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***Research Article***

# QUANTUM PARADIGM IN STRATEGIC MANAGEMENT OF MEDIA

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## ABSTRACT
Great advances in physics and the formation of quantum physics improve human understanding of chaotic and complicated phenomena. The growth of influence of quantum theory was so much that its principles and concepts started to be used as a paradigm in other disciplines such as management. On the other hand, media management and strategic management are considered as new trends in management major. The purpose of this paper is to explain the implications of quantum theory in strategic management of media. For this purpose, studying theoretical principles and hermeneutic interpretation methods were used. In this paper, based on the theoretical principles, concepts, principles and rules of quantum theory were identified and their interpretations in strategic management of the media were determined. The results showed that the quantum paradigm has great analytical capabilities in strategic management of media, especially in optimal utilization of human capital.

***Keywords:*** *Paradigm, Quantum Theory, Complexity, Methodology, Strategic Management of Media*

## INTRODUCTION
All phenomena (creatures) are inextricably related to each other. This contextualism property of phenomena causes them not to have a fixed identity when they are in contact with each other. Thus, they co-create with elements of their environment (environmental factors). This means that as quantum phenomena are uncertain and indefinite, as long as the relations between them are set, they will not have a fully fixed identity. This feature gives the quantum system maximum flexibility to define itself in terms of environmental conditions (Zohar, 1997) and enables it to deal with the creation of its own dynamic identity. During the co-creation process, chaos prevails - a condition in which the order patterns cannot easily be recognized and interrelations (internal communications) cannot be understood (Pascal *et al.*, 2000). Accordingly, when all complex systems of nature, delicately create a balance between stability and flexibility, act very creatively on the balance with chaos border (Zohar, 1997).

### *Quantum Perspective*
In quantum perspective, nature is thought of as complex, constantly changing, turbulent, chaotic, unknown, and with uncertainty (Zohar, 1997), a place where nothing is static, and events are not predictable and controlling them is a kind of delusion and imagination (Stacey *et al.*, 2000). According to the concepts of quantum physics, the interaction effects of all the changes that constantly occur, inevitably lead to changes in the other parts of the field, and convert the quantum vacuum into a wide lake of potential turbulent forces and an entangled pattern of dynamic energy that are beyond the control and prediction-at least by human (Zohar, 1997).
Elements of nature locally interact with each other and through this interaction; they create coherent patterns in themselves (Stacey *et al.*, 2000). In fact, in quantum perspective, world, as a self-organizing system, evolves and develops in order to achieve higher levels of complexity and coherence (order), and chaos and disorder grow and eventually lead to order (Shelton and Darling, 2001).
According to quantum perspective, human are quantum beings, although at first glance, everyone seems a corporeal being. This creature also has an intangible and immaterial dimension (known as the mind) whose function is supposed to be under the influence of quantum principles (Deir 1998). Quantum mechanics has shown that behaviors such as thinking, regardless of their context, is indeterminable and their context (past and present) is beyond full description (i.e. they are infinite). Processes of monitoring behavior or sharing ideas define a new relationship. Therefore, the observed behavior or shared idea will be different from unobserved behavior or unshared idea (Stumpff, 1995). Therefore, from the perspective of quantum paradigm, human and his behavior and ideas are influenced by the quantum properties. This

issue has a great importance in the quantum interpretation of organizational life and in the methodology to explain human behavior in organizations.

## MATERIALS AND METHODS

### *Methodology of Quantum Paradigm*

Quantum paradigm emphasizes the combination of objective and subjective (the overlapping world) and that the scientist is part of the research topic and interacts with it (Fris and Lazaridou, 2006). The quantum paradigm questions the Newtonian paradigm assumptions based on mechanistic predictability of man and nature, and that the reality is merely objective and understanding it is achieved only through the senses (collecting and analyzing data) (Furuholm, 2004).

Accordingly, in terms of ontology, in quantum paradigm, reality is not a physical and independent phenomenon and based on the experience and interpretation of the investigator, it may have different meanings.

