

Intellectual Capital and Transformational Leadership Style: a Case Study in Iran Telecommunication's SME

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Abstract: As intellectual capital is increasingly becoming important, organizations need a special form of leadership that has been compatible with strong abilities and skills, and establish commitment to lifelong learning. Appropriate leadership is requires for intellectual capital (IC) development; however, there has been little empirical analysis of the theoretical relationships among organizational capitals and leadership styles. This article examines the relation between level of intellectual capital (IC) and leadership styles in SME's of telecommunication industry. A survey of 159 managers from telecommunication industry was undertaken using the four IC categories scale and Multifactor Leadership Questionnaire (MLQ). Based on the results, a significant positive relationship was found between the four-category IC model and transformational leadership. Also human capital and End-customer relationship capital were as a direct factor of transformational leadership. Further, analysis revealed that IC has a negative relation with laissez-fair leadership. Theoretical and practical implications are discussed.

Keywords: Intellectual Capital, Knowledge Workers, Small and Medium Enterprise (SME), Transformational Leadership

1. Introduction

Issues of intellectual capital recognition, measurement and management have come to prominence over the last 10–15 years. Intellectual capital (IC) is a term now in common usage across different fields of academic and managerial activity. It is related to, and sometimes interchangeable with, other terms such as ‘knowledge capital’, ‘knowledge economy’ and ‘intangible assets’. IC is fundamental to firms, communities and societies (Edvinsson, 2002). New opportunities in, and threats to, the telecommunication industry are springing from assets based on knowledge. Such assets are defined as IC. Knowledge economy can be defined as an economy guided and directed by knowledge. Unlike for the traditional economy in which tangible assets, today knowledge is the main driving force behind the more industries.

Leadership of these knowledge capitals specially intellectual labor converts to the greatest mental disturbance of managers in new world economy (Tan et al, 2007) and most organizations want to ensure that their managers are equipped with the skills necessary to work employees with very diverse knowledge. Some progressive organizations imposed standards of hiring, promotion, and, in some cases, training in understanding these differences. They stress on some leaders styles that are compatible with knowledge workers (Fleury, 1999).

Although importance of leadership of intellectuals, strategy making to effective management of such capitals is not simple, because, it is seen that there is not a consensus on how knowledge workforces can be managed and this topic is handled from very different approaches (Seymen, 2006). Views related to effective management of, generally, capitals and of, specifically, Intellectual capital are mostly scattered, and it is difficult to find unanimity among the authors (Xenikou & Simosi, 2006).

In order to respond effectively with dynamics of Intellectual capital, we propose transformational leadership styles as the best and most compatible method to manage capitals. We believe that it can be expected, in organizations with high IC, managers tend to transformational leadership style and more less apply transactional and laissez-fair leadership. These leaders delegate their authority to knowledge workers but coaches if necessary and treat every follower equally and individually. They have high referent power are trusted to overcome any obstacle and are seen as having an attainable mission and vision that is necessary for followers. In sum, our specific hypotheses are given as follows:

Hypothesis1. The overall transformational leadership style is positively related to organizational IC.

Hypothesis2. The transformational leadership dimensions are positively related to organizational IC.

Hypothesis3. The transactional and laissez-fair leadership styles are negatively related to organizational IC.

2. Theoretical framework

2 .1. Intellectual Capital and its dimensions

While resources that generate advantage can include both tangible and intangible assets, recent work argues that, in today’s economy, intangible assets have the greater potential to create firm capabilities that lead to advantage (Carmeli and Tishler 2004; Hitt et al. 2001). Indeed, one of the more valuing enhancing forms of intangibles is a firm’s knowledge-based resources or its investments in its intellectual capital (Ethiraj et al. 2005; Haas and Hansen 2005). Stewart (1997) indicated that IC means anything an enterprise can use to increase its competitive advantage in the market place, including knowledge, information, intellectual property rights and experience. In other words, IC is presented as intangible assets and it produces value to enterprises that can be reflected as final income in financial statements, but it cannot be expressed as an accounting title in financial statements. Therefore, if an enterprise can quantify, evaluate as well as analyze those intangible assets, it will increase its competitiveness in the industry. IC elements reside in the minds of employees at both conscious and subconscious levels. In the latter case, patterns of work such as work habits, capabilities, processes followed, and contacts utilized to get things done, have become so ingrained and taken for granted by the bearers of this know how, that they are unable consciously to identify these

patterns anymore. The only way to bring such work patterns to the surface of conscious awareness is to teach the bearers to start taking the time to notice them or to have an outside observer identify them. Whether conscious or subconscious, IC elements powerfully program employee behaviors, ultimately leading the organization along the pathway towards survival or extinction (Roslender et al, 2006).

