Understanding of interactive relationship between leadership, organizational culture and innovation capacity

- A case study on the higher education system in Turkey-

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Abstract—Relationship between organizational culture/climate and creativity/innovation and the role of leadership to transform organizations is discussed based on a literature review. Then, a critical analysis of leadership, organizational culture and innovation capacity of Turkish university system is presented. Long-term sustainability and growth of an organization largely depend on its innovation capacity. Innovation is a direct consequence of various intrinsic and extrinsic factors for an organization, just like for a human being. In order to be innovative, an organization should grow, keep and flourish creative individuals; it must establish and maintain a transparent, open, functional, minimum-hierarchical culture where collective decision-making, risk taking and rewarding for merit are valued. Transformative or charismatic leadership can transform a stagnant organization into a dynamic and innovative form if only a critical mass in the organization supports it.

Keywords—leadership, innovation capacity, higher education, Turkey

I. Introduction

Long-term sustainability and growth of an organization largely depend on its innovation capacity. Innovation is a direct consequence of various intrinsic and extrinsic factors for an organization, just like for a human being. Creativity of individuals in an organization, deep customs and behaviors going back to the founders (culture); manners, rewards, and value system in an organization (climate) are some of the intrinsic factors whereas overall competitive environment, market conditions, political and economic conditions can be counted as some of the extrinsic factors. Leadership, whether at the very top or middle management levels, play an important role in transforming the organizational climate, if not the deep culture immediately, and excite the creativity of the individuals towards innovativeness. Leadership, however, sometimes may act to result in the opposite. It may, through unintentional acts or decisions, oppress the creative attitudes of individuals and make up a climate for conservativeness.

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Various academicians suggested that leadership is an influential factor for innovation [1-5], and it is a significant motivator for organizational learning, organizational development, and hence, organizational culture towards innovation as reported in a series of articles [5-7].In this study, the relationship between organizational culture/climate and creativity/innovation and the role of leadership to shape and promote them is studied and reported based on a literature review. A critical analysis of leadership, organizational culture and innovation capacity of Turkish higher education system (T-HES), then, was summarized along the lines of the findings from this literature survey.

II. Review and Background

A. Innovation

Although there are many versions found in the literature, innovation can be defined as "any process, product, procedure, thinking or approach new or novel designed, introduced, adopted into a field of research or study, to a discipline, to an industrial sector, to a business line, etc. for the benefit of people (employees, customers, users, etc.), groups, companies, organizations or society [1, 8-9].

Creativity, on the other hand, is defined as the same with innovation (including idea/concept generation, invention and breakthrough), but not extended to the introduction and/or adoption of them [1, 9-13]. Innovation is a novel idea or design that is implemented, but creativity is not. However, innovation starts with creativity, and has to involve implementation, which needs not only generation of ideas but also introducing these ideas to a team or organization and convincing them to adopt or implement it [14-16]. Therefore, innovation not only necessitates analytical and domain knowledge but also social skills, such as leadership, to properly package, propose and introduce an idea to others who may accept, support and/or adopt it [17]. The relationship between creativity and innovation can be quite complex and non-linear. For example, the manner that a novel idea (creativity) is packaged, proposed and introduced (innovation) to others (people, team, organization or society) may be the innovation itself as discussed and reported by many [8,9,13,15].

Another important distinction among creativity and innovation is that creativity is more about an individual level whereas innovation involves more individuals, teams or even

an organization. Creativity begins with an individual who creates, invents or generates a concept. Hence, creativity is mainly related to characteristics of an individual such as self-motivation, abilities and skills, experiences, domain knowledge, behavior, customs for thinking or doing processes, personality, motivation [8,10,12]. Both physical and social environment, certain features of surroundings, other people interacted, historical facts, organizational climate and culture may affect the creative behavior of an individual. A society which praises risk taking or trying something new, even if unsuccessful versus a society where absolute success is only rewarded make a vital difference in creativity of individuals. Some societies, therefore, learns innovation through imitation and improvements on it where in some cultures "out of the box" thinking lays the foundation for their innovation capacity [18-24]. Kanter [25] stated that "creativity without innovation is of significantly diminished value" whereas "innovation without creativity is like is an engine without fuel" since creative ideas and concepts feed into the innovation pool so that they can be introduced, adopted, implemented and further developed into products, processes, business models or even societal manners or movements. The process of innovation is mainly affected by (a) individuals who creates, manages, approved, supports, motivates, etc.; (b) interrelations and dynamic interactions among these individuals, (c) organizational climate, culture and the environment (market, region, country, competition) of the organization [24].

In their research in the Minnesota Innovation Survey (MIS) [26], Angle et al studied the importance of motivation for creativity and innovation. They concluded that (a) intrinsic motivation for creativity is much more important than extrinsic motivation, and (b) information flows in and out of an organization are important to motivate creativity, and (c) intrinsic motivation is also affected by organizational climate and culture.

B. *Organizational culture and climate*

Many researchers studied and discussed organizational climate and organizational culture. Some used both terminologies interchangeably, some indicated that although they are related and they are slightly different. What is known for sure is that both affects and directs behavior in organizations including creativity, innovation, learning and development.

Culture can be defined as deeply held assumptions, meaning, and beliefs. Culture in an organization defines the factors for desirable, undesirable, promoted and unwanted behaviors. Cultural boundaries in an organization go back to the founders of the organization and their deep beliefs, assumptions and attitudes towards customers, competitors, society, employees, etc. Organizational climate, on the other hand, can be defined as a set of behavioral rules or wisdom in an organization, which are more concrete and tangible. Organizational climate sometimes can be found in the mission, vision and the values of an organization, which are usually openly expressed in and out of an organization. Culture, however, is always there, unwritten and deeper then climate [9,27,28].

Although there have been little empirical studies in the area of organizational culture and its impact on creativity and innovation, researchers summarized three different theories about organization culture (a) integrationists claim that there is one culture in an organization, (b) differentiationists proposed that there may be subcultures exist in an organization mostly dues to mergers, acquired divisions, etc., and (c) fragmentationists think that there may be ambiguity in an organization such that several cultures may be present even at the team or individual level [10, 27, 29]. In reality, all of the above may hold true. Because in many organizations, there are some deep beliefs and cultural assumptions valid throughout the organization, but in some divisions or team there may be additional or complementary cultural characteristics. Such additional cultural features may be there because of a merger, or because of a project carried out with the leadership of a charismatic manager, who not only managed to accomplish the project but also engraved some cultural traits into the team that may still hold.

As reported in McLean [9], Burns and Stalker [30], who studied the organizational behavior and culture in 1950s, grouped the companies under two major categories based on their culture: (a) mechanistic and (b) organic. They found certain attributes with the mechanistic organizations that they were hierarchical, structured, with well-defined and apparent positions, with vertical communication flows. For the organic organizations, on the other hand, they found (a) fluid organizational structures where divisions and teams forming and reforming to address new problems and opportunities, (b) communication flows were lateral, (c) few number of well-defined positions and leadership, rest is mostly changing based on the forming teams and problems, and dependent on the needed expertise and knowledge, (d) decision making is decentralized [26]. As one can imagine, if managed and motivated properly, organic organizations would be a more fertile ground for creativity and innovation than the mechanistic organizations. However, in some cultures such as power-distance cultures [20, 21, 23] of East Asia, people may need some kind of hierarchy and formal structures to direct their behaviors. It was also found that some degree of formalization and centralization of decision-making might actually increase innovation capacity of an organization in some cases.

Amabile [3,10,14], who conducted long years of studies on organizational behavior, categorized organizational climate and cultural factors that affect creativity and innovation into two groups: (a) supports and (b) impediments. Supportive organizational factors were identified as the following six: (1) organizational encouragement, (2) supervisory encouragement, (3) work group supports, (4) freedom, (5) sufficient resources, and (6) challenge [10]. Later, Tesluk, et al. focused their studies on the organizational culture and climate and their effects on the creativity at the individual level proposing that without creativity of individuals, innovation in an organization is not possible [31]. Tesluk, et al. proposed five factors of organizational climate that influence creativity: (1) goal emphasis, (2) means emphasis, (3) reward orientation, (4) task support, and (5) socio-emotional support [31]. Six factors identified by Amabile [10]

and five factors proposed by Tesluk, et al. [31] have major commonalities. For instance, organizational encouragement and goal emphasis, in fact, identify the very same organizational culture and climate factor necessary for creativity and innovation that overarching goals and targets should be set for all employees and teams in an organization. In addition to the set and clear goals, idea generation, risk taking, flow and evaluation of ideas in a supportive manner, and collaborative decision making should be encouraged at the organizational and supervisory levels. Similarly organizational and supervisory encouragement listed by Amabile [10] compromises the reward emphasis listed by Tesluk [31]. Major overlapping between organizational culture/climate factors for individual creativity and organizational innovation indicates once again that creativity and innovation (exploration and exploitation) go hand in hand, exchanging the lead and emphasis along the process of realizing a new idea, a new product or process to the benefit of individuals, company, organization or society at large.

As for the major impediment that negatively affects the creativity is control [14, 26]. It was reported that too much control in decision-making, in information flow, in allocation of resources, or in rewarding negatively affects intrinsic motivation for creativity [25, 32].

C. *Leadership*

Studies on leadership and its effect on organizational behavior identified several leadership models and developed theories for each. Among the leadership theories (1) transformational, (2) charismatic [2] and (3) leader-member exchange (LMX) [33] models will be summarized and discussed in this section due to their close relationship with innovative organizations.

Research on leadership suggests that leadership theories with certain degree of fluidity and flexibility (such as organic organizational structures) can model the relation between leader and innovation better than static leadership theories [3, 5, 6, 33, 34]. One such theory is the leader–member exchange (LMX) theory as it has a dynamic viewpoint on the leader–member relation and the content of such relationships [4, 7]. In the LMX theory, it is suggested that status and behavior of leaders largely depend on the relationship with the individuals who are the followers in an organization, and hence demonstrates variation from follower to follower. Accordingly, effective and efficient LMX conditions, which are necessary for innovative organizations, are mutual trust, respect and rewarding for risk taking [5, 35]. Rosing, et al. [5] suggested that LMX is a suitable type of leadership since its fluidic and dynamic interactions aligns well with the same characteristics of a typical innovation process, where followers/members working in an innovative organization should act in alternating modes of exploration and exploitation to conceive a novel idea and bring it to the reality as product or process. Hence, an ideal leader for an innovative organization should be flexible and understanding to support both exploration and exploitation whenever needed [36].

Among the leadership models, transformational and charismatic leaderships (although thought to be vey similar with large overlapping characteristics) have been suggested as the most strongly related to innovative organizations. Transformational leadership is defined as "moving the followers beyond immediate self-interests through idealized influence (charisma), inspiration, intellectual stimulation, or individualized consideration" [37,38]. Transformational leadership promotes motivation and colleagues to perform beyond the expected [6, 34, 39] as opposed to the transactional leadership that operates based on exchange-based interactions such as identifying goals, rewarding for achieving the identified goals, and only dynamically interacting when necessary in case of urgencies. Transformational leadership encourages experimentation, risk taking, diverse teams, thus, leads to positive relationship with creativity and innovation [17, 37, 38].

D. *Relationship between Organizational Culture/Climate, Leadership and Organizational Innovation*

Studies The relation between organization culture, leadership and innovation is interdependent (Figure 1) [1, 40]. A charismatic or transformational leadership may not be successful on its own to transform the culture or climate of an organization to become innovative, but definitely it will be vital catalyst to do that only if some degree or islands of creativity and innovative esteem exist in an organizational culture. Various authors, such as [2, 25, 36, 41, 42], reported that there is no direct or single correlation between transformational or charismatic leadership and innovation, however, they indicated a contingency between them on some characteristics of an organization, such as suitable and supportive climate for innovation, distributed and participative decision making, and some degree of formalization to guide and clarify the organizational responses for creativity and innovation, as well as extrinsic factors such as competition and unpredictability. Similar conclusions were also reached by many other researchers in this field suggesting that string relationship between transformational leadership and organizational innovation is detected only in organizations where there exist a proper environment (lateral information flows in and out; mutual trust, distributed decision making; less hierarchy and control) and key players (such as mid-level managers) of high intrinsic motivation and organizational learning [17, 41-44].
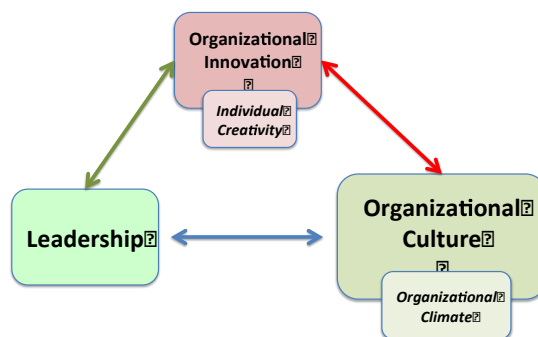
Figure 1: Interrelations and interdependency between organizational culture/climate, leadership and organizational innovation/individual creativity

III. Analysis of Leadership in Higher Education System in Turkey

In this section, relationships between leadership, organizational culture and organizational innovation for Turkish higher education system (T-HES) will be analyzed under the light of the findings and review in the previous section.

A. Description of the T-HES case

T-HES has been a major problem for not producing innovation and/or innovative brains for years. Any science, technology and education (STE) indicator, such as published scientific papers per capita, patents per capita, royalty/licensing income, etc., gathered by OECD or World Bank shows that Turkey lags in scientific and technological development and productivity even though there has been an increase in the research and development expenditures and educational budget since 2002 [45-49].

T-HES has been heavily and centrally regulated and managed since a military coup in 1980 through Higher Education Council (YOK) as opposed to what an innovative organization should do as reported in the previous section [26]. YOK was established as a constitutional agency in 1982. Hence, any minor change in T-HES requires constitutional change, which is almost impossible because of the checks and balances in the legislative structure of the parliament.

YOK issues permits for new universities, new faculties/colleges, new departments or programs and for new slots of academicians, assistants, etc. It regulates all higher education entities in the country wherever they are. It even has regulations for hiring of research assistants every year, and has a very slow and inefficient follow up system for everything it is in charge of. Tenure and promotion system, for example, has been extremely primitive and centralized that thousands of academicians of different caliber have been waiting for their term for years meanwhile they lose their patience, excitement and motivation. Ideological conflicts in the system only add more complexity and difficulty on top of such inefficiencies.

Today, YOK governs than 170 universities, about 60 of them are semi-private (foundation), but still subject to the same regulations of 1980s; ~30,000 academicians and more than 3 millions students [49]. It appoints university presidents, through a complex and multi-layered election method and deans for faculties or colleges in all universities. In addition to the regulations it imposes, YOK also has inspection and controller arms, which makes the operations of its subjects only more complex and slower. The President of the country appoints Head of YOK every four years among the academicians of professorial rank, but mainly for the ideological standing and loyalty, not essentially for his/her academic and/or managerial/leadership credentials. President of the country, cabinet, parliament, and few other state agencies (bureaucracy) share powers for appointing a board of about 21 to work with the head of YOK every two-four years. Under the YOK regulations of today, each university, then, conducts elections for its presidency (rector) every four years among its professors. The highest-voted six candidates were then reduced to three at the YOK Board, and submitted to the President of the country for his/her selection and appointment for a four-year term of maximum two. YOK Board also appoints deans of every college/faculty in every university in the country upon nominated by the rector of a university. Thus, pretty much, at least half of the 365 days in a year spent to discuss such nominations and appointments at this Board and close circuits.

B. Critical analysis of the case

As summarized above, YOK has various impediments for an organization (centralized decision making, high formalization, high degree of control, demotivating reward system, in fact lack of it, etc.) to slow, if not diminish, innovation in the T-HES, consequently in the products of it (students, academicians, educated white collar workforce, scientists, engineers, etc.). Due to the appointment system and criterion of YOK president, YOK Board members, university presidents and deans of colleges growth and occurrence of real transformational and charismatic leadership in the entire system is minimal, if none, and only happens because of the probabilistic laws of the nature. Such leaders of occasional probability, off course, cannot find the fertile ground and necessary environmental elements (culture and climate) in and out of their universities only to fade away in few years and trapped to be a part of the system.

Let us attempt to analyze whether the higher education system is a proper for organizational innovation according to the six factors as outlined by Amabile [10]: (1) organizational encouragement: None of the leaders and followers at the YOK and universities do not work under any organizational encouragement since they have to operate under the legislated rules. Probably, the only encouragement they have is their intrinsic motivation to do something better for the young and colleagues of the future. However, after a series of failures, most lose this self-motivation. (2) supervisory encouragement: since leadership at the very top or at the mid-levels face demotivating extrinsic environment, and have to align their work according to the governing rules of the organization, they cannot find the courage, time and energy to encourage their subordinates. (3) work group supports: such support from peers usually exist in small circles, and however, it is not effective in the long run because it is mainly a moral support and not organized. (4) freedom: freedom to design or decide what to do, or flexibility for how to approach, or allowance to take risks and make some mistakes are something not within the context of the upper culture of the nation, hence cannot be found in the higher education system. (5) sufficient resources: the main problem is not the insufficient or lack of resources

anymore since 2002, but its allocation to the right location and the right time (management) as well as lack of rightful authorization of the right people. (6) challenge: either in terms of the organizational management techniques or in terms of the scientific issues, both leadership and followers are not exposed to the necessary competition from other countries or challenged by the industry to do better. In deed, business, financial and industrial organizations, themselves, have become part of the bigger problem by not attempting to innovate and produce, but by taking the easy route of merchandise and adopting or licensing foreign technology.

IV. **Conclusions**

In summary, for an organization to sustain, it has to be learning, developing and innovative. In order to be innovative, it should grow, keep and flourish creative individuals; it must establish and maintain a transparent, open, functional, minimum-hierarchical culture where collective decision-making, risk taking and rewarding for merit are valued. Such an environment would also lay the ground for growth of multiple leaders. Transformative or charismatic leadership can transform a stagnant organization into a dynamic, innovative one only others in the organization support it and want to be changed.

In the case of T-HES, due to its structural and legislative deficiencies in its culture and climate, leadership, even if extremely transformative in nature, cannot make the necessary impact. In order to make the higher education system innovative and grow innovative human power for the future, it has to be decentralized, given flexibility, freedom, autonomy and responsibility, and challenged to catch with the rest of the world in a short period of time.

Acknowledgment

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