In quantum paradigm multidimensional approach, contextualism and causal dynamic and non-linear relationships are emphasized. Quantum paradigm claims that reality has a phenomenological mode and thus questions maintaining objectivity in scientific studies (Gamson, 2006). Therefore, from epistemology perspective, quantum paradigm is based on the idea that knowledge cannot be objectified. Because knowledge is the product of a process, where maintaining objectivity is questioned and values and other factors can induce skew.

In terms of methodology, the quantum paradigm has a unique perspective. Unlike Newtonian paradigm that is component-oriented and focuses on components, quantum paradigm is holistic and focuses on the relationships (Zohar, 1997). In this view, nothing is static (Stacey *et al.*, 2000), nature is constantly changing and uncertainty reigns there (Zohar, 1997). In quantum paradigm, nature is assumed as complex, chaotic and unpredictable in a way that it cannot be controlled through direct human intervention (Fris and Lazaridou, 2006).

According to these assumptions of quantum paradigm in management, access to knowledge through examining research propositions, in carefully controlled conditions, is not possible. In this paradigm, knowledge is obtained by offering various interpretations of reality and creation of the agreed model. Based on the quantum paradigm, due to ambiguous nature and relational borders of quantum phenomena called contextualism, for recognition, measurement and using quantum phenomena, one must always observe them in a larger context that the relationship among those phenomenon defines. Thus, to understand the reality, quantum approach focuses on qualitative research methods (Gamson, 2006). Of the main features of this type of research is that the world is composed of multiple realities and assumes a mental relationship between researchers and participants (Sarantakos, 1998).

### *Quantum Organization*

In management knowledge, paradigm involves basic ideas about reality (Zachariev, 2002). In quantum paradigm in the management these ideas are affected by quantum physics concepts, and based on them analyzes and describes the realities of the organization and management world. This paradigm presents a new perspective of the organizational world; a perspective that is both objective and subjective, rational and irrational, linear and non-linear, and regular and irregular (Shelton, 1999). Within such a perspective, phenomena, including individuals and organizations are considered as recognizable specific patterns of energy placed in the quantum vacuum (Zohar, 1997).

Quantum organizations have certain characteristics that distinguish them from Newtonian paradigm. In total, reductionist, vertical, mechanical, hierarchical and sectoral properties in Newtonian (traditional) organizations and multilateralism, multidirectional, cross-correlation and compositional properties in quantum organization have spread and domination (Malloch and Porter-O'grady, 2007).

Quantum organization is an organization constantly changing, adaptable, agile and without boundaries where information and innovation flow freely. It seems that one of the reasons for the above competencies are these organizations' organizational structure's getting distant from the traditional hierarchical and pyramid structure.

These organizations have the ability to maximize the benefits of being network that is they have speed and flexibility. In these organizations, communications are multidirectional, and staff is multi-skilled and confidence is at a high level. In this type of organizations, intervention and guidance of manager's decrease by clarifying objectives, and developing common objectives is emphasized there. Hence, in quantum organizations various communication processes are used to create shared visions and transparency (Shelton *et al.*, 2002).

Communication channels are of the main elements of organizational complexity (Rahman and Nobarif, 2006); this issue is fully realized in quantum organizations. In these organizations, it is tried to facilitate communication in organization through decentralization and using self-managing structures and utilization of vertical, horizontal and diagonal connections in the organization (Collins and Porras, 1994).

Of the other properties of quantum organizations is that in these organizations, conflicting goals can coexist in a good way. This issue is realized through core values and objectives. Core values are basic and sustainable principles of an organization and a set of everlasting guidelines. Those who have common core values do not necessarily have the same mentality or perspective. Core values are more comprehensive and inclusive rather than excluding and originate from high human and spiritual values such as integrity, cooperation and empathy. Members of quantum organizations are not only shared in a number of core values, but also adopt attractive core objectives. This purpose is of the main reasons for the existence of the organization, regardless of wealth creation (Collins and Porras, 1994).

