative ideas or thinking to improve quality of school or organization.
Thinking Quantum Leadership for True Transformation : The Talisman of "Not to Know" at the Threshold of New Leadership	Papatya, 2016	Turkey	Feeling the need to transform; Testing resources; Creation of new processes; Making transformation natural. Quantum leadership is about processes, discover leadership universe and potential, energy and eternity.

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Assessment of leadership among clinical laboratories managers of teaching hospitals : Quantum leadership approach	Dargahi et al., 2017	Iran	There was significant correlation between quantum leadership with age and with management training courses. Expected future paradigm may change the clinical lab management in the future with quantum leadership dimensions.
An Interdisciplinary Study: Quantum Leadership and Hybrid Leadership	Sense & Temocin, 2018	Turkey	Leadership assumptions based on classical physics and quantum physics; Comparison between quantum leadership and hybrid leadership. New age, new abilities; Hybrid and Quantum Leadership own characteristics in detailed way; Hybrid leadership (combined of two leaderships); Quantum leadership (four principles of quantum physics); There are differences between these two leadership; However, both emphasize interaction and sharing, uncertainty and cooperation.
Quantum Caring Leadership : Integrating Quantum Leadership with Caring Science	Watson et al., 2018	USA	Universality; transpersonal caring; nonlinear structures, relational, ethical, account; love and caring; infinite unknown; unitary view; sustain humanity; offer directions. Both quantum leadership and caring science are transformed and metamorphosed into a new unitary discipline specific entity to guide further advancement of knowledge, theory and discipline, specific healthcare leadership and practice. Quantum leadership not explicit in nursing caring disciplinary.
Quantum Leadership for co- development in private universities	Paz et al., 2018	Columbia	Results showing leader has the creativity, experience, learning and action and assumes condition of quantum leadership giving greater importance to total acceptation, presence and ultimately talent. It was recommended to raise the use of creativity and increase the talent of its quantum leaders in co-development and ultimately increase the use of co-development.
The paradigm of quantum leadership : ontology, praxis and application to management	Hanine, 2019	Romania	Consciousness, value, sharing, release of potential, innovation etc. are the concepts that appear in the interpretation grid of this paradigm. Quantum organization is a learning, self-organized, acts on the edge of chaos and swims in uncertainty, widen the field in studies of leadership, benefits to most discerning managers, paradigm of quantum leadership is a powerful management model, potential for innovation.
Quantum Leadership of Teacher in Improving the Quality of Education Based on Pesantren	Mundiri & Ningtias, 2019	Indonesia	Quantum leadership can tolerate uncertainty and chaos, can make flexible planning and appropriate for today educational developments; In a chaotic system, long standing organization planning is transformed into a new organization plan, quantum leadership can ready to adopt new changes. Quantum leadership giving great impact to students in learning; Quantum leadership acts as holograms in education; Tends to hone educators physical and intellectual aspects.
Culture and consciousness toward quantum leadership	Nigri & Agulini, 2019	Italy	Sustainability and flourishing, challenges require human behaviour, 4 Theories of Change (rational-empirical, normative-reeducative, power-coercive, and direct-intuitive) should work together, nurture commitment in others.

Applying Complexity Science as a DNP Quantum Leader	Root et al., 2020	USA	Limitations to linear thinking have described the emergence and application of their developing complexity leadership, in understanding and creating change in complex environment, identified multiple relationships and interconnections, creation of dynamic and diverse team.
A Perspective to 21st Century Management : Quantum Leadership	Kocak, 2020	Turkey	The evolution of quantum leadership towards managerial perspectives, guiding organization, quantum leader's competencies, adapt to quantum physics law to the social fields. Quantum leadership is a new type of leadership; Overcome new challenges in 21st century; Psychology, biology, neurophysiology, nursing and health science; Moving towards managerial perspective; Evolution of quantum leadership to guiding business organization and structural formations in an uncertain and complex situation.
Design of Quantum Leadership Model in Iranian State Universities	Bozorgi et al., 2020	Iran	Components of quantum leadership included Quantum: View, Thinking, Sense, Cognition, Operation, Trust, Biocenology (BioQuantum). Attention to quantum thinking is necessary to achieve quantum leadership; Four main factors: a) Uncertainty phenomena, 2) Environment complexities, 3) Extensive and reciprocal interaction, 4) Continuous rapid change.

A quantum leader draws a great deal of insight and inspiration which cultivated from his or her individual potential inner light which posits the fundamental requisites of leadership in complex organizations (Sazesh & Siadat, 2019). This would include acting with moral purpose, making positive difference in the lives of others like stakeholders, building relationships, creating information and turn into knowledge through sharing sessions. In quantum paradigm, leader emphasizes relationships and strives to improve human relationships to one another which the newtonian style does not fortify it. The sense of community, inclusiveness and holistic approach not only value the individual's work relevant technical attributes but also from emotional dimensions (Barrash, 2012). In fact, many studies have shown that rewards diminish employees' interest in larger goals. The emphasis that attract and fulfilment of the greater good through quantum approach contributes to engagement and spirituality as it strives to acknowledge the expression and development of both professional and private selves (Paz et al., 2018).

From this perspective, quantum leadership is to examine with how people really behave and how do they make decisions in life and workplace. Rapid change of time would require new approaches and new models to characterize the uncertainties in the environment. Despite without true integration of information, the latest trend has to be learned more and more about the advantages of less and less. In fact, organizational theory particularly for large organizations, could be more closely following quantum logic than in the case of classical logic. People working with systems and management systems in particular, will see many parallels between the physicists' theoretical systems and that the systems need to understand and manage business organizations. Without such framework, most instructions on business management may

have just the opposite effect from the expected ones.

In light of our review of literature, the authors noticed there is yet to have quantum leadership study performed in Malaysia context and tried to come out with valuable findings on interdisciplinary approach of quantum leadership from local market organizations which suggests that human cognition is at least in part characterized, and that this factor is an important component of context and attraction effects.

METHODOLOGY

Qualitative research approach

Qualitative research method is employed to explore briefly the overview of quantum leadership style in organizations in Malaysia context. Few organization leaders are being approached to get a market feedback on the overall perception of this new paradigm of leadership style. Hence, non-probability sampling is used through convenience sampling and purposive sampling as respondents are leaders in the organization, holding top management position and multitasking in general way. The data from the interviews are analyzed using three methods, which are holistic, selective and detailed data analysis. First of all, data from the interviews will be viewed as a whole in general. Next, phrases that seemed to represent the experience under this study are identified and lastly, written data are reviewed line by line in order to be categorized and identify the themes. The aim is to be attentive to the voices from the participants and recognize the intention engagement of the data.

All data are treated with appropriate confidentiality and anonymity. Clear procedures are established to reduce risk on both sides and maximize confidentiality. Field notes are taken down and transcripts are ensured do not contain personal identifiers without the respondent's knowledge or consent. Data is being kept raw and processed without sharing it with other parties to protect respondents' profiles as they are in the top management level. Therefore, two ethical considerations are taken into account, in terms of interviewer and interviewee.

Firstly, on the interviewer's side, as part of procedural ethics, letter of consent has been sent to conduct interview with few respondents who are mainly in the top management positions. This is to respect the autonomy, decision-making and dignity of participants. Five respondents are willing to contribute and take part in this study and prior of interview, few general questions are being sent to participants to get prepared of the objectives of the study pertaining to quantum leadership or quantum leader in organization. Both authors have the competency in understanding the implications of the study and possessed the requisite knowledge of quantum science in social science and physical science, being suitably qualified to ask and get clarifications for this study. Participants are allowed to do most of the talking without much interruption as authors would like to learn as much as possible about the interviewed participant's awareness or consciousness in quantum leadership. Hence, a good rule of thumb would be not to talk more than ten percent of the time, allowing the interview session to flow easily. In terms of situational ethical point of view, participants' details are ensured to be kept anonymity at all time and all data are treated with appropriate confidentiality. Transcripts are used for this study in academic sharing and will not disclose to other external parties. Nevertheless, in relational ethics, participants are being assured that they are protected from any physical discomfort by not interrupting their working schedules, any form of embarrassment, and from any constraints in answering the questions. Secondly on the interviewee's ethical consideration side, interview questions are open-ended type, in which respondents are freely to provide their views and opinions openly, at the same time assured the information gathered will be protected for academic purpose. In the case of information disclosure that is related to private, confidential and sensitive issue, interviewees shall make their standing that is purely their own views and opinions when answering the questions.

Hands on work for the case study was conducted in Johor Bahru, capital of southern state of Johor, Malaysia for approximately two months. The respondents are organization leaders who were known to manage the firm's operation and profound with heading business organizations. Five respondents in the analysis drove medium scale organizations and they comprised of managing director, chief of operation, executive director, general manager, and factory manager. A semi-structured interview guide was utilized and two questions given on the awareness and significance of leadership or quantum leadership. The planned questions were expansive enough to catch a wide scope of encounters and sufficiently to elicit and investigate respondents' experience. Extra examining questions were interlaced during each interview to look for more clarification.

Triangulation of data

Nature of data in an analysis will connect the implications, understanding of the respondents, researchers' translation and go through corroborative analysis. However, it is an unavoidable limitation when the connecting procedure cannot be made unequivocal due to private understanding. Therefore, coding process and triangulation of data will be utilized to guarantee the nature of data along with different strategies for corroborative analysis.

Data collected will go through first level coding process, that is data-driving coding or open coding which assign unique labels to text passages, categories of information in broad code way. The use of coding is based on participants' stories and attribute coding based on their background. Second level of coding would incur axial coding which deeper in analysis identifying patterns and relationships between codes including categorization of codes, in focus way. Next is the selective coding that build sub-categories and validation of relationships in the process which eventually linking the data with the literature. Finally, triangulation of data will take place, a method to meet confirmability criteria in order to reduce bias from multiple perspectives and leads to integration for this particular study. In short, highlighted phrases, content area, primary categories, identify linked categories, and organized linked categories are the triangulation processes.

Audit trail is established for this study to achieve dependability for this research. Hence, procedures in audit trail will illustrate the findings are based

on the narratives received from participants, how data are collected, analysis of data in transparent manner, coding process, categorization of codes, codes to be clustered together in order to form a theme, and clarification on the logical way for this study.

FINDINGS

Five respondents who are selected and contributed this study are shown as below for their general thoughts and views on quantum leadership and quantum leader.

Table 4.0 – Interview excerpts

Respondents	Overview responses
R1/MD/AQ	We do encourage every employee to exercise leadership, utilizing their ability, capability and skills. It is ideal way to merge both manager and employees together. We want to see the talent in the workforce synergizing organization system and to be able to create and bring success to the whole organization rather than the self-interest of the individual parts. Perhaps, this is what you mean in the quantum leadership perspective.
R2/CO/HL	Vague about quantum leadership but the most important thing is that we must explore the pursuit for more dynamic mental models that capture unpredictable, unprecedented happenings of transformation confronted by today's organizations like during this Covid-19 pandemic downturn.
R3/GM/PQ	To me, things can be done or executed in simpler way, please do it simple way, do not make it complicated and create chaos in the organization. I believe quantum leadership is all about a broader perspective with broader view using holistic approach. Leaders connect the needs of external parties to the people in the organizations, they are inversely magnetized with each other, bring forward the message and value along, belief to carry forward, leading the firm during turbulence and uncertainty.
R4/ED/AI	Main thing for us here is the leader is the key about seeing the whole picture and know how everything is connected to the organization. Of course later he or she would require to manage the entire system well. I would prefer all rounded and knowledgeable person as the organization leader, not just in one field but able to manage multitasks in different fields.
R5/FM/MC	It depends on which leader roles. For example, a leader in operational management should know most of the things in the organization, from head to tail, while top management leader does not have to know everything, they would leave the responsibilities to the top managers. But generally, we as leaders need to take care most of the things, from machineries to human beings, from critical issue to trivial cases, it has to be an overall role and responsibility.

The analysis uncovers the unbounded soundness of quantum leadership perspectives in psychological capacities by emotional and conative behaviour. In light of these findings we may hypothesize that profoundly inspired leaders will generally attempt to achieve balance and unbounded capabilities so as to make compelling right decision and management.

Basically at this moment whole market condition is not good and not going to be good for the next 1 year....we are SMEs only, certain huge changes unaffordable for us to cope. Therefore, what we are hoping is that the leaders here able to bring in creative ideas and innovate, adept at something currently we have and try something new. To my surprise, we are seeing some improvements now...(R1/MD/AQ)

I think this quantum leadership style already exist within us, most of the time how we interact with our employees openly with consciousness, adopt and adapt to the ever-changing environment, it is already there...(R2/CO/HL)

Along these lines, this analysis features the need to suit leadership style in the working environment and in any event of society. It could impact the conduct of these individuals by further supplementing the good and moral values so as to determine any form of predicaments that organizations would face. Another ramification emerged from the findings in this study is that the leader's extraordinary edge of reference during right decision-making is probably going to impact the conduct of invigorating ethical business practices. Organization leaders who truly work from rigorous standards are probably going to be exceptionally dedicated and committed to the well-being of their employees and other stakeholders.