IC research has focused on three categories of IC: human, structural and relationship or customer capital (Sullivan, 2000 ; Roslender & Fincham, 2004). In our study, relationship capital was divided into end customer-relationship capital and so-called non-end-customer-relationship capital for the needs of the telecommunication industry. Such a division from three categories into a four-category model of IC provides acknowledgment to the increasing importance of different relationships in the hotel business. End-customer-relationship capital refers to the relations with end-customers only and non-end-customer-relationship capital is divided into two sub-categories: relationships with commercial partners in the private sector, and relationships with other partners such as the government, associations and nongovernmental organizations. It should be stressed that intermediate customers (such as brokers and ICT ministry) are categorized as non-customers (and, thus, constitute so-called non-end customer-relationship capital), since they are not the final customers of the telecommunication product. In this way, a heterogeneous categorization of all customers has been segmented in two more homogeneous groups that require different treatment and exert influence in different ways.

IC categories	Examples
Human capital	Motivation to increase employee competence; learning by innovating
Structural capital	Process development; cultural impact on management philosophy and business processes
end customer-relationship capital	Opinion and judgment exchange among (potential) customers
non-end customer-relationship capital	Impact of commercial partners on relationships with special interest groups, the public and media relationships

Table I. four categories IC and some examples

2. 2. Transformational leadership

Burns (1978) preliminarily developed the theory of transactional and transformational leadership. He indicated that transactional leaders attempt to satisfy the current needs of followers by focusing attention on exchanges, whereas transformational leaders motivate followers and other constituencies to do more than they are originally expected to do as they strive to perform better. Nevertheless, modern theory of transformational leadership styles is represented by Bass (1985). The constructs denoted in Bass approach is included three typologies of leadership behavior: transformational, transactional and laissez-fair leadership, which are presented by nine distinct sub-factors (Bass and Avolio, 1995).

Transactional leaders are proactive, raise follower awareness for transcendent collective interests and help followers to achieve extraordinary goals (Antonakis al, 2003). This leaders move their followers beyond their own self-interests for the good of the group, organization or society. Transformational leadership has consistently shown advantageous effects on a range of individual and organizational outcomes (Bass, 1998). For example in several researches, positively correlation between transformational leadership behaviors of supervisors with organizational commitment of subordinates, loyalty and motivation of subordinates and business performance was confirmed (Barling et al,2000; Gumusluoglu & Ilsev, 2009). Leaders engaging in transformational behaviors have been shown to produce a variety of positive outcomes in organizational settings. Transformational leadership has consistently been linked to high levels of effort (Seltzer and Bass, 1990), and satisfaction with the leader (Leban & Zulauf, 2004). Transformational leadership also has been found to be associated with an employee's affective commitment to the organization, intention to leave the organization (Bycio et al., 1995), and trust in the leader (Shin & Zhou, 2003). In sum, transformational leadership usually is identified as effective leadership. Transformational leadership in this article, based on Bass and

Avolio(1995) model, contains five components (Avolio et al, 1999): Idealized Influence attribute, Idealized Influence behavior, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration.

The second style of leadership is **Transactional leadership**, which is an exchange process based on the fulfillment of contractual obligations and is typically represented, as setting objectives, monitoring, and controlling outcomes and transactional leaders tend to rely on rational and logical thinking (Ashforth & Humphrey, 1995). In this leadership style, followers are motivated by the leaders' promises, praise, and rewards or they are corrected by negative feedback, reproof, threats, or disciplinary actions. The leaders react to whether the followers carry out what the leaders and followers have "transacted" to do (Howell & Avolio, 1993). Transactional leadership is possessed three components: contingent reward, management-by-exception (active) and management-by-exception (passive). In contingent rewarding behavior leaders either make assignments or they may consult with followers about what is to be done in exchange for implicit or explicit rewards and the desired allocation of resources. When leaders engage in active management-by-exception, they monitor follower performance and correct followers' mistakes. When leaders engage in passive management-by-exception, they wait passively for followers' mistakes to be called to their attention before taking corrective action with negative feedback or reprimands (Bass and Avolio, 1994).

A third style of leadership is referred to as **laissez-faire**, which is regarded as a very different rather than two other forms of leadership. In this leadership avoid leading and managers do not accept responsibilities of managing followers (Eagly & Johannessen-Schmidt, 2001). Laissez-faire leaders are recognized as improper and ineffective.

2.3. Intellectual Capitals and Leadership

Most management scholars (Nonaka, 1994; Quinn et al., 1996) emphasized that the issue of leadership, is at the very core of knowledge-workers management. Drucker (2003), for instance, maintained that as knowledge workers are increasingly becoming important, organizations need a special form of leadership that recognizes the intellectual capital as an invaluable asset in the age of managerial and leadership respect for people and their creative potential in organizations.

These leaders should have strong abilities and skills, and should be attuned to the nature of the information service and thus, establish commitment to lifelong learning. For this reason, in most organizations today, an intellectual capital creating culture cannot be developed without the support of higher management. O'Dell and Grayson (1998) believed also that any effort to fit organizational factors together cannot succeed without the support of leaders at the top. That is: leadership, a healthy organizational culture, and information technology, all intertwined, are necessary for the success of any real intellectual capital initiative. Sabri (2007) also asserted that organizational performance depends to a great extent on the interaction between organizational strategy, organizational design, leadership and individuals' behavior. This means that leaders and managers need to create the right culture and structures that motivates people to act in line with the organizational objectives. As such Yammarino and Bass (1990) suggested that transformational leadership is related to empowered followers. Furthermore, transformational leaders transform followers into leaders, thus making meaning out of work, providing autonomy, etc. Bono and Judge (2003) found that followers of transformational leaders viewed their work as more important and as more self-congruent. This lends support to the notion that followers of transformational leaders would believe that they are more empowered, perhaps through greater autonomy, meaning, and ownership. In addition, (Nelson & Cooper, 2007), support the notion that transformational leaders motivate human capitals in three key ways: by increasing follower self-efficacy, by facilitating followers' social identification with their group or organization, and by linking the organization's work values to follower values. This connection allows followers to feel greater levels of self-determination in their work and increases their level of perceived empowerment. In more direct tests of the relationship between transformational leadership and intellectual capital, Dvir et al. (2002) conducted an intervention study and found evidence that follower's perceptions of transformational leadership in their commander led to a greater sense of follower empowerment.

3. Research Method

3.1. Participants

The 159 survey questioners were gathered from middle and executive managers, working in SME activated telecommunication industry. We selected this industry because it need intensely for a high level IC as a key success factor.

Several criteria were employed to select the sample participants, including their demographic characteristics: aged between 30 to 65 years, being a middle or top-level manager, and experienced at least four years in this industry. In sum, the demographic analysis demonstrates that most respondents are male (122 Persons, 77 per cent) and only 23 per cent are female. This is naturally, because telecommunication industry recognized as a masculine job in Iran. Participants ages ranged from 33 to 62 ($M=46/3$, $SD=6/5$). About 34 participants (21/4 per cent) indicated that they are upper level managers and other participants specified that they occupied middle level management positions. Also 83 per cent of subjects, have a university degree that more of them (102 Persons) are bachelor.

3.2. Measurement

Participants provided information about their IC by completing the four IC categories scale designed by Rudez & Mihalic (2007). This questionnaire is a 50 item self-report instrument designed to measure of the main features of IC using a seven-point scale for each item (ranging from 1=strongly disagree to 7= strongly agree). In earlier studies, internal consistency of scale was reported high and Cronbach' alpha coefficients were above of 0/7 across all the subscales (Rudez & Mihalic, 2007).

The second scale used was multifactor leadership questionnaire MLQ 5x (Bass and Avolio, 1995), a 36 item measure of leadership styles that these Items are rated on a Likert five-point type scale. These items are structured around three fundamental leadership styles: transformational leadership, transactional leadership and laissez-fair. Every style has sub-components: five sub-scales measure transformational leadership (idealized influence, behavioral idealized influence, inspirational motivation, intellectual stimulation, individual consideration); three sub-scales measure transactional leadership (contingent rewards, active management-by-exception, and passive management-by-exception). The MLQ also measures laissez-faire or non-transactional leadership. The original MLQ, MLQ 5x and MLQ Form 5x-Short has been examined in numerous researches and very different samples. Reliabilities for the total scores (transformational, transactional, and laissez-faire leadership styles), and for the related sub-scales range from 0/74 to 0/94 (Bass and Avolio, 2000).

4. Results

Internal consistency reliability is the accuracy or precision of a measuring instrument, which is the extent of unidimensionality, i.e. the detailed items (questions) measure the same thing (Ostle & Malon, 1988). The internal consistency reliability was assessed by calculating Cronbach's alpha values. The reliability results of the all constructs were above the acceptable threshold (0.70) (George, 2000).

Table 1 reports means, standard deviations (SD) and range for the transformational leadership, transactional leadership, laissez-fair leadership and four category of IC.

Variable	M	SD
Transformational leadership	3.87	.46
Idealized attributes	3.45	.44
Idealized behaviors	3.65	.51
Inspirational motivation	4.33	.43
Intellectual stimulation	4.09	.45
Individual consideration	3.12	.44

Transactional leadership	3.17	.49
Contingent rewards	3.50	.51
Management by exception (active)	2.21	.48
Management by exception (passive)	1.51	.46
Laissez-faire leadership	1.18	.48
Total IC capital	2.82	.66
Human capital	3.10	.69
Structural capital	2.73	.77
End-customer-relationship capital	2.55	.65
Non-end-customer-relationship capital	2.34	.61

Table I. Means and standard deviations for variables included in the study

Correlation between IC scores and transformational leadership styles are presented in table 2. It was predicted there would be a positive relationship between IC and transformational leadership. In addition, it would be found negative relationship between both transactional and laissez-fair leadership with total IC. According to table 2, these hypotheses were only partially supported. Strong positive correlation was found between total IC and transformational leadership ($r=0/323$, $p<0/01$). Also was found Strong negative relationship between IC and laissez-fair leadership ($r=-0/244$, $p<0/01$). However, there was any relationship between total IC and transactional leadership, even among subscales of IC and transactional leadership.

We also examine correlation between transformational leadership with all components of IC. Strongest relationship was seen among transformational leadership with human IC ($r=0/447$, $p<0/01$). Other categories of IC showed relationship with transformational leadership: End-customer-relationship capital ($r=0/298$, $p<0/01$), structural IC ($r=0/226$, $p<0/01$), Non-end-customer-relationship capital ($r=0/228$, $p<0/01$).

Despite of transactional leadership does not show relationship with IC. Three components of transactional leadership represent erratic and unexpected behavior. First component, the contingent reward has a statistically positive correlation to total IC and its subscales. Second component, management by exception (active) does not show any correlation with IC. Finally, management by exception (passive) has a negative correlation to total IC and its subscales. Results of correlation between laissez-fair leadership and IC indicated there are strong negative relationship between this leadership style and all the components of IC.

	Total IC	human Capital	structural IC	end-customer relationship capital	Non-end-customer relationship capital
Transformational leadership	.323**	.447**	.226**	.298**	.228*
Idealized attributes	.289**	.237**	.313**	.280*	.162*
Idealized behaviors	.301 **	.219*	.184*	.196*	.208**
Inspirational motivation	.223**	.208**	.249**	.144*	.195*
Intellectual stimulation	.358**	.431**	.214**	.262**	.299**

Individual consideration	.450**	.306**	.349**	.422**	.329**
Transactional leadership	ns	ns	ns	ns	ns
Contingent rewards	.429 **	.271**	.328**	.489**	.344**
Management by exception (active)	ns	ns	ns	ns	ns
Management by exception (passive)	-.255**	-.167*	-.249**	ns	-.216*
Laissez-faire leadership	-.244**	-.118*	-.157**	-.204**	-.217**

Notes: N = 159; ns = not significant; * = $p < 0.05$; ** = $p < 0.01$

Table 2. Intero relations for the variables included in the study

Results also confirm our hypothesis on the positive impact of total IC on transformational leadership in the telecommunication industry (Table 3). Among the IC, regression analysis selected only human IC and End-customer relationship capital as a direct factor of transformational leadership (Table 4). The low partial coefficients of the excluded variables confirmed their indirect role in tend to transformational leadership. Thus, Structural IC and Non-end-customer relationship capital need Structural IC and End-customer relationship capital to reflect themselves in intent to remain and their development thus cannot be neglected.

Variable	Coefficient	t-value	Significance
Constant	_.0546	_.0322	0.000
Total IC	1.769	6.495	0.000
	R2: 0.647		

Table 3. Impact of total IC on tend to transformational leadership —regression analysis results

Variable	Coefficient	t-value	Significance
Constant	_.0116	_.13.448	0.013
Human IC	2.725	10.337	0.000
End-customer relationship capital	1.629	9.318	0.006
	R2: 0.703		

Excluded variables	t-value	Significance	Partial correlation
Structural IC	3.224	0.112	0.097
Non-end-customer relationship capital	2.113	0.138	0.126

Table 4. Impact of IC scores on tend to transformational leadership —multiple regression analysis

5. Conclusions

The current paper examines the relationship between transformational leadership styles and strategies of promoting IC in Iran telecommunication SME. We review literature of transformational leadership and IC, especially about knowledge workers. Then we use four IC categories questionnaire, a recently valid and reliable scale developed by Rudez & Mihalic and MLQ5X for evaluating leadership styles of participants.

The most finding of this paper is recognition of leadership style as a critical success factor to behave with empowered workforces. The results provide some evidences to support links between IC and transformational leadership.

Furthermore, it shows Leaders, who use transformational style, probably have tendency to reinforcing IC capabilities in organization and provides evidences that level of total IC may be a predictor of leadership style.

Another finding is irregular relationships between transactional leadership subscales and total IC. On the one hand, contingent reward presents a high positive relation with IC. Contingent reward indicates a rational and transactional behavior, but we should account it as an effective leadership index. According to Barling et al (2000), behaviors that included in the subcomponent of contingent reward such as goal setting, providing feedback and rewarding are task oriented and positive. On other hand, management by exception (passive) showed a higher negative relationship with IC and finally, management by exception (active) has not any link with total IC. These results indicate that interpreting relationship among transactional leadership and IC is intricate.

It is also emphasized that no intellectual capital approach will be successful without a fundamental change in leadership attitudes, one that creates an acceptance and eagerness to do things differently in an ongoing process. Yet, such a change mostly requires adopting certain leadership behaviors that encourage transformation and change and are compatible with achievement and support capitals (Chen et al, 2005). And ultimately, getting the right combination of fit between managerial style and workers features will have an effect on attracting empowered labor as most critical capital in organizations. This match will create organizations that use the human will of its members in the service of their objectives, evoke human love to the organization, and stimulate strong motivation in the service of the group.

This study certainly has limitations. First, linking among leadership and IC is a new issue. Thus, there has been a little research about it especially in Iran. This limitation addressed to produce most of relevant literature. Secondly, it is difficult to imagine whether respondents would actually behave in the same manner as their responses indicated regarding actual transformational leadership. Therefore, the other suggestion for further research would be to investigate the leader's behavior in real business situations especially linking the research with performance measures in real life settings. Thirdly, it was found that some IC dimensions used in this study predicted transformational leadership and some of its aspects but accounted for only a small portion of variance. One of the reasons for this result could be that some other factors might have stronger effects on transformational leadership than the IC dimensions included in this study.

Despite of above limitations, it is hoped that this study holds a promise for applied knowledge and can benefit academic and industrial readers. However, further research is required to improve the understanding of the relationship between IC and leadership style. It is also recommended to continue the investigation on the interface of context and leadership factors on other levels. For example, organizational, industry, and knowledge management processes could also play important roles in shaping the leadership styles and behaviors.

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