Quantum organizations are flexible and balanced organizations. In these organizations, leaders paying particular attention to flexibility in the process of carrying out the job, creating balance between mechanical-structural formality of the organization and dynamics between sectoral-relational parts as well as recognizing the contribution of each in the other and in general, (Malloch and Porter-O'grady, 2007).

In quantum organizations, neither competition nor cooperation entirely rules and depending on the circumstances their levels vary (Malloch and Porter-O'grady, 2007). In these organizations teamwork, participation and partnership in decision-making, strong interpersonal relationships, and trust are emphasized. In quantum paradigm based organizations, flexibility and adaptability are at a high level, organizational climate is open and supportive, and special attention is given to fostering and developing of human resources, so that the members of the organization have self-esteem more than ever and want to have a greater share in the success of the organization (Babor *et al.*, 1999). The realization of the above advantages and the formation of quantum organizations require a particular way of management called quantum management (Muhammad, 2011).

***Quantum Management***

Quantum paradigm in management tries to use the concepts and principles of quantum theory as guidance to describe and explain the organizational phenomena and solve management problem. Quantum paradigm introduces models that can be utilized in different aspects of organization and management (Lynch and Cocks, 2003).

In quantum perspective, management has a special meaning- there management means designing that is the main element of creating strange attractions (Fris and Lazaridou, 2006). Strange attractions remind managers to find order in chaos. Drastic changes, erratic behaviors, unpredictable changes, critical movements all eventually end in a model finding which is the art of managers (Alvani and Danai, 2005). In other words, strange attractions are not without a pattern and follow a specific pattern and their value is in having this pattern. These attractions have complex geometrical characteristics and inaccurate dimensions and their path is twisted and multidirectional. In strange attractions, no path is repeated and every path is a new path for itself. Strange attractions exist everywhere. Whatever seems disordered and chaotic at first sight shows regular patterns in long-term with repetition.

Quantum managers are the real leaders of quantum organizations. These organizations are able to progress in disorder (Youngblood, 2000). Quantum theory tells us change is not one object or an event, but shapes world. People cannot avoid change because it is happening everywhere. They can only affect the situations and consequences (Malloch and Porter-O'grady, 2009). Change routes are in the nature of the quantum vacuum, and managers can only go with the flow of self-organization and work with the

entangled flow of patterns of dynamic energy that relate all phenomena and are the driver and developer of change (Stacey *et al.,* 2000). In the process of change and evolution, chaos is an inevitable and essential element, and is a catalyst that creates imbalance needed to develop the system. Chaos is background to make progress: without change chaos, entropy will happen. Quantum managers know that if they want reliable self-organization to happen, they should be willing to temporarily enter chaos (Shelton and Darling, 2004).

Therefore, in the quantum world, managers' challenge is move in the chaos border; they have to learn to move with this process, and understand that change cannot be controlled, it can only be understood and perhaps guide, but controlling it is not possible (Fullan, 2001).

In Newtonian management, by using some techniques, it is tried to achieve the objectives and intended results, and manipulate, control and predict phenomena-man, materials and environment- prediction (Zohar, 1997), for this reason, in component-based management of Newtonian paradigm, determining the role and system border control are emphasized.

In this paradigm, through belief in the certainty and linear predictability of events and phenomena, control is paid special attention to as a basic function. According to this paradigm, to curb irregularities in the system, the method of defining boundaries and clarifying the rules governing it is used and in order to effect change in the system, the method of redefining the rules and boundaries of the system is used (Stacey *et al.,* 2000).

Quantum managers accept the cooperative and collaborative world and see the organization, employees, customers, clients, society, market and ecology, as elements that can interact and mutually define each other, some interrelated elements that co-create their present reality and future. In contrast, Newtonian managers see members, customers, resources and the environment as things that can be used, controlled and provoked.

These managers talk of staff, resources, human capital and intellectual capital. Methods and structures that Newtonian managers apply are efforts to create a gap between the public and private aspects of life of their employees. Newtonian managers develop and foster only those traits of the employees related to their efficiency and effectiveness in the workplace that the organization needs (Stacy *et al.,*).

