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ANALYSIS OF QUANTUM PARADIGM IN EDUCATIONAL ORGANIZATIONS

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ABSTRACT

The daily-increasing developments as the result of scientific progress and modern technologies have altered the organization needs and criteria of organizational success. These alterations have hit the organizations with many problems, directing the attention of organizational science theorists to seek out a new mental model which can provide a better understanding of organizations and address the new needs of organizations. This mental model, referred to as quantum organization, uses the quantum paradigm of physics to analyze the organizational world, and according to the claims of organizational science experts, it can meet the alterations and developments in contemporary conditions of organizations. On the other hand, considering that educational organization such as ministry of education, due to its productive and transformational nature, plays a unique role toward other organizations in which human is considered as both an agent and a goal of development; it requires a serious attitude to create a desired future. Therefore, since the underlying organizational context, such as the quantum organization, is transformation and participation, this paper, while reviewing the literature of the quantum organization, analyzes the quantum paradigm in the educational organizations.

Keywords: *Mental Model, Quantum Paradigm, Quantum Organization, Education Ministry, Transformation, Participation*

INTRODUCTION

Environmental changes resulted from scientific advances and new technologies have made the organizations to face various complicated problems and this in turn has shifted the attention of organizational sciences theorists to the emergent need for finding a new mental model that can better understand the organizations and address the newly emerged needs of organizations. This mental model that is drawn upon the quantum paradigm is called quantum organization. This paradigm seeks to use the principles of quantum physics to redefine organization and management in view of a certain features that they offer for organization and fit them for the existing complicated conditions.

Paradigm Shift

Quantum paradigm was born when Newtonian paradigm resulted from Newtonian physics revealed its inadequacy upon the latest changes. Lack of flexibility and accountability in Newtonian organizations following the emergence of new problems persuaded the scientists to seek after a better alternative for Newtonian organizations. They sought for a new path and method of thought that can be simultaneously flexible and consistent with the changes. In this course scientists levelled numerous critiques against Newtonian thought that had then been

deeply rooted in the society. It was the thought that in the words of Youngblood (1997), for many years dominated the firms, classes, educational institutions, state offices and even religious organizations. Although Wheatley (1997) as one of the pioneers of the use of modern sciences struggled to provide a new definition of organizations, as it was expected and he has mentioned it in his book's introduction, there was a type of resistance against the quantum thought and people shirked using new ideas. Insofar as he added a chapter to the new edition of his book that was devoted to the reformation of the general concept of organization in new sciences. The domination of Newtonian mindset caused the new approach to be hardly accepted by the societies and as Kilmann (1999) argues, it was perhaps for this reason that Fayol and Taylor decided to find universal laws that could assist the managers for controlling and predicting their staff. According to Stacey and Shaw (2000), generally speaking, managers always seek to control all affairs. They believe that when problems occur they order new systems to be designed that are able to analyze more information and allow them to better manage the conditions. This is as though the managers use linear functions and think and act in mechanical fashion.

Wheatley (1997) a critic of Newtonian thought states that we can no longer use old maps they will lead us nowhere and only remerge. They just add to our confusion. They cause us to focus on wrong affairs. Then using the same models furthers the existing confusions. In Newtonian perspective in which, as Zohar (1997) highlights, the world is deemed in a way that the natural laws are knowable and predictable. Then they are controllable. The same is envisaged to be the case with even the social issues. According to Wayne Godfrey (2009), in Newtonian world in which everything is divided into the smallest parts; and every single part is analyzed independently; prediction and control is the ultimate goal. But the emergence of unexpected problems and difficulties as well as the globalization and scientific and technological advances proved that Newtonian laws are useful for the past simple era. In the words of Hilton (2008), a complicated adaptive system cannot be changed into a set of elements; thus a reductive method cannot be used for the study of complicated adaptive systems. Therefore, for studying the complications of system in various contexts one needs to understand the overall patterns in a complicated environment.

Quantum Approach

The unprecedented challenge for the executive managers is the complicated transformations that have turned even more complicated and confused upon the scientific development following the emergence of modern technologies and globalization. Kilmann (2001) claims that we need to adopt a new integrated approach for new millennia. In these conditions Quantum organization is a new paradigm that can provide the path for new thought and action in a new direction. This is a thought that according to Pellissier (2011), requires innovation, open and creative space, group work, creativity, courage, renewal, innovative leadership, metaphors and investigation, appreciation.

Guillory (2007) believes that adaptation and harmony in twentieth first century with the course of changes is not possible in linear form rather it needs creative approach. In his opinion, creative adaptation is the natural result of consistency and harmony of modern organizational models that have been designed due to the existing uncertainties in business environment and are called futurist organizations. According to Kahil and Zaazou (2016), the basic logic of such organizations is to be more flexible, adapted and productive in order to



remain alive and superior. Lord et al (2015) as a result of their researches has stated that quantum theory can lead us to various interactive solutions in the course of time; then it can show the complication of change; the path that cannot be shown by the current models. It was indeed in this way that the traditional model of organizational development was replaced with new methods in the age of uncertainty, complication and globalization. Therefore, findings show that traditional beliefs about organizational environment are narrow-minded due to the mechanical worldview and the contemporary thought of environmental dynamicity in organic organizations has given rise to a new generation of organizations; the organizations that are called quantum organizations (Deardorff and Williams, 2006).

Quantum Organizations

Such organizational sciences experts as Zohar (1997), Youngblood (1997), Shelton (1999), Kilmann (2001) and Deardorff and Williams (2006), have offered various definitions of quantum organization. These definitions are majorly descriptive. Insofar as Shelton (1999) has described quantum organization as an organization that is continuously changing, adaptive, agile, and without borders in which innovation and free information prevail. Shelton and Darling (2003) believe that one of the features of quantum organization is its new structure that differs from the hierarchical structure of traditional organizations; because these organizations enjoy the benefits of being network-like, i.e. speed and flexibility. He believes that in quantum organizations due to transparency of intentions the need for managerial intervention reduces and instead the common goals are highlighted. And through dialogue and communications the conflicts are valued; then various communicative processes are used to establish common perspective and make the goals and intentions transparent. Malloch and Grady (2007) have described quantum organization as a balanced and flexible organization the leaders of which pay special attention to balancing. Araujo (2012) argues that organizations enter the quantum world which relies on more interaction, relation and harmony of value network. Baber et al (1999) believe that this organization is of the highest degree of flexibility and adaptation in which the organizational atmosphere is open and supportive. Collins and Porras (1994) contend that inconsistent organizational goals in such organizations can have a desirable coexistence and this coexistence is possible via major goals and values. Handy (1998) argues that quantum organization is a collaborative system the members of which are directly concerned with the needs of customers and leaders. Pellissier (2011) has defined quantum organization as the fabric of a dynamic and ever-changing network of relations that has trust, connectivity, creativity, balance and open opportunities as its bases. Baber et al (1999) have stated that in these organizations the emphasis is laid on team work and collaboration in decisions made for the interpersonal relations. As to the importance of human resources in this type of organization they have claimed: "in this type of organizations a particular attention is paid to the cultivation and improvement of human resources in a way that the members of the organization have a strong feeling of value and desire to have a major share in the organizational success. Kilmann (2001) considers quantum organization a space in which the individuals have a sympathetic thought and are persuaded to learn more. It is an organization the whole members of which feel themselves deeply connected to a learning ecosystem and the success of every individual member depends on the total success and development of the organization.



But the definition that Deardorff and Williams (2006) have offered of quantum organization is as follows: “quantum organization provides a capacity for establishing a powerful space full of trust, security and sense of belongingness that continuously reinforces the inspection and organizational learning and sets the ground for self-valuation.” Accordingly, quantum organization features a space and culture in which the individuals work with utmost sense of harmony and belongingness to which Shelton (1999) refers as common sense; they seize on every other opportunity for enhancing their capabilities via continuous self-making and a special type of inspection. Thus they reach nobler values that are higher than the common values. Shelton (1999) believes that individuals in quantum organization see everything in systemic way. They consider their organization to be dependent on a whole that expands beyond their work structure. Deardorff and Williams (2006) liken the collaboration of the individuals in quantum organization to the individuals in an orchestra who tune themselves with the notes that have been previously written and their result is harmony regardless of the differences of instruments used in performance. He states that individuals in organization move and think as a whole and this is done in a harmonic, positive and powerful way.

Table 1. A synthesis of the literature on properties of the quantum organization

Clusters of themes	Overman (1996) – Quantum organisation	Youngblood (1997) – Quantum organisation	Conner (1998)	Zohar (1997) – 8 features of the Quantum organisation	Kilmann (2001)	Pellissier (2001)	Deardorff & Williams (2006) – Quantum organisation	Guillory (2007) – Future Perfect organisation
Common purpose is shared and owned by everyone	Common purpose	Promoting ownership	Deep sense of shared purpose	Participative in nature	Everyone is involved in the design of structure and strategy.	It is creative and collaborative	Owned by identifying with values.	*
Learnig	*	Learning as key competence and catalyst for innovation	Learn from experiences	Continual selftransformation of the leader takes place through learning.	Continual improvement and selfreflection; focus on learning	Organisational learning and renewal necessary for survival	Learning is important and continuous	Learning is key
Organisational structure	*	Web-like organisational structure	Line operation and flexible interpretation of existing roles; assume new job responsibilities on periodic basis	Networked	Crossboundary processes as opposed to silo thinking and operations	It is decentralised	*	*
Self organising Charac eristic	*	*	The role of selforganisation in the organisation’s future.	Selfmanaging infrastructure; bottom-up flow of ideas; nurture creativity; spaces with no boundaries (selforganising and	Management of self, teams, systems and processes	It is selfmanaged and leadership based on real trust	Relies on selfemergence of unique solutions, ideas and insights through the self	Self-directed performance and creative adaptation in process; constant evolving



				emergent)				
Role of Self	*	Awareness of self and mental model	*	*	Deep internal commitment to selfdiscovery	Selftransformation as the key ingredient for effective leadership	Journey inwards to self as key requirement at individual level of leader to create synergy	*
Power and control	*	*	*	Replace control with trust	Empowered relations among active participants	*	*	*
Diversity	*	Ensure the rich flow of information and diversity in opinion	Diversity of ideas	Inclusive and not exclusive (e.g. us vs them)	Eternal selftransformation of flexibly designed organisations	*	*	Diversity in people is valued and comprehensively integrated
Information	Reliance on nontangibles such as information	*	*	*	*	It is information based	*	Information sharing
Management of paradoxical nature due to ambiguity	*	Ability to hold and manage anxiety that comes with paradox	Leader's and organisational ability to manage chaos and the unexpected as an asset	Flexible and responsive due to ambiguous and complex environmental phenomena	*	It is rapidly adaptable and extremely agile	*	*
The role of the leader	Leadership is not a position, but a process and distributed phenomenon.	The shift from an event to a process mentality	*	*	*	*	Create synergy through selfsharing with others	*
Vision and drivers	*	Creating compelling goals and vision	It is vision driven.	Vision centred and value driven.	*	*	*	The vision is customer integrated and driven.
Potentiality and energy	*	*	*	Realise value of taking risks and encourage play and rewards creativity	*	*	*	*
Participatory universe	*	*	*	Concerned with symbiosis of human and non-human dimensions	*	*	*	*



Quantum Organization and Education

On the one hand, Department of Education is one of the fundamental and productive organizations of every country. According to Kazemi (2011), it is through education that cultures, values, knowledge and skills are advanced and nurtured. Education is an institution that devotes its efforts for the growth and elevation. The destiny and future of every nation is directly dependent upon the effectiveness of the educational system of that country. In many countries including Iran, official education is assigned to the government and Department of Education. Those countries that have experienced numerous developments in all political, economic, cultural and educational aspects invest heavily on the realization of development goals.

Department of Education due to the vital role that it plays in the educational domain needs to pay serious attention to the exploitation of new facilities for building a desirable future. Department of Education does also have an indispensable role in providing human resources for other organizations; moreover, the society's expectation about training efficient, powerful, vital and committed human resources, on the one hand, and the fact that the major body of educational system is consisted of human forces, on the other, double the importance of Department of Education. Therefore, this attention to human forces will have more important role in the development of social systems and it will guarantee the success or failure of organization. Particularly, in this organization man is both the goal and agent of development. Then, with optimization, growth and development of human resources using potential and actual potencies of these resources as the invisible capital of organization we can perhaps bring about transformation for organization and society. Because today in many countries, human investment and enhancement of the quality of workforce are considered to be among the major ways for acceleration of growth and development of organizations. Although various elements other than organizational forces are influential in organizational efficiency in so-called quantum organization a special attention is paid to the significance of human forces as well as the interpersonal relations of staff who are the energy source of the organization. Thus the organization staff regardless of their rank and position actively collaborate in a motivated way and serve as the chief source of development of the organization.

Department of Education is known as a knowledge-based and transformative organization in all societies; then it can be efficient and effective only if it is evolving towards the learning organization in a dynamic and continuous fashion; and this in turn requires it to have sub-structures and qualities like quantum organization; because quantum organization maximizes the learning circles and collective thought and thus it brings about a capable space based on growth and dynamicity. Such an organization is grounded in dialogue, trust, values, and spirituality. Shelton (1999) explicitly describes quantum organization a learning organization that is continuously changing and transforming and this continuous betterment of learning is part of cultural norms; insofar as work place, colleagues and relations are considered as valuable opportunities. Malherrbe (2011) believes that the competitive advantage of quantum organizations lies in their orientation towards learning and thinking that is itself the source of change and innovation. Kilmann (2011) also endorses this view when he states that quantum approach is chiefly based on the creation of consciousness and knowledge among the staff of an organization; insofar as in the definition of quantum organization it is said that "in quantum organization individuals are more persuaded to learn. The organization the whole



members of which consider themselves deeply connected with a global learning ecosystem and the place of every member depends on the role he undertakes in the ever-developing movement.” Department of education due to its expanse and numerous human resources requires mutual trust among the organization members, and future plans that are pursued to their end. When the staff believe more in justice and honesty the workplace turns more trustable. Budlaei et al (2011) have asserted that Department of Education is an organization with long term goals. It is indeed the existence of trust that allows the staff to focus on long term activities and sustain the team work spirit. Therefore, in an organization like Department of Education as an organization with long term goals there is a need for a higher degree of trust that is desirable for team work. Concentration on long term activities and optimization and protection of system are vital. Deardorff and Williams (2006) believe that trust is a prerequisite of creation of a quantum organization. Kilmann (2001) argues that in quantum approach the quantum organization relies on trusted individuals inside the organization. Trust in the ability to make fundamental decisions representing the organization. He has declared that one of the basic principles of quantum organization is trust, connectivity and collaboration. Baber et al (1999) state that in these organizations the emphasis is laid on team work and powerful interpersonal relations; because according to Malloch and Grady (2007), regardless of the individual’s importance the interpersonal relations and collective relations with the system is of higher importance and vitality. The leaders of such an organization, according to Shelton and Darling (2003), avoid the spirit of domination and seek to assist the organization to self-regulate and self-organize based on trust and flexibility without any unnecessary intervention.

Open communication space allows the individuals in organizations to be able to share their ideas and thoughts in a dialogue. Department of Education requires various forms of interactions due to its expanse and numerous human resources. In quantum organizations, according to Shelton (1999), all relations serve as extraordinary opportunities for learning. Then space and time are prepared for the dialogue in order to attain better results. For powerful relations are the basis of power in an organization. Dialogue and relations in organization can serve as a suitable basis for the crystallization of new ideas and creativity; this space should be transparent and secure and void of any judgement and pave the ground for a constructive and positive dialogue for reaching a common understanding based on which the problems inside the educational organization can be solved.

Deardorff and Williams (2006) also contend that in quantum organizations dialogue enables individuals to find new and unique useful paths; paths that have their origin in various cultures, shared suppositions and views. Shelton and Darling (2003) highlight the importance of relations in quantum organization and argue, “quantum organizations have the capacity to maximize the network benefits. Thus the staff are of multiple relations and skills”. He believes that various communicative processes are the major source of transparency and shared perspective. Collins and Porras (1994) also offer their description of the relations and communications in quantum organizations: “in these organizations a considerable emphasis is laid on relations and the effort is made to facilitate the relations inside the organization via decentralization and using autonomous structures and taking advantage of vertical, horizontal and diagonal relations.”



Department of Education is of an indispensable role and significance as compared to other departments and organizations; because it is an organization that produces thought and knowledge; due to its productivity it should have the power to create new transformations; given the fact that the axis of an organization in production of new and unique ideas is sympathy that becomes crystalized in sharing of individual skills, capabilities, visions, identities and values that unites the staff for the realization of the same goals (Deardorff, 2006). Then sympathetic thinking and getting individuals involved in diagnosis and treatment of problems are of paramount importance in the country's development and betterment in future. Kilmann (2001) considers quantum organization a space of sympathetic thinking in which the individuals enhance their creativity, collaboration and commitment. In his view, they will transform themselves and their organizations. He contends that the leadership of such an organization should be in collaborative fashion in order to accomplish it in more effective way and create a sense of value in the staff as the core of organizational productivity. Shelton (1999) is of the belief that individuals in quantum organization have positive and ever-increasing mutual effects on each other and the organization itself. Department of Education, according to Bani Taba Jashwaqani (2014), due to its mission is the lighthouse of all citizens in the society and paying attention to cultivation and spirituality in this organization is of paramount importance. According to O'Toole and et al (2002), those organizations that seek after spiritual and genuine goals are successful in creating motive and retaining their staff. Then Department of Education if pays serious attention to the meaning of life in its staff can reach better results and more efficiency. Because according to Zohar and Marshall (2004), such organizations as quantum organization are based on spirituality; they bring about a wider context for meaning and value that in turn lead to the increase in efficiency, lesser staff turnover, more loyalty and of course better profit.

CONCLUSION

Nowadays the key to the organization survival is change; in other words, the complications of modern world that are resulted from various scientific development require us to adopt an approach that is more consistent and flexible with the changes. In such conditions new visions that have their origin in modern sciences study the organization from various perspectives and explain the complicated phenomena that challenge Newtonian views. Quantum perspective offers a new perspective of organization based on more flexibility and accountability before the fundamental changes inside the organizations. On the one hand, Department of Education is a transformational organization and this causes it to have such substructures and qualities as quantum organization. Because quantum organization maximizes the number of learning circles and collective thinking and thus creatures a powerful space for growth and dynamicity. Such an organization is grounded in dialogue, trust, values, and spirituality.

Department of Education due to its expanse, numerous human resources and the interaction of various sectors requires mutual trust of the staff in each other, in future and the continuation of the plans of the organization. When the staff believe more in justice and honesty this increases the confidence and honesty inside the organization and the members become more purposeful with their sense of optimism and job satisfaction. They feel deep values in their work that are valuable beyond the material awards. If an organization provides an extended value context of meaning and goal for its staff spirituality and honesty will be created inside



the organization; insofar as they no longer see any difference between their vocational goals and personal values. Thus a common ground is provided in which the individuals struggle in various ways to reach a common understanding of the organization and here different communicative processes inside the organization can encourage the individuals to listen to each other and think jointly and find better efficient ways for solving the existing problems. Now Department of Education should provide a temporal and spatial context for extended dialogue and relation in the current complicated situation in order to empower its staff enough so that they may reach the organizational goals in a comprehensive fashion. This organization due to its knowledge-based nature should essentially pay more attention to continuous education of its staff; particularly, education itself should be the source of change in society. Then internal continuation of this organization depends on the continuation of teaching and learning.

As it was mentioned such features as trust, spirituality, values, dialogue, sympathetic thought and continuous learning can better the conditions for Department of Education. The existence of these features in an organization called quantum organization, according to the organizational sciences experts, can further and continue the change inside the organizations. Then one can conclude that quantum organization in Department of Education can provide more powerful space in which the individuals can move as a coherent whole to attain the organizational perspective; a space that can undoubtedly lead to growth and flourishing of educational organizations of the country. Then there is need for further studies in this area.



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