

THINKING QUANTUM LEADERSHIP FOR TRUE TRANSFORMATION: THE TALISMAN OF “NOT TO KNOW” AT THE THRESHOLD OF NEW LEADERSHIP

Assist. Prof. Dr. GÜRCAN PAPATYA

Assist. Prof. Dr. MURAT ALI DULUPÇU

Süleyman Demirel Üniversitesi

Faculty of Economics And Administrative Sciences Isparta-Türkiye

Tel.: 0 246 237 09 21

Fax: 0 246 237 09 20

e-mail: gpapatya@iibf.sdu.edu.tr

dulupcu@iibf.sdu.edu.tr

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ABSTRACT

In the field of contemporary management, everyday a new thing is becoming out of date, assumptions are losing their validity, Newtonian (Mechanistic) assumptions, however, have been still neither affected nor changed by the favour of new developments. Furthermore it is pretended not to see dark clouds on “untransformable transformation”, in the age of the transformation that we live by. Measurable criteria are searched for efficient leadership without the suspect or anxiety about the unsuccessfulness of the success of measurement of the leadership. That’s why, the numbers of leadership or leader typologies, classifications or even specifications are rising within the discipline while, interestingly, nobody feels a necessity of a vision for how to change leadership and/or leader assumptions in this new searching efforts.

The paradigm with mentioned assumptions faced with a very strong paradox, the paradox of need for a reference paradigm to give meaning to the leadership which squeezes us between and/or in paradigms. At this point we have to turn towards transforming leadership paradigm at a very fundamental level. This is true transformation of thinking base. In other words, not to change the things in the room, but the room itself; to relearn how to think about leadership; a leap on our overwhelmingly assumptions; a paradigmatic shift; a leap towards the unknown; a quantum leap.

Changing paradigm or the quantum leap in leadership is due to uncontrollability and unknowability of phenomena where these seem indeterministic, chaotic and complex in quantum paradigm. And to use the whole of “potential complexity”, leadership must be shared, focus of researchers must shift from targets and results of leader that products of mechanistic view, to the process of leadership. If the process of leadership takes the first place in our thinking world then leadership would demand the uncertainty, the unknown and it will have a flexible structure for the dynamics which create leadership. This demand and flexibility mean leadership is hidden and waiting to be discovered, in other words it is continuously created by interaction, like particulars in the quantum world.

Then quantum leadership is about processes, it is unknown and endless, not about to do and determine or results and techniques. It is all about to understand and discover leadership universe and potential, energy and eternity. Leadership is not a deterministic and controllable phenomena. Any attempt to control and to correct indeterminacy will always be unsuccessful.

INTRODUCTION

Since 19th century, leadership, both practically and theoretically has been- and still is- an attractive subject among sociologist, business administrators and management scientist. However, scholars and practitioners could not be able to go beyond a certain leadership perspective for the last 50 years. Although the mystery of leadership has been removed, scholars and practitioners still insist on formulating effective leadership ways and prospects. (Gordon, 1997; Shelton, 1997, 12-14) That is, developing certain criteria for measurement of leadership. Leadership models are only increasing the numbers of abilities and methods that the leaders have to learn, this, in turn, gives scientific prestige to that models. But when we examine various leadership approaches and numerous leader types, we found that they all have similar criteria and they do not change their core assumptions. This may mean that leadership concept is an abstract and uncertain phenomena or that caused a necessity of a journey back to leadership reality, “back to the future”.

This orientation or trend in leadership outstands that leadership form is changeable and re-learnable at any time, that is, it is ready to change, to act or to response. At this point, changing leadership forms, without changing the assumptions radically that leadership based on, make necessary to ask some questions and to seek for answer of these questions. First of all, is leadership about “what” or about “how” ? Does leadership depend on individuals with high calibre and inborn qualities or does it depend on effective sharing of “creative potential”? Is it a necessity or is it necessary? Is leader or the leadership responsible for any unsuccessfulness? How is the position of a leader can be evaluated: according to informal authority or according to his attractiveness on employees?

The numbers of that type of questions can be increased. Here, important point is that there exist no strong connections between to be a leader and occupying a leader position. Traditional management framework views the leadership in the sense of mechanical (managerial) assumptions which describes organizations as separate entities from leadership. This means, there is always me and others, authority and subordinates, controller and the one waiting to be controlled. Potentially everyone wants to be a leader in order to obtain command and control on other. Mechanical assumptions avoids us to view the phenomenon of “us”, instead supports “me and the others”. (Same valid in relations between environment and human kind: me and the environment)

Many researchers concern with the mechanical aspects of leadership, and test the Newtonian assumptions of leadership. This, in fact, encourages the researchers who disclaim mechanical aspects of leadership. Now we feel free to rediscover leadership. But nearly for a hundred year scientists did their best to get us to believe in mechanical leadership which is constructed on three hundreds year old Newtonian assumptions. Accordingly, leaders served for Newtonian paradigm in which leader aims to take the organization one step further away and make the organization work. In this paradigm, if leaders are intelligent, the organization operates well, otherwise different solutions are considered / examined within the boundaries of Newtonian assumptions. But all these efforts were just mechanical and engineerial. Because in an engineering phenomenon everything is –and must be- mechanical, measurable and definite.

These developments about leadership ignore the organic aspects and the non-linear relations of leadership. For a long time, we have been unable to realize that mechanical relations were far from motivating and using intelligence of individuals. We approached to every dimension of organization in mechanical manner. All questions, about quality, motivation and work, were replied mechanically. So leadership position was regarded as a person who was responsible for making us work. Leaders became a power engine which continuously organizes work for obtaining productivity, efficiency and performance. We, the humankind, were viewed / regarded ourselves as dead cosmic particles who were unable to act unless a outside force is applied upon us. If we, as individuals and organizations, were dead, we, including the nature, must be engineered in order to act or control. Work / job became more dead.