*Specifications of Newtonian Management*

Specifications of Newtonian management are as follows:

A) It assumes that the nature has certainty and predictability.
B) To do the work, there is a best way.
C) It emphasizes the control through the hierarchy. Power is concentrated in the hands of oligarchs at the top of the hierarchy of the organization.
D) The division of labor, duty specialization and competition task are emphasized.
E) Staff is a passive resource.
F) Organizational change starts at the head of the organization, and has reaction mode.
G) The efficiency and effectiveness are considered as value.
H) The analysis is emphasized.
I) Individual action is emphasized (Malloch and Porter-O'grady, 2009).

*The Specifications of Quantum Management*

Quantum management specifications are as follows:

A) It assumes that nature is fundamentally uncertain and unpredictable.
B) There are many ways for doing things.
C) it is based on non-hierarchical networks. Influence depends on personality traits, and t is widely distributed among members of the organization.
D) Individual's skills in different techniques, cooperative effort and cooperation are emphasized.
E) Staff is creative and active partners (members) of organization.
G) The change can start anywhere in the organization and have action mode (spontaneous).
H) Meaningfulness of relationships and well-being of employees are honored.
I) Team action is emphasized (Malloch and Porter-O'grady, 2009).

***Quantum Leaders***

In playing their role in information management, human dynamics, diversity, communications, and external and contextual conditions, quantum leaders try to preserve the balance between order and chaos (Malloch and Porter-O'grady, 2007). Instead of, precise and simple, prediction of the occurrence of events or phenomena, they can only estimate the probability of occurrence based on topics, trends or directions (Malloch and Porter-O'grady, 2007).

Quantum leaders possess particular capabilities and characteristics to lead the complex organizations of the present time (Karakas and Kavas, 2008). They are fluid, dynamic and flexible and act as coaches (Malloch and Porter-O'grady, 2007). Quantum leadership shares leadership talent (Restin and Kumasi, 2008).

***Media Communications Culture Strategy***

Considering media as cultural items is due to the fact that, we do not conceive of culture as surface and a social product and we see it as a process with ecological logic. Culture is a dynamic process rising from social context and affecting the media and what is important is that the media are the input output and processor of culture. Media, like language, is a mediator between technology and culture. With the empowerment of the role of this mediator, the resulting subculture from people's interaction with it and the use of the media, media consumption and pattern of this consumption become an important cultural index. We call this cultural index as media communications culture. The importance of media communication culture is due to being the intermediate link between the communication system, the social system and the media system. In analyzing this communication culture as a strategic initiative in the period of transition to desirable point for the role of the media, some elements can be extracted (Hll, 2000; Mac-Quayle, 1979; Fouri, 2002; Poster, 1998; Althusser, 1971):

***Elements of Media Communications Culture and Media Management***

These six trends,

A) The media, the confluence of culture, languages and art (absorption element)
B) The media, social capital asset (trust element)
C) From feedback systems to benchmarking the media (elements of continuity)
D) The media, from messages and news to processing of social media (element of cohesion)
E) From access to use and the transition to interactive participation (engagement element)
F) From education to intelligence and from intelligence to media literacy (advance element)

are in fact, the alternative to processes that have been identified in three areas of content, performance and effectiveness for the media. These elements found a dynamic transcendental communication system where macro-management of the media is, in fact, observing these elements and trying to sustain them (Roshandel and Mostaghimi, 2010). The processes of three areas of content, performance and effectiveness have been identified for the media in Newtonian management. Therefore, for effective and efficient management of the media and comprehensive management in the media with regard to the six complex processes above, in addition to Newtonian management, there is need for quantum management and quantum paradigm.

***Strategic Management of Media***

"The issue of strategy in media industry is considered as one of the subdirectories of media management. The main purpose of media management is to build a bridge between the theories and principles of management, and characteristics of media industry" (Kung, 2012). As media management is considered as interdisciplinary courses, the richness of literature in this field is not limited to the study of management and organizations. The media industry is at a great turning point. "While the largest entertainment agencies are still searching for a form for all the products to greatly influence the audiences, some notable successes in this area arise from another approach that is the emergence of the target audience" (Kung, 2012).