If you want your organization to be smart, make sure your organization leaders are smart people who can copes with any rapid changes and conditions, also the uncertainties nowadays... (R3/GM/PQ)

Quality of education is undeniable but we do look on the practical experience and maturity level of the leaders that we appointed, how to be flexible, be intuitive and alert to upcoming issues or problems, what are the impacts on decision-making, and so on...(R4/ED/AI)

From the above statements received, when profoundly inspired leaders discover the right method to deal with any circumstances, in which all things taken into account, the degree they have to arrive more profound in the management procedure plays a significant prevailing job while deciding the result. Organization leader has to be more than or as intelligent and equipped as the organization itself. Hence, a quantum leader is the one who copes with and adapts to the rapid change in conditions and external context, uncertainty, willing to take risk, and knowledgeable to fulfill the objectives of the organization. By taking the qualities of a smart organization into account, the quantum leader need to have strong interaction with the followers, aware and conscious of the uncertainties and probabilities, knowing the discontinuity of own leadership as well as knowing the impact of leadership. From the responses, it is added that being adaptive to the continuous changing conditions, flexible in the processes, be visionary and intuitive, open-minded, using imagination and have the ability to renew and sustain the performance are what organization leaders intended to argue about the qualities presumed in a quantum leader and a quantum organization within a complex environment.

Subsequently, compelling a comprehensive findings for this analysis, it reflected quantum leaders know that creativity and innovation are best nurtured at the edge of chaos. In Naderifar, Barkhordar, Dehkordi, Jalalodini, & Ghaljaei (2016) study, quantum leaders will envision many possible outcomes of a situation or issue to explore, with the greatest possible range of input from others, and addressing them in many possible ways. Feedbacks given by the organization leaders presumed that to become a quantum leader requires nothing less than a different perspective on reality, pragmatic, having a leadership implies that gives way to more subtle, intuitive feeling for the situation and create potential for its indeterminacy principle.

Majority of the respondents agreed to qualify as quantum leaders in the deepest sense, they must have four essential qualities — deep sense of connectedness to its organization and life, have a sense of engagement and accountability, must be aware that all human endeavour, including business is a part of the larger piece fabric, and most important of all, leaders must know that ultimately they serve. However, there is no spiritual vocation in the largest sense of word so far.

CONCLUSION & RECOMMENDATION

Quantum leadership meant to cultivate broader perception, creating greater awareness and build connection to self and community in the natural setting. We could see quantum leadership is really the next edge of business advantage, inspire and engage employees and customers, increase authenticity, creativity and collaboration while meeting new expectations of future generation who wants greater meaning and fulfilment in their life as well as addressing different social challenges. Besides drawing on the findings of this analysis and broadening quantum leadership style perspective, at long last, organizations ought to perceive that spirituality perspective of every part will contrast from part to part and make strides not to disparage or trivialize part's profound perspective. Firstly, one can perceive the commitments that strictly propelled leaders may have the option to bring to the work environment, what is good and bad, and a purposeful exertion to perceive hierarchical part's jobs and duties that could give a valuable structure to leaders' well-being. Secondly, organizations ought to consider making an environment of help and settlement of differing strict and profound convictions by recognizing the leader's existence. Third, organizations should scrutinize the attractive quality of setting up methods to survey reality of the leader's conviction framework straightforwardly meddles with the leader's working or is probably going to get hurt the work environment or to society at large. This paper has synthesized the theories and uncover the contradiction in the review, corroborates findings which mitigate paradoxes in data, providing a fuller picture and deeper understanding on quantum leadership which is full of potential to expand in the context of Malaysia business organizations. Albeit geologically and socially, the setting of this study was constrained to a few industrial leaders in southern Malaysia, it brings up a significant issue for future research on quantum leadership and quantum leader based on work environment spirituality. We believe that future exploration could bring beneficial on job concentration and connectedness in groups, not just based on individual aspect only. Group individuals' connectedness is affected by right critical thinking from leaders in the organization. It is recommended that future experimental analysis may likewise to consider whether quantum leadership spirituality have a huge relationship with much of the characteristics like genuineness, uprightness, and moral practices in organizations. The current analysis was centred around the leaders' point of view and future exploration could analyze the findings from other parties viewpoint, for instance, employees from non-revenue driven segments, clients, and even service providers. Apart from that, this finding will recommend that an edge of reference dependent on an organization with a belief and true value are probably going to be a wellspring of motivation, direction and comfort to assist the leaders make the right decision. In that way, findings of the current analysis are likewise one of a kind to the authentic and social specificity of

taking an interest among Malaysian leaders. There was solid help for perceiving quantum skills in the working environment, especially in regards to singular prosperity that could affect right decision-making. Such analysis would assist the findings of the current analysis which increasingly pertinent to the standard organizations working in Malaysia.

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