But today we are rediscovering that we and the world are alive. As we go beyond machine images, we see that world is supporting us. (Wheatley-Rogers, 1996,10-15) We also see that leadership is alive, creative, dynamic and has self-organizing capacity like other living systems. This new leadership doesn't need involuntary engineering and detailed designs anymore. But to understand these emerging views a) We must have an intent, b) We must realize that these views are supported by auto-feedbacks which cross-examine causality, c) We must realize living and non-linear relations.

This paper tries to get rid of mechanistic thought which has caused us to think in a clock manner, by learning quantum leadership universe. By learning quantum, we may transform the untransformable or what we have thought as transformation.

1. The Mechanistic Thought: Through the Lenses of Leadership

The mechanistic thought depends upon to know and to do. That's why, the leadership is generally related with Newtonian assumptions of a predictable and ordered world. (Nkomo-Cox, 1996, 336; Westfall, 1995) Leadership is a mechanical phenomenon. It is deterministic and predictable. In leadership process, relations and conditions can be defined objectively. Any defect in this process is assumed to be leader's fault/mistake.

Leadership, in mechanistic thought, functions/operates like a machine. It contains static works and behavioral patterns. The followers of the leadership assumed to be homogeneous. Because employees, with similar backgrounds and experiences have estimable behaviors. (Nkomo, 1992, 487-513) These deterministic beliefs and assumptions based on three premises. 1) Reality is consist of categories, there are clear and certain limits of every thing and event. 2) The relation between the events and the thinks is linear. 3) It is possible to know exactly the nature and the relations of every thing by using appropriate means. (Morcol, 1996, 315-326)

Mechanistic thought describes discrete reality, it is a binary science, it categorizes knowledge. That is, everything is either black or white. That results from;

- Specification of future in the present time by a mathematical perspective,
- Determining or fixing the past and future without alternative outcomes,
- Computing exact values of physical quantities,
- Total predictability.

1.1. Notes On Mechanical Leadership

There is not agreement or consensus about the concept of mechanical leadership and its definition. Told (1991, 230-231) argues that this disagreement results from richness and deepness of the concept. Especially, the strategic direction of organizations, the expectation of employees and the dynamic properties of environment effect the dimensions of leadership. These dimensions are 1) Leader 2) Followers of leader 3) Internal and external environment of organization 4) Time, e.g. new theories are added to leadership paradigm as time passes. In fact, these dimensions point out the complexity and uncertainty of leadership paradigm which have been neglected by mechanistic thought. Leadership has no boundaries. Limiting the leadership leads to development of theories which focus on only the leader, the only consequence of leadership. Existing leadership theories support our view about untransformable transformation (not true transformation) or unchangeable assumptions. The dilemma of existing theories helps the search for new thinking bases. However, looking for new thinking bases doesn't neglect the dilemma of existing leadership theories.

1.1.1. The Meaning And The Importance

The definitions and various meanings of mechanical leadership ranges from short and general explanations to long and detailed forms. Yukl (1981, 2) states that, searchers have been investigating leadership concept according to their interest and view. Some leadership definitions (in fact views) are follows:

- Leadership is social procedure in which a person effects others without using any kind of force. (Huczynski, 1985, 389)
- Leadership is an art of influencing people to reach their objectives, to promote the followers and to support them. (Blanchard, 1997, 15)
- Leadership is the personal tendencies and abilities which direct group members to predetermined objectives, and control and coordinate their efforts. (Nalbant et. al., 1997, 18)

It is possible to increase definitions of leadership. Thus, we can say that there are many leadership concepts parallel with the numbers of researchers who tried to define and understand the leadership. (Robins, 1996, 412) The common assumptions of these concept are:

- Control is hierarchical: Although normally no one have mentioned the importance hierarchy in leadership definitions, hierarchical structure can be found if the organization is not within its natural boundaries,
- Closeness: Management power of open and closed systems is different. Existence of mechanical thought depends on closeness,
- Separation or breaking into pieces: It means preventing of collaboration. To survive, status quo must avoid collaboration opportunities which depend on effective communication and interaction,
- Predictability: It helps leadership for collecting data. Prediction is related with existence or to be survived,
- Being systematic: There is not complexity or disorder. Being systematic limits learning. It is impossible to think and learn outside of the limits,
- Orthodoxy: Older thoughts and attitudes are preserved in the sake of continuity of leadership.

We can extract four main parameters from these definitions: (Çelik, 1997, 77-78)

1. Characteristics of leader,
2. Personal properties, behaviors and needs of followers of leader,
3. Organizational properties like objectives, structure and tasks,
4. Characteristics of social, economic, and political environment.

By looking at common of definition and parameters of leadership, we can define it in mechanical manner as: Process of directing group actions and effecting group values to achieve group's aim. But, today's organizations are emphasizing on internal values rather than outside conditions. That's why, it is not enough to define leadership as determining targets, promoting and giving decisions. Leadership must leave its traditional roles. Instead, today leadership must be understood as designing methods to promote learning and focusing on supporting individuals and teams. (Ay, 1997, 278)

Mechanistic thought approaches to the leadership from standpoint of leader. Leaders are seen as a very different and new constructors of organization. In this type of organizations leaders determine common values, culture and vision to provide order, and also they create a system in which the level of individuals are determined according to their responsibilities, not according to their capabilities. (Drucker, 1993, 27)

In this context, mechanical leadership is crystallized in a leader who; (Gibson, 1997, 133-144)

- can take exact decisions in the right time and place with his vision, knowledge and experience,
- has a perfect team, and strategic and tactical plans,
- practices new strategies to provide specialization in the organization,
- creates change and practices it within the organization,
- is ready to meet opportunities,
- is knowledge-centered,
- encourages multifunctional specialization among employees,
- creates value system and culture,
- preserves existence.