Due to content's getting personal and cooperative and strategic issues in the sphere of media, it can be said that: "The media industry is working in conditions of increasing costs and reducing revenues, intense competition for the attention of the audience and developing media platforms. To ensure the survival and

growth in the future, they should coordinate themselves with the strategic environment and this requires changes in organizational forms. Strategic and organizational tools are needed to achieve this" (Kung, 2012). In addition, technological advances have led to the ongoing transformation in transmitting tool and media industry. "Although not all technological advances are the same, one of the key messages in ongoing technological developments is that media companies like forerunners in other fields, need to distinguish between different types of creativity and strategic responses and organize their strategic responses based on it. Their ability to respond is not only dependent on the content, but also dependent on the process of the strategy applied" (Kung, 2012).

In today's changing media sphere, creativity in media and its strategic importance is undeniable. The importance of creative {organizational} inputs for commercial purposes is undeniable. "Creative people work with the love of challenge and conflicts. They are hungry for a sense of sweetness that comes from solving a mystery and they want to do great things "(Kung, 2012). Due to ongoing technological developments in the external environment of media organizations, these organizations should promote their creative production levels. Innovation can be used in strategy, structure, processes, and economic models of media organizations. The other point is that all media organizations need to be creative. Moreover, all media organizations - like other organizations- have unused sources of creativity, and it is vital that they use them. Theories of organizational creativity show how each of the staff can be more creative if placed in the right position.

"Media organizations should forget mass-audience and should think of small markets with multiple audiences with different tastes and specialties. However, the meaning of mass audience is not totally destroyed and there will always be national mass markets" (Kung, 2012). Another point is that the media organization must adapt and coordinate with permanent and inevitable changes in technology. "Technological advances will continue to weaken established structures in the media industry. Today, this sector is heavily dependent on IT, personal computers, electronics consumer, and telecommunications. Media industries will invest on R & D units as a key to grow, and for the same reason, the governments will push for innovation in this area. If media industries are unaware of the advances in technology, they will certainly be pushed aside by similar industries "(Kung, 2012). Organizational life (in media organizations) needs to adapt to changes in technology and thus organizational learning, the capacity and ability of the organization to learn and change are recommended as a cognitive framework.

***Conclusion and Recommendations***

Quantum paradigm in management has considered organizational concepts from a different and modern perspective based on certain assumptions, and within its special methodology, it has the ability to investigate and explain the issues that have less been able to be discussed: intuitive knowledge, ethical behavior and order in chaos are examples of these issues. Despite the value of the quantum paradigm, it should not be conceived as the replacement of the Newtonian paradigm. The traditional (Newtonian) and quantum paradigms are none not perfect alone (Droll *et al.,* 2001), they each define and describe different aspects of organizational life and complement each other. Managers should be able to benefit appropriately from each of them. On the other hand, according to systematic approach in form of a comprehensive model of media management, we can give a definition of media management. Media management is the process of optimized utilization of all financial, human, technological, etc., resources to produce, reproduce and distribute purposeful messages within the accepted value system so that with the ultimate goals, the desired effect is placed on the audience (Roshandel, 2006). Therefore, it seems that for the efficient and effective strategic management of media, and the most desirable method for the optimum utilization of financial resources and technology, is using Newtonian paradigm. In addition, the optimal method for the optimum utilization of human capital, meaningfulness of the relationships, well-being of staff, and audience recognition (i.e. anything dealing with humans, human relationships and human knowledge in internal and external environment of media organizations) is quantum paradigm. In strategic management of media, quantum paradigm has extraordinary analytical capabilities. Quantum paradigm can be useful in understanding and improving the organization, leadership, and strategic management in complex conditions of media organizations. The value of this paradigm is in explaining

organizational life in a new perspective. Uncertainty, ambiguity and complexity are of the main features of this perspective.

By considering the complexity of internal and external environment of media organizations, the value of this paradigm becomes more evident. Therefore, it seems that using quantum paradigm is more effective in efficient and effective use of human capital, optimal use of capacity, and the ability of the organization to learn and change.

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