



Leadership and teams in business: a study of IT projects in the United Arab Emirates

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Abstract

Purpose – The purpose of this paper is to examine the effectiveness of leadership and team processes in information technology (IT) projects in business environments. The paper contextualizes the study in the United Arab Emirates (UAE).

Design/methodology/approach – The paper addresses two central questions: what is the level of IT project team effectiveness in the UAE context? What is the maturity level of leadership in IT project management in the UAE? A tailored instrument, based on Cohen and Bailey's team effectiveness evaluation model, was used in this study of 42 project teams in the UAE across various sectors.

Findings – The findings demonstrate that IT projects in the UAE demonstrate a maturity level that is transactional, with task-focused teams and people-oriented leadership styles.

Research limitations/implications – The implications of the paper can facilitate broader contextualized research on leadership and IT project team effectiveness, with particular emphasis on developing economies. This is important in addressing the issue of high failure rates in IT projects in general.

Practical implications – Understanding the role of leadership and its responsibility in facilitating teams in technical and high failure environments can impact on productivity and success rates in future projects.

Originality/value – This paper is unique in providing collated opinion about constructs within IT project team processes and leadership effectiveness in the context of businesses in developing economies. The use of a maturity structure addressing leadership, trust, teams and cohesion is distinctive.

Keywords Information technology, Leadership, Team working, Project teams, United Arab Emirates

Paper type Research paper

1. Introduction

Two key factors in organizational effectiveness are leadership and teams. Leadership has been prominent since the early twentieth century and there have been several periods of study starting from trait-based studies to adaptive and cognitive studies prevalent over the last few decades (Van Maurik, 2001; Chemers, 2000). Similarly, teams have been a key component of successful organizations. The use of teams in project-based businesses has been widely accepted as an effective way of delivering strategic goals (Dvir *et al.*, 1998). The leadership influence on an effective team can

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be explained by how well the leader is able to motivate the team, drive the team towards identification and commitment to project goals, enable trust among team members, and generate a cohesive, well-coordinated unit (Yukl, 1999).

The study of leadership and teamwork is vital to information technology (IT) projects in particular, as IT projects are well-known for having high failure rates (Goatham, 2009; Keil *et al.*, 2002 and others). It is estimated that about one-third of all IT projects either fail or are abandoned and around 40 per cent of application development projects are cancelled before completion (Oz and Sosik, 2000). IT projects operate in highly dynamic environments and under constant time and cost pressures (Hartman and Ashrafi, 2002). They also often have teams comprising young, inexperienced members, high employee turnover rates and rely heavily on virtual teams where team members are separate from the culture of corporate headquarters (Thite, 1999). This makes good leadership and teamwork all the more necessary to facilitate IT project success.

IT projects consist of professionals from a wide range of backgrounds, being individuals from functional business units, end-user client industries, IT professional consultancy firms or other relevant stakeholder organizations (Jiang *et al.*, 1997). All of these different individuals in an IT team are responsible for the execution of certain tasks and responsibilities. It is only when they are executed in coordination that the goals of the project are accomplished. IT project team members often work in cross-functional teams, the characteristic of such teams being that they consist of members with diverse skills, have dual reporting lines, work in a matrix structure and have a temporary duration (Webber, 2002). Such teams often work on multiple projects simultaneously, with multiple goals and values, which requires leadership that is able to energize and communicate the project vision and highlight the value of shared goals as well as consequences (Barber and Warn, 2005).

Project teams in diverse industries like IT have conflicting priorities, resulting in a level of cohesion and communication which may not be high in the initial stages (Somech, 2006). According to Webber (2002), leadership plays a crucial role in getting team members to share common goals, promote informal communication, and increase levels of interdependence and trust. The level of contribution from different members in the project may not be of equal measure and this could impact overall team performance and commitment (Webber, 2002). IT project leaders thus are demanded to display leadership characteristics that can promote better technical project performance. This means that they need to act as coaches for better performance, be considerate towards the needs of the group and individuals, promote self-development and create an environment for project success without organizational interference (Thite, 1999).

Leadership plays an important role in generating trust as social capital, essential for effective relation-building and for building commitment in team members towards the vision of the leader (Tansley and Newell, 2007). This is further important in forming a cohesive unit and in generating cooperation in teams that are cross-functional and project based.