1.1.2. Mechanical Leadership Perspective: Focusing On Leader

Leadership assumptions of mechanical thought can be found in similar, but seemingly different, theories or perspectives. These perspectives are examined in three categories: traits (characteristics), behavioral and situational approaches.

In traits approach, characteristics of leader considered as the most important factor that shape the effectiveness of leadership process. (Koçel, 1995, 344-346) All studies in this approach are related with common personal characteristic of leaders. (Ceylan, 1997, 314) Leader differs from his followers with physical and personal characteristics.

High qualities and capabilities of leader is ontologically accepted. (see Drucker, 1997, 8) But the difficulty in describing measurable characteristics of leader and the difference in defining of a certain characteristics by different persons cause limited explanation of leadership process in this approach. (Acar, 1997, 364)

In 1950's difficulties and limitation in prediction of personal characteristics (traits) encouraged the researchers to study on personal behaviors. Behavioral approach interests in the diversity of leader's behavior. (Mallins, 1996, 256) All activities of leader, observed by followers are named as "leadership style". Style describes a combination, represented by a leader that fits with the philosophy, abilities properties and attitudes of a leader. (Newstrom – Davis, 1993, 226)

Efficient leader style depends on characteristics of individuals in the group, the nature of organization and the abilities of leader. (Todd, 1991,223) Leader is a guide, but is also effected from followers. Lensis Likert with "System 4" rule; Robert Glake and Jane Mouton with "Management Scale" contributed to the behavioral approach. Besides these contribution Ohio State University studies and Michigan University studies are other basic researches inquiring leadership from behavioral perspective. (Özkalp –Kırcı,1990, 278-307; Özalp et. al., 1992, 166-167)

Researchers who didn't satisfy with traits and behavioral approaches developed situational approach which emphasizes on conditions.

The changes, occurred in environmental conditions effect the objectives and behaviors of leader followers. This assumption points out necessitates of a different leader properties. Continuously changing environment challenges the validity of singular leader style. (Eren, 1993, 338) "Leadership Theory" by Fred E. Fiedler, "Path-Goal Theory" by Robert J. House, "Normative Theory" by Wroom and Yetton and "Situational Leadership Theory" by Hersey and Blanchard are leading theories of leadership in situational approach. (Özalp et. al., 1992, 168)

All of these three approaches have been a rich source for proving and improving mechanical assumptions of leadership. But focusing on leader avoids us to view other factors that shape leadership. Leadership is a managerial concept in mechanistic philosophy. It is meaningful for managerial concepts like objectives and efficiency. Leadership can also be investigated from other aspects, like personality and group process, interaction, role differentiating, achieving goals etc. (Keçecioğlu, 1998, 9-10) But the factors effecting leadership, also effect the managerial level in different ways. (Werner, 1993,53-69)

1.2. The Change: Untransformable Transformation or "Spurious Transformation"

We witness only the start or the initiation of transformation programs in many organizations, but, in fact they do never transform. There is still a paradox/conflict between the vision and the action of leaders and organizations after this spurious transformation. Organizations' vision and values enforce their harmony of physical- spiritual relations in organizations in order to increase their share in the market. In spite of spending huge amounts of human and economic resources for transformation programs, the content of true transformation is not known by any organizations yet. As a matter of fact, if the content of true transformation is known, probably many organization would not be insisting on transformations. Because, for true transformation it is necessary to change patterns of basic thoughts, feelings and behaviors which have been used for the creation of former structures. It can be easily understood that the result would be "untransformable transformation", if the transformation was tried to be practiced by leaders aiming to obtain command and control. In fact, leaders are trying to not to change or instead trying to preserve exiting structures at the very fundamental level, if we assumed that they see the transformation as an instrument to gain an advantage against their rivals, or an instrument to protect the predicted or aimed state/status quo.

We can not realize or reach to the true transformation by simple solutions. Changing the furniture without changing the room does not provide true transformation. The last stage of untransformable transformation or spurious transformation is to move the furniture to outside of the room. In this case, only trouble and panic remain. Changing thoughts, feelings and behaviors radically makes the transformation true.

In leadership, we have to look for transformation, not to change. In spurious leader case the leader-or, the agent of change- who is assumed to manage transformation, is unable to transform, because of his deterministic and mechanical properties against the true transformation at the very ontological level. With mechanical thinking, leader could never know what would be necessary for transformation. For example, leaders consider motivation as a transformative tool. This means that leaders still prefer to work within the room, with the same concept, processes and objectives. Because, it is too difficult to understand for the people are well educated in mechanical manner or well educated to preserve existing structures. (Zohar, 1998, 51) On the other hand, we can not ignore the reality that leaders try to impose their own paradigm into business life. This kind of paradigms have to be casual, objective, predictable, categorizing and certain.

If we want transformable transformation, we have to change the thinking base that helps us to think. (Zohar, 1998b, 52) To provide/realize transformable transformation, we have to change room, ask new questions fundamentally, view relations through a new eye, or shortly find a new conceptual framework. (Zohar, 1998b, 158)

1.3. The Paradox: The Pressure On Paradigm

The need for a new paradigm in leadership presses or enforces former paradigms of leadership. Because mechanistic concepts are against leadership. The insufficiency of existing of leadership concept doesn't arise from lack of theories and models. The leadership, itself, is not a mechanical concept. That's why former paradigms contain a paradox, that is, leadership and mechanism cannot exist together.

The need for new leadership implies that we can not develop leadership for a certain case. It includes a holistic approach with values which. It has new standards, measures and depend on an uncertain paradigm which able us transcending boundaries of former paradigms, so we may leave out proving and improving efforts. (Covey, 1997, 18-27)

Mechanical system assumes and interests in orderly, unchangeable, predictable and planned states. By looking at the characteristics of leader we have been trying to determine whether he is principle-centered or authoritarian or democratic or not. But all these types are valid in certain states or situations. The process in mechanical system is like painting a picture or constituting a framework. We separate the picture, draw it according to our mind. Paradigm of mind determines how we desire to see reality. Followers also try to take place/figure in the picture, in the framework. Then the leadership becomes as spuriousness, only roles are played in the sake of taking a place in the picture. (Akdemir, 1996,18)

Organizations are alive systems, so the leadership is. In fact they are not playing roles, they are living. Former paradigms or thoughts are against living and don't have enough properties to understand this reality.

Quantum and chaos theories are challenging our paradigms not only in business but also, in all aspects of life. They aren't only challenging mechanical paradigm, they may be challenging the concept of paradigm, too.

2. In Search of New Leadership Threshold: Quantum Leadership

The “change” is an insufficient and unsatisfactory concept for explaining the emerging trends parallel to the developments in the second half of 20th century. Instead, it is inevitably necessary to use the concept of “transformation”. This is because, the concept of “change” implies the improvement of a particular structure's condition by evolution, but “transformation”, on the other hand, implies the movement or the transfer of a certain condition to the another condition by a sudden or rapid revolution. Transformation may be also defined as: “Leaving out or giving up existing structures, directories and trends insistingly, preferring sudden or unexpected differentiating by revolution and preparing for future states or trying to practice future states (trends) henceforth”.

If we accept that we live by the age of transformation, we must transform leadership, accordingly. Because, in transformation, processes are more important than results, this, in turn, by and large caused a shift towards the sharing leadership within the organization for the full utilization of all existing potential. This shift is also encouraged and supported by indeterministic, chaotic and complex phenomena of the transformation. Thus, one can agree on -or, at least feel- the necessity of the paradigmatic changes (on a very large scale) in the thought and practice of leadership. The paradigmatic changes, can also renew, redefine and re-describe both content and context of leadership area in the organization, within the context of emerging ideas. Transformation is cyclical. In normal periods, before the paradigmatic changes, the leadership endowed with more managerial ability is needed or could be more successful. But this style of leadership is not true or valid for transformation periods. In transformation periods, to cope with changing paradigm, quantum leadership abilities are needed. (Şimşek-Aytemiz, 1997, 476-477) Because mechanic (Newtonian) leadership does not reflect all aspect of leadership perfectly and fully. Mechanic leadership may solve mechanic problems. And as in the notion of “identically” of all particles from same sort in mechanistic world, leadership theories, are identical to each other in normal periods. And in normal periods although leadership theories, conditions and areas seemed to be changing continuously, in fact they stayed unchanged. Nothing changes unless paradigm changes. These theories, conditions and areas are similar to each other. The new thought which will offer and provide different and endless properties to organizations, is-must be- quantum (Herbert,1985; Rae, 1986; Planck, 1996, 146-162) and chaos (Gleick, 1987; Prigogine-Stengers, 1984) theories.

Quantum leadership, with its more sensitive content, allows us to understand and to give meaning to the leadership. On the contrary, in mechanic leadership, every choice sometimes empowers and supports leadership theory, and sometimes these choices can be destructive, choices terminate each other. This point can be interpreted as a quantum gate. (Because in quantum theory, waves with same frequency empowers the light and in contrast, waves with opposite frequency terminate each other, weakening the light) At this gate, the choices weakening each other may support quantum leadership. This support may be small, but its level is not. The result of the small may be bigger. This is the “butterfly effect” of chaos theory. Seemingly unrelated and insignificant events and actions may cause bigger affects in the future by differing their changing pattern. According to chaos theory, the relations in the world are so dynamic and so complex as to seem disordered. But, as a matter of fact, there is an order to the chaos, and it is impossible to determine and predict these relations because of the myriad factors involved. (Stillwell, 1996, 6-9) Here we are trying to explain that Newtonian leadership theory seemingly unrelated with quantum leadership may be the butterfly causing a tornado, -a true transformation-, in leadership theory. So chaos theory helping us to understand, at least to think, quantum leadership.

Today, the most important thing that we are learning about leadership is to leave out the passion of knowing and controlling about what is happening, or to leave out efforts and attempts for determinacy and certainty. (Bergquist, 1993; Stacey, 1992; Wheatley, 1992a) There is not only a one form of leadership. Without control and fear, we can understand -at least realize- other leadership forms. By doing so, our integrated and associated efforts will unfold. And as the organization unfolds we will understand other forms of leadership more easier. We will learn how to live with plurality, instead of singularity.

2.1. The Challenge: Rationale

The challenge towards leadership, as in the case of “room” of quantum theory, means changing, breaking and reforming the exiting concepts (not only the things in the room, but also the room itself) and construction just a new set of concepts (a new room). In fact, by the development of mechanistic/Newtonian thought in the late 19th century, we began to feel the uncomfortably within the room or feel that something is going wrong. And now we have necessity of redesigning the room. In other words, older theories and solutions are new problems like Weberian bureaucracy. That’s why, it is impossible to face with future or welcome it with the existing assumptions. How long or how much the solutions of the past can help us?

Changing the thinking base about leadership—or, changing the room- needs/brings out more active and deeper transformation. Accordingly, transformation gets its power from the reality of life. Life is based on transformation. It is complex ontologically and complexity explicitly means instability and indeterminism. (Nadler- Nadler, 1998, 3-5) Organizations, management theories and leadership are also the parts of life. As the life transforms, these have to be transformed, too. But transformation discomforts us, managers and/or organizations. Transformations is not desired for preserving the status quo of the leaders or making the leader more comfortable and successful. Thus, it challenges the assumptions of mechanistic world that prevent leaders to thing about alternative forms of leadership.

Leadership has been -still is- structured by mechanic assumptions: Certain, deterministic and predictable organization and individuals with hierarchical relations. Mechanical leader gets his the power by these assumptions and controlling the others. Power is used in order to obtain the control on the organization. So we believe that leadership only belongs to the leader. That is to say, “if there isn’t leader, then there is no leadership”. The result determines the structure: “if leader is necessary for the leadership and for the organizations, then there must be leader”. By this way, learning and teaching about leadership process is avoided. The notion of “for leadership, a leader is necessity” depends upon mechanical ways and means.

But, on the other hand, we know that processes produce results and ends in the organization and in the business life. These results, however, are temporary, not endless. And leader is the only one of the results of leadership, not the unique-ultimate one. As we mentioned before, in quantum world, the main point is not results, instead the processes. In order to understand quantum world, we have to destroy our (former) thinking base – the Newtonian based management science -, and construct a new thought. This new thought includes a paradox. We need outmoded thought of leadership, not its assumption to think with, but in order to have new leadership thought.

When we consider leadership, we face with an absolute choice: On the one hand, we may separate the leadership from its context and focus on “leader equals to result” formula (Newtonian view). On the other hand, we may integrate the leadership into its context and into its process (quantum view). If we are not able to find out a rationale, a reason, the choice would be made in the favor of results of leadership, and this choice could become an

unavoidable, un-neglectable reality. In any case, leaders don't have any bias toward intervening to the nature of leadership, that is to say leaders do not make any choice that terminates themselves.

If we consider the quantum case of leadership, leadership can not be formed, classified, put in pattern as the quantum theory implies indeterminacy. By quantum thinking we, as a humankind, may invent new categories - not to reinvent old ones, change our mental structures as well as organizational ones and transform our thinking patterns. The alternative emerging kind of thinking constitutes the bridge (the connection) between, the ideas of new sciences (chaos and quantum) with the creative of brain (mind) organizational transformation and the leadership (Capra, 1992; Gleick, 1996; Ruelle, 1995) Quantum leadership offers a radically reconstruction process. In this process, older connections are dismantled, new ones are set up. (at least there is an effort towards constructing new process) A change in connections bring a change in context; so, we do reach to a new context and a new existence. Today the rationale of existence for the organization and leadership changed, in fact, the life form of both changed. This mean we don't live for, as we live for before, life has a new meaning, mission and vision and not only the reason of life, but the life itself changed. Among alternative potential outcomes, one potential will be able to express herself, this different outcome will empower differentiating. (Zohar, 1998b, 77) For the full utilization of potential, the system must be left alone. By doing so it will behave as it wants, it won't be determined by others, it will determine its own future as it unfolds. Organization and leadership will not try to maintain older ties and concepts. They will challenge themselves by opening up themselves to all possible outcomes. There is not only a best way anymore, radically also there is not need for "best" anymore. If the leadership is free to construct its future, this will increase its flexibility and give opportunity to self-creative dynamics, the universalization of patterns of life. This is a self-organizational evolution, supported by dynamic energy created by leadership or, the organization. It was mistake of older (Newtonian) paradigms to look for status quo by adapting or organizing accordance with the conditions of change. Because, what accelerates evolution is intensive chaotic cyclicals (Zohar, 1998b, 116) which force us to rethink about leadership. Evolution is chaotic in nature, if so it is not enough for leadership to adapt. Instead of to cope with evolution, leadership must learn how to live with evolution.

2.2. The Nature: Unknownability and Uncertainty

The key words found in quantum terminology, like indeterminacy, uncertainly, unprogramability and uncontrollability, are lost in mechanical leadership theory. The main thought that constitutes quantum leadership is complexity and chaos which have been neglected by Newtonian leadership. Creativity depends upon complex and chaotic properties. Chaos and complexity are dynamic systems. In the nature of quantum leadership this implies the holistic and systemical dimension of leadership. Any attempt to measure or standardize leadership means ignorance of this holistic and systemic dimension. Because all attempts of this kind, focus on separable, countable and numerical aspects of properties, behaviors and states.

Quantum leadership induces human potential, it directs all people to a target, shared by individuals. This is the holistic and systemic dimension and can only be active on slippery surfaces, not on the clear (determinable) areas. On clear surfaces, leadership and the organization may think together with the mechanic notion of "either-or". But the surface of life is not clear, we can not learn by relying on "either-or" assumptions, instead, we have to get used working with the quantum notion of "both" which suggests non-linear and in deterministic learning. "Either-or" is effective and valid within certain boundaries (as in the case in the case of Newton laws of motion) but, "both" or quantum thinking does not limit

itself, does not think within the limits of environment, rules, boundaries or even habits. (Penrose, 1999a, 169-185) Life is chaotic in nature and we must learn to live and work with, - not against- complexity.

In mechanic leadership we need reference paradigm to give meaning to the leadership. But, in quantum, reference paradigm is “both”, the paradigm of transcending boundaries. This can be expressed as quantum leap. The action of leap identifies basic conceptual change which develops towards every direction in quantum level. (Zohar, 1998a, 28-29) Reality is constructed when we look at it. The leap, one reality to another reality seems meaningless at the first sight. In other words, quantum leadership does not have any meaning within the context of existing world. Because it is a leap towards unknown, a paradigmatic shift. Older paradigms can not realize their competing counterparts.

2.2.1. Where Would in Determinacy and Uncertainty Principle Take Us?

In quantum leadership, absolute time and space are meaningless and quantum events are uncontrollable. It is unnecessary to look for certain reasons in order to explain uncontrollability. Uncertainty does not arise from our lack of ability. The nature of phenomena is uncertain. (Dulupcu, 1999)

Quantum leadership connected with complexity, aims to learn and to use whole potential. It is more than the notion of “the leadership is the job of leaders”. It is occurred in indeterminacy which produces creative potentials. Here, in quantum world, the sum or the total, is greater than parts. In this world, the whole has more properties and potential than each part. Both the parts and whole are contextual, they must be considered in their context, -or they are meaningful only in the context of themselves. Unless we know the larger aspects of their context, we can never state/describe the nature, properties and the potential of quantum leadership.

If we want to locate leadership into a certain place or isolate it from its environment, we would be reducing and mis-concepting it, it would be malfunctioned. Trying to control quantum leadership destroys these properties. Every individual’s potential in the organization contributes leadership. Or quantum leadership produces greater energy with the contributions of each individual. Instead of mechanic assumption viewing leaders and its followers in conflict, quantum leadership has an opportunity of using wider creativity. Quantum leadership evaluates the conflict as a source, and, at the same time, conflict may be shared in the sake of creativity. By sharing and synthesizing simultaneous energy, dynamic structures can be constructed. Leadership is not hierarchical and does not only consist of control from up to bottom; here, leadership is both ways and means. Quantum leadership is the constructor and the developer of working with uncertainty and non-linearity. (Prigogine, 1999)

Then, quantum leadership can tolerate uncertainty and disorder, and can create a flexible structure based on self-organizing. Self-organizing demonstrates that “being a leader is more preferable than doing leadership”.

Quantum leadership is the sum of chaotic systems located at the threshold. In these chaotic systems, the structures of an organization is ready to transform into another structure, not lock on results. This is the reason why they are always ready to adopt to the change. Thinking at the threshold produces adaptive, renewable organizations. (Zohar, 1998b, 107-129) In order, there is controllability, trust and predictability, in contrast, there is uncontrollability, un-trusty and unpredictability in chaos. (Prigogine -Stengers, 1996; Wacdrop, 1997) Quantum leadership is just located at the edge of chaos and order, just on the boundary. That location of quantum leadership supplies us an opportunity based on uncertainty. The uncertainty produces new areas for thinking for both leadership and

individual's in the organization. In these new areas, all parts, without limits, relate and communicate with the parts, the parts of organizations share the identity of the whole. The whole is relational and contextual, cooperation is made within uncertain limits.

At this point, one may remember the question: where would principle of uncertainty take us? Uncertainty of quantum leadership tell us unpredictability in relations and behaviors of leadership. We can not imagine or understand quantum leadership by considering mechanic assumption of Newtonian perspective. Newtonian perspective insists on leadership expressed in term of determinacy, and define leadership accordance with manifestation of "results are equal to leader". But results are uncontrollable as in leadership. The wave-particle duality experiment of quantum physics implies that it would be meaningless to describe leadership with unchanging leadership assumptions. (Penrose, 1999b, 103-133) Otherwise, we can not see possible realities about leadership.

2.2.2. Understanding The Properties of Quantum Leadership

In order to understand this new kind of leadership, we have to change core thoughts in leadership concept. In the center of new thoughts "quantum universe" lies. This universe encourages people to enhance their energy. Quantum leadership arises intellectual potential. Without these energy potential, remaining realities would be meaningless.

Accordingly, following properties about quantum leadership can be suggested: (Quigley, 1998, 16-17; Overman, 1996; 75-90, Blank, 1999, 19-20; Erçetin, 1998, 73-77; Uzunçarşılı et. al., 2000, 90-91)

- a) Quantum leadership is not certain. The fundamental indeterminism describes a world where we can never know the results of our observations. It is difficult to understand quantum leadership. It radically differs from traditional scientific methods and theories.
- b) Quantum leadership focuses on the process which searches for new paths to increase power continuously. Here, interactions and interrelations are more meaningful than the figures on the paper. It is impossible to plan new outcomes and innovations with a linear and reasonable view. Individuals in the organization know that results are not search for, and can not be obtained as they want them. Performing better depends on processes with interactions. Processes are developed without a limit.
- c) Quantum leadership leads to significant opportunities to make people work together and rise synergic effects of performance. Synergy and richness of relations make these opportunities possible.
- d) Quantum leadership includes action plans. However, it emphasis on how to use the organizational energy to accomplish targets properly and meaningfully.
- e) Quantum leadership aims to terminate stationary-states and laziness. Basic condition to realize this, is constantly education that increases intellectual energy. The new learning forms provide to think beyond the boundaries, and construct and enhance relations, not to cope with, but to live with complexity.
- f) Quantum leadership accepts invisible realities like spirit and mind. Newtonian assumptions of leadership ignores individual and group values.
- g) Quantum leadership tries to understand the relations within the nature of individuals, not by separating them. It doesn't believe in quantitative solutions. Quantification is the basic principle of binary (Newtonian) science. Quantification defines "either-or". Quantum leadership doesn't deny measurement, but it is used for constructing some part of reality, not the total of it.

- h) Quantum leadership may follow the quantitative and empirical methods of Newtonian level. Sophisticated knowledge is obtained through a high level of quantification.
- i) Quantum leadership promotes emerging forms that facilitates interactions between the parts of systems. Individuals freedom contributes to this promotion.
- j) In quantum leadership every individual / particle assumed both as a leader and as an ultimate individual. Individuals behave as in the case of wave-particle duality manifested in the term “both”.
- k) Quantum leadership is about to improve performance, continuously. But, quantum leadership can not be split into scores and questions concerning performance. Here, the judgement of good or bad is generally complementary. Performance is relative and inter subjective. Furthermore, any attempt to measure performance changes the performance further.
- l) In quantum leadership outside is important as inside. Without outside sources, we can not learn and improve ourselves.
- m) Quantum leadership is based on communication, dialog and interaction which produce the invisible energy of the organization. The invisible energy is spiritual principles, sharing these principles accelerates success.
- n) Understanding increasing complexity and rapid transformation for quantum leadership is related to dynamic unstable processes. Creative disorder brings out valuable opportunities for improving performance, learning and adaptation.
- o) In quantum leadership the processes are indeterministic. In order to reply unlimited number of processes, it would be better to search for answers, rather than just finding answers. Besides, answers only qualify the ways to reach reality.
- p) Quantum leadership is beyond science fictional. If we add dynamic and complex properties of chaos to quantum leadership, it became unbelievable.
- q) Quantum leadership pays attention to both performing better in organization and preserving/guarding personal interests.

2.3. The Universe: Towards Understanding The Process

At this point, we have to remind again that quantum leadership both describes the process and the actions in the process. It helps to people who are ready to act, by offering them necessary trust to walk towards future. (Sullivan-Harper, 1997, 77) Although systems demonstrate a composite structure with its interconnections, they produce definable structures at the same time. This definable structures empower trust. Among other alternatives, communication and the exchange of knowledge can be regarded as key process. Like chemical reactions, interrelations show the way, how to reach to order from complexity.

The structure of complex systems includes non-linear behaviors. Because, interactions are synergic in complex systems. In other worlds, the total system has a different and a core meaning than the simple addition of parts. The synergic effect in complex systems, however, arises by interactive behaviors. These sometimes may be leaps beyond human image. The change created by qualitative leaps cannot be estimated by the quantitative measurements of behaviors and actions which lead to change.

Then what would quantum leadership look like? (Zohar, 1998c, 56-59; Zohar, 1998b, 188-207)

- It is holistic. Realizes not only itself but also other's context. Emphasizes on efforts that support continuously relations and interactions.
- It is unpredictable. Quantum leadership is cannot be predicted or predicted leadership is not quantum. The indeterminacy, uncertainty and borderlessness of quantum leadership qualify flexibility. Flexible thought or behaviors are ready to evolve to every direction. Evolution toward any directions needs being responsiveness.
- It is self-organizing. The indeterminacy in quantum leadership points out autonomy (self). Any kinds of forcement or promotion are against to the nature of quantum leadership. It focuses on creativity, intermobility and the exchange of information through the organization. Transcending boundaries implies that negative aspects of relations are useable as positive aspects.
- It is about "both", instead of "either-or". There are many ways of representing truth. There is also no single or best way of doing job. The ways are not alternatives. They can exist all together. Multi-vision is more tangible in quantum leadership, instead of a single vision.
- It is entropic. The quantum system changes as we enter into it. Newtonian leadership avoids unexpected surprises and shocks, production of different results, realization of competing aims simultaneously, asking different questions.
- It is not about what is happening, it is about what may happen. It does not follow results like leaders. It follows the process of leadership. If we are interest in "what may happen", then results are not important, we are free to make mistakes, like learning process of a child. Being perfect is not important. Because it is only a result, but learning how to be a perfect is important, because it is a process. Leader is only a part of leadership. If we only recognize/except leader, it will mean that results are important than processes, in other words, the part is more important than the whole.
- It is motivated by values. In quantum leadership, the search for indeterminacy helps us to discover our potential. This is motivated by vision-lead value. We must transcend our limits, dreams and images. This is the change of thinking base.

In order to realize quantum leadership we need:

- Critical view: Means looking for truth or understanding the phenomena. If we are not able to realize the phenomena, then we cannot produce alternative thoughts. The critical view is a constructive, creative and effective place for producing new thoughts. (Papatya, 1997, 37)
- Behavioral Consistency: Implies leaving out older concepts. To be consistent behaviorally in a multi-vision organization, we do act in the favor of new thoughts.
- Towards Complexity: The thoughts like indeterminacy or complexity is an ability to interpret and to evaluate. It doesn't matter now much a system is complex. The act of decoding, evaluating or interpreting is an attempt for emphasizing on processes, rather than results. (Zel, 1997, 67-68)
- System Thinking: It is a thought showing how mankind is connected to the its world, rather than separated from it. The connections conclude that "our actions can lead to the problems that we face". In quantum leadership, human kind is discovering how they create and change their reality.

- **Taking Risk:** Continuously thinking about chaotic and complex things or learning how to live with indeterminacy produces a risk taking leadership profile. If we are free to make mistakes than we can take risks. Not to take risks (risk aversion) is more risky than taking risk.
- **Rhetoric:** Rhetoric is the art of speech or talking nicely. (Larousse, 1994, 511) Thinking about abstract things motivates people and promote motivational area. Of course, this depends on, rhetorical ability (Casson, 1997, 88).
- **Experience Base:** Experience contains concrete steps. Guidelessness and decidelessness increase experience base. In other words, people get more ready to meet challenges and to cope with threats. Because every new experience causes to a new learning opportunity for quantum leadership.
- **Creativity.** In contrast to status quo in a transforming environment leadership prefers to use other and different thought resources, rather than reusing, reapplying practiced methods. (Capital Dergisi, 1995, 126-129)

In quantum leadership following four areas supply practice power:

1. **Feeling the need to transform:** By the time goes on, as the environmental conditions change, system and organization are threatened. These threats are an important power source for leadership. The difficulty of changing predetermined strategies and values provides a practicing power for the leadership.
2. **Testing Resources:** After all parts agree on the necessity of transformation, then, they begin to transform. At this point, fuzziness is created. Because, for transformation, organizations have to leave out existing thoughts and beliefs. Quantum leadership utilizes this fuzziness and uses the positive synergies of it. (Prigogine, 1999, 130)
3. **Creation of New Processes:** Processes show us a view about what could be happened in the future. Recreation of processes increases indeterminacy.
4. **Making Transformation Natural:** New and different sub-transformation processes mechanisms must be developed in order to facilitate and naturalize transformation. (Zel, 1997, 73-74)

We generally suggest leadership as a set of roles instead of relations. This suggestion, in fact, is a problem. In quantum leadership, a difference in the process is not regarded as a problem. If the relations are bases for further processes, rich information exchange and real time learning will be the necessities of quantum leadership. In other words, learning cannot be planned all the time. Mostly, we learn as the world unfolds. Each learning process differs from its preceding. (McDaniel-Walls, 1997, 363-376)

In quantum leadership, instead of set of roles or positions, relations construct a rich and complex world. In this world, we have dynamic whole where its parts are developed by interactions. Indeterminacy is dynamic and it is specific to a certain individual or particle. In the process, it is impossible to define individuals or parts separately, we can only define the whole. Because, the whole is different than each part. These properties of processes are natural, but not causal in Newtonian sense. In Newtonian view, connections are mechanical where leader and followers pull and push each other, they resist to each other. In quantum leadership process, every person in the organization gains meaning accordance with the relations. It does not gain a meaning from its local-properties. In quantum world, reality is non-local (Herbert, 1985, 210-231). The world behind the leadership phenomenon is non-local. Reality is constructed by the facts, not by certain theoretical representations of facts

(Herbert, 1985, 230 and 346). Leadership is understood through the lenses of relation, not through leaders characteristics or behaviors. And these relations are not independent from the relations with the environment.

In quantum leadership, a relationship must contribute to the nature of leadership in order to be real, at the same time, leadership must contribute to the nature of relations. (Prigogine-Stengers, 1996, 95)

The complexity in quantum leadership is a result of non-linear relations. Dialog, conversation and interactions are indivisible properties of self-organization, which based on complexity. The dialog in the self-organization is not controlled by a central authority. Informal and/or direct communication between individual is essential. Leadership only facilitates communication. Communication supplies the energy that leads to creativity which quantum leadership utilizes it to meet challenges of changing environment. This energy is obtained by rich set of relations and exchange of informations (Kaufman, 1993). With this energy, complex systems can be adaptive and alive. This is the edge of chaos. (Wheatley, 1992b, 12) This process has two main implications:

1. The significance of sum (whole) rather than parts implies partnership. Partnership facilitates social structuring, supports data pool. (Weick, 1993, 264)
2. There is a diversity. Individuals, like organizations, are not closed and isolated entities. Diversity may seem to be weakening relations, but weak ties may have some advantages. Weak ties construct constant bridges between people; create more sets of rich relations; help better diffusion in information system; show how to discover information. People, with weak ties, may have more desires to share ideas and may be more adaptive to new ideas and may be less affected from social pressures of strong ties.

So, chaos and quantum theories tell us unpredictability of leadership. This is not because of insufficient information about leadership, because of the unknowability of the nature of leadership. It doesn't matter how much effort is spent to predict leadership; the future state and future behaviors of a system cannot be estimated. (Rae, 1986, 24) According to Newtonian assumptions if we have sufficient information about current state, we can both determine the past and the future of a system. In quantum world, this is not main subject. Indeterminacy is not the problem of doing better (Rohrlich, 1987, 147)

If we try to determine or to know leadership with certain measurements, we face with Heiseberg's principle of uncertainty. If we determine and measure leadership properly, we must sacrifice the information about its momentum. All attempts to determine certain attitudes of leadership, decreases our ability to determine other attitudes. This implies that, leadership cannot be known totally. Predictable determinism doesn't work in explaining quantum leadership (Prigogine-Stengers, 1996, 62) Objectivity is lacking. Because, action of measuring changes the object, we cannot divide the whole system into its pieces in order to understand how it works. It is interdependent and interactive. The notion of "objectivity of analysis method" is not valid at quantum level. It is not possible to predict relations.

The unknowability of leadership emphasizes on learning in order to share leadership process. This learning does not like our former learning. We learn as we interact with the environment or as the world unfolds. It would be meaningless to prepare plans to learn unpredictable leadership. Instead, we have to take a place in learning leadership, and share the leadership. We need individuals who know the value of learning and have ability to share it. (Bennis, 1997, 6-7) These individuals don't have any chance to measure their position in leadership. The only thing they can know is that they are a part of leadership. But, by sharing, they may have a chance to understand, at least, where they are. (Pagels, 1993, 91-95)

Conclusion: Loosing The Talisman

The leadership, within the context of Newtonian assumptions, has been evolving where this evolution is managed by certain and limited formulas and equations. But, leadership can exist without formula, it is independent. It does not matter how we see or evaluate it. Insufficient and lacking knowledge cannot be full tilled, there are always new informations waiting to be discovered, lacking point is not knowledge, it is our interest to our environment. With this interest we may realize possible outcomes.

Realizing diversity, threatens mechanical leadership's definitions and assumptions. Chaos and quantum theories tell us the unpredictability of leadership universe. Unpredictability threatens Newtonian leadership much more. These threats are opportunities for quantum leadership. In quantum leadership invisible the laws, which are managing leadership levels, have incredible properties. If we want to change our assumptions concerning management sciences, the first thing that we have to do is to interpret our world view and leadership according to quantum theory.

Shortly, the quantum leadership is about processes, it is unknown and endless, not about to do and determine or results and techniques. It is all about to understand and discover leadership universe and potential, energy and eternity. Leadership is not a deterministic and controllable phenomena. Any attempt to control and to correct indeterminacy will always be unsuccessful.

Consequently, it may be too difficult for us to understand quantum world. It has new concepts and explanation beyond Newtonian world. But it tells us that we mustn't fear from learning, unfolding and transforming. We will learn quantum leadership by doing, not by theorizing it.

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