This interrelationship between leadership and teamwork is vital to IT project success and needs further examination. The aim of this research was to study the effectiveness of leadership and team processes in IT projects in the United Arab Emirates (UAE). The results of the study exhibit a pervasiveness of task-focused teams and people-oriented leadership styles in this context. Teams show evidence of a good level of trust amongst team members, with members being trusted by their leaders to undertake complex tasks.

Project team members within the sample group demonstrate high levels of commitment towards project goals.

2. Leadership and leadership models

Leadership is the most critical factor in the success or failure of an organization (Bass, 1990 cited by Tirmizi, 2002). There are as many definitions of leadership as there are persons who have attempted to define the concept (Stogdill, 1974, cited by Ogawa and Scribner, 2002). According to Hughes *et al.* (2006), the situational aspect of leadership impacts effectiveness of a business. Another perspective is when leadership is defined in terms of organizational structure where, as per Kats and Kahn, leadership is defined as “an influential increment over and above mechanical compliance within the routine directives of the organization” (Ogawa and Scribner, 2002).

The ends of leadership involve getting results through others, and the means of leadership involve the ability to build cohesive, goal-oriented teams. The final objective though is the accomplishment of stated goals through teamwork, performance and productivity. Good leaders are those who build teams to get results across a variety of situations. Leadership can emerge from within the team through unanimous selection or could be selected by the top hierarchy (Robbins, 2005).

Initial studies on leadership were based on organizations that had static behavior and the objective was to maximize production and efficiency. In contrast, new-generation organizations need to survive and compete in a dynamic and changing environment. Leadership models therefore have changed with the context and probably no one best model of leadership is yet conceived. A study by Pearce *et al.* (2003) is a useful reference point as a basis to understanding categorizations. Task-oriented, relation-oriented, functional and transactional leadership models are briefly outlined here to illustrate leader-teamwork interface.

Task-oriented and relation-oriented models are based on the Ohio and Michigan studies. The Ohio studies conducted in the 1950s resulted in the consideration and initiating structure paradigm. Initiating structure referred to the creation of norms, resources monitoring and the provision of clear goals and direction to the teams. Consideration relates to relation maintenance that is focused on alignment to the goals of the organization through influencing follower actions (Weissenberg and Kavanagh, 1972). In a similar vein, the Michigan studies conducted around the same time period brought out similar results showing that leadership were categorized as task oriented or relationship oriented. Task-oriented leaders were more apt at planning, scheduling, and monitoring activities while relationship-oriented leaders considered the relations with subordinates as crucial for task effectiveness.

In the functional leadership model, the assigned leader's role is to ensure that an environment exists for the team to perform effectively. The leader is responsible for diagnosing problems, planning, coordinating and implementing solutions in complex environments (Zaccaro *et al.*, 2001). In the functional approach, four core constructs have been proposed by Fleishman *et al.* (1991) and consists of 13 subordinate functions. The core functions are information search and structuring; information use in problem solving; managing personal resources; and managing material resources.

The transactional leadership model is based on the exchange of rewards in return for the successful completion of tasks. It is a two-way influence process between the leader and the follower aimed at attaining organizational goals.

Both sides in the leadership process – leader and followers – are active entities and behave based on interrelated expectations. The follower performs his part of the exchange process when the leader is competent and meets the needs of the follower (Hollander, 1979). The model is depicted very well in expectancy theory, path-goal theory, and leader-member exchange theory. More recently, transformational, charismatic and visionary leadership models have emerged. These leadership styles revolve around the fact that leadership in the changing organization is based on raising the motivational levels of the subordinates. They will then identify with the beliefs of the leader and be committed to the goals of the organization.

The transformational-transactional paradigm has been the most dominant in leadership studies recently and several models have been developed based on different contextual factors (Zhang and Sims Jr, 2005). However, the transactional-transformational leadership paradigm is an oversimplification of a more complex process and, consequently, there have been calls for greater expansion, encompassing the broader array of leadership study (Yukl, 1989 cited by Pearce *et al.*, 2003).

3. Teams and team effectiveness models

Teams can be defined as a collection of individuals, brought together in a particular context in which team members collaborate on common tasks (Hoegl and Gemuenden, 2001; Janz *et al.*, 1997).

Teams are used to achieve organizational goals and are necessary to meeting strategic targets. Team working has been so effective that the ability to work in a team is assessed as an essential quality by organizations (Cohen and Bailey, 1997). The objective in teams is the achievement of goals through interactive and interdependent processes (Brannick *et al.*, 1993). It is essential that organizations plan and use teams so that they are effective and meet team performance requirements. Ineffective teams can hamper an organization's growth and cause wastage of resources, rework and loss of valuable time (Ross and Jones, 2008).

Cohen and Bailey (1997) identify four different types of teams; work teams, parallel teams, project teams and top management teams.

Work teams are formed on a permanent basis for the execution of well-defined repetitive tasks and are usually found in the production and manufacturing industries (Cohen and Bailey, 1997).

Parallel teams work in parallel to the existing organizational structure and are formed for executing tasks that are not part of the routine of normal functional units. They are intended to make recommendations and suggestions for improvement of existing services and processes (Cohen and Bailey, 1997).

Project teams exist only for a defined period of time, namely for the duration of the project. They produce unique outputs and consist of non-repetitive tasks usually performed through the application of a specific set of skills, knowledge and expertise. They usually work outside traditional hierarchical positions on a temporary basis (Porter and Lilly, 1996). Project team consists of members from different functional units based on the requirements of the project and are used to address complex problems in the organization (Bierhoff and Muller, 2005).

Top management teams are formed from the top hierarchy and are required to provide direction and support for the effective performance of the organization. Top management teams are used in times of turbulence and for strategic planning (Cohen and Bailey, 1997).

Strong values and norms are essential to team commitment as this brings order and direction to team working (Arnold *et al.*, 2001). The team mental model concept was introduced by Cannon-Bowers and Salas (1990, cited by Mohammed and Dumville, 2001) and refers to the effective functioning of teams in complex environments through shared values, implicit coordination, organized understanding and knowledge representation of key factors in both task work and teamwork. The leader aids the process by effectively articulating and communicating the vision and goals to team members so that a strong sense of interrelatedness develops between the leader and followers and also within the team (Jung and Avolio, 2000). Having a shared team goal helps team members focus their energies towards its accomplishment. This aids in reducing team conflicts, evaluating progress and, most importantly, in evaluating the feasibility of the goals.

Team effectiveness is achieved when the members of the team work together towards the achievement of common goals (Jiang *et al.*, 1997). A typical teamwork model is the input-process-output (I-P-O) model shown in Figure 1 (Cohen and Bailey, 1997).

The effectiveness of a team is evaluated by its outcomes, which could be manifested in terms of tangible products that are quantifiable, or otherwise more intangible outputs like job satisfaction. Literature studies present three categories of variables – team performance outcomes, behavioral outcomes and attitudinal outcomes (Cohen and Bailey, 1997). Team performance outcomes are measured in terms of the quality and quantity of the output, such as efficiency, productivity and innovation. Behavioral outcomes are interactions displayed by team members such as absenteeism, psychological safety and turnover. Attitudinal outcomes refer to member attitudes like satisfaction, commitment and trust among employees.

Team outcomes are successful only when team processes are effective and therefore play a pivotal role. Team process is defined by Marks *et al.* (2001) as the interdependent actions by team members that convert inputs to outcomes through cognitive, behavioral and verbal actions directed towards the achievement of common goals. Marks *et al.* (2001) have classified team processes into three general categories – transition processes, action processes and interpersonal processes. Transition processes are

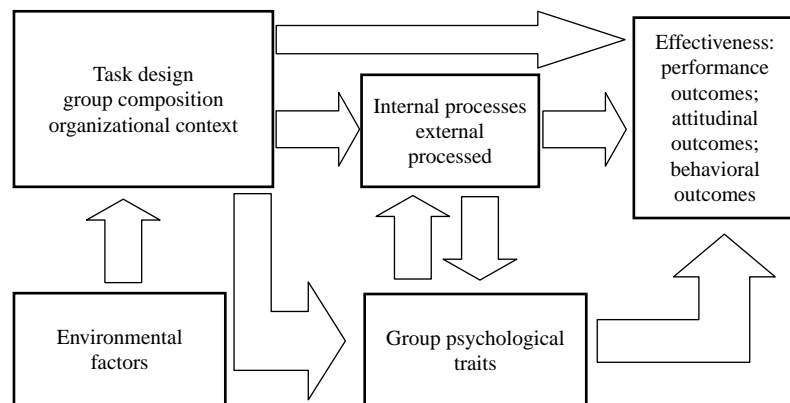


Figure 1.
I-P-O model

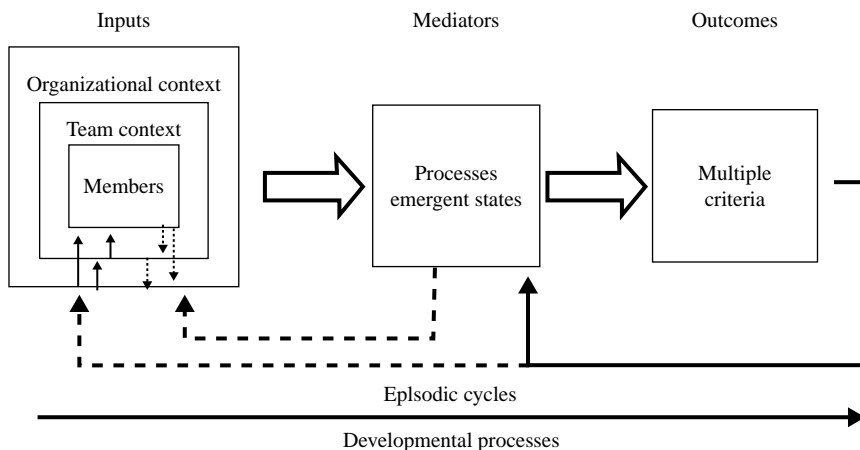
Source: Adapted from Cohen and Bailey (1997), © by Sage Publications, reprinted by permission of Sage Publications

planning stage processes, for example, mission analysis, goal specification and strategy formulation. Action processes include processes such as monitoring progress, systems monitoring, team monitoring and coordination. Interpersonal processes consider interpersonal activities including motivation building, emotional and conflict management (Randeree and Faramawy, 2011).

The team processes that affect the success of the team are in turn dependent on input variables, such as team roles, team design and leadership (Peslak and Stanton, 2007). Similarly, factors like cooperation, group potency and trust (Peslak and Stanton, 2007) which are effective states of the team are influential in effective team processes and therefore act as inputs in certain situations.

Based on the I-P-O model described earlier, an advanced input-mediator-output-input (IMOI) model was developed that tries to overcome the deficiencies in the previous model. Certain process variables initially proposed in the I-P-O model such as group cohesion are considered as emergent states rather than process constructs. Emergent states are developed over time and its state varies during the life of the group (Marks *et al.*, 2001). Emergent states are defined as characteristics of the team contributing to and resulting from other team processes.

The IMOI model, proposed by Ilgen *et al.* (2005), describes group development in three stages – forming, functioning and finishing. Forming consists of the initial developmental stage and is a combination of input and mediating variables. The forming stage variables studied by Ilgen *et al.* (2005) were trust, planning and structuring. This is followed by the functioning stage which is a result of teams working together over time and consists of mediation and output variables. Ilgen *et al.* (2005) refer to bonding, adapting and learning to indicate the functioning stage. The finishing stage contains the outputs generated which are fed back to the next cycle. This process is shown in Figure 2 where it can be seen that the feedback process indicates the episodic nature of teams which change their behavior based on learned circumstances and new requirements (Mathieu *et al.*, 2008).



Source: Mathieu *et al.* (1998), © by Sage Publications, reprinted by permission of Sage Publications

Figure 2.
IMOI model

4. Integrated leadership and team model

This section presents models that integrate leadership and team process models. Zaccaro *et al.* (2001) propose that leadership processes affect team effectiveness through four sets of team processes – cognitive, motivational, affective and coordination. It is important to note that the affect on team processes are moderated by other factors, such as the environment, organization and team characteristics. The integrated model is shown in Figure 3. The team processes are affected by the four leadership processes (explained earlier) in the functional leadership model (Fleishman *et al.*, 1991).

Team cognitive processes here referred to are shared mental models, collective information processing and team meta-cognition. The leader develops a mental representation based on task requirements, solutions available and the presence of environmental contingencies.

Team motivational processes include group cohesion and collective efficacy – collective belief of the group in its ability to successfully complete the tasks.

Team affective processes refer to team variables like conflict management and team emotion control. These affective processes mostly affect teams that operate in stressful and highly complex teams. It is therefore necessary that leaders influence these processes and ensure that they are controlled and directed towards the benefit of the team.

Team coordination processes refer to coordinating activities and include management of different tasks by multiple stakeholders, performance monitoring and providing feedback at the appropriate time. Leaders need to ensure that the right resources are available and that these are assigned and integrated accordingly and must foster interpersonal and team interaction (Zaccaro *et al.*, 2001).

Other team leadership frameworks exist, but were deemed too convoluted for this study. Two examples include Burke *et al.* (2006), who utilized Fleishman *et al.*'s (1991) functional model and combined it with the facilitating conditions identified by Day *et al.* (2004), who developed a team leadership cycle.

5. UAE context

The UAE is located at the southern tip of the Persian Gulf and has three neighbouring countries – Saudi Arabia, Qatar and the Sultanate of Oman. It is governed by a federal

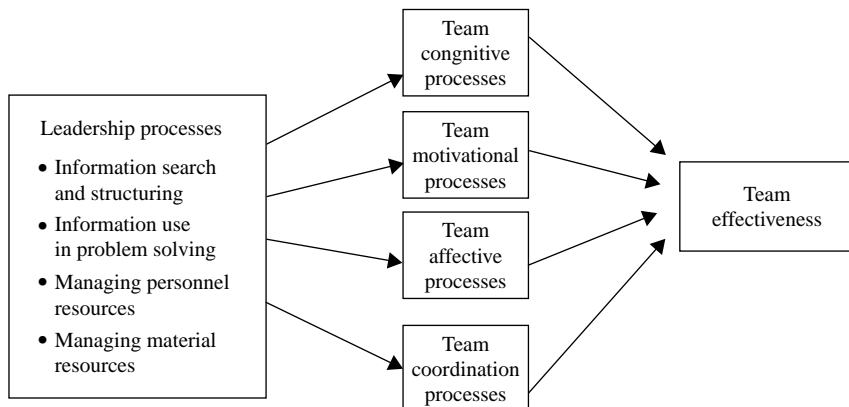


Figure 3.
Integrated model

Source: Zaccaro *et al.* (2001)

system founded in 1971. The union is formed of seven states, or emirates: Abu Dhabi, Dubai, Sharjah, Ajman, Umm al-Quwain, Ras al-Khaimah and Fujairah, with Abu Dhabi city as its capital. These emirates are settled by a diversity of cultural groups. In addition to UAE native citizens, there are various Arab groups as well as Iranians, Filipinos, Indians and large numbers of Europeans and Americans. These are all known as expatriates or abbreviated as expats (Randeree, 2009).

The population of the UAE in 2003 was estimated by the United Nations at 2,995,000. The discovery of crude oil and its commercial production in the UAE created a new economic situation that was reflected in the availability of substantial financial resources on one hand, and the investment of such resources by the government for development on the other. The country has emerged into the mainstream of modernism over the past 40 years, with an economy driven by oil and gas and more recently tourism. The population has been directly influenced by the rapid development witnessed by the country in recent years (Randeree, 2008).

Whilst Abu Dhabi has focused on developing its extensive energy resources, holding over 90 per cent of the UAE's oil reserves, the other emirates have sought other economic drivers as their oil reserves are relatively limited. Trade has become Dubai's staple, for example, with the emirate re-exporting over \$US 10 billion annually. Successful strategies in Dubai are copied in the other emirates and the resulting increase in competition deepens the market and allows for the spread of best practice. This process has been supported by the UAE's heavy investment in infrastructure, principally in Dubai, which relies heavily on construction and IT projects (Randeree, 2007).

Dubai's vision for a knowledge-based economy is a strategy for developing the model for growth and development in the region. A knowledge-based economy, as defined by the World Bank, rests on four pillars, known as the 4 "I's" – "infrastructure", "incentives", "innovation" and "intelligence". All of these rely on successful IT project execution. Infrastructure, for example, relates to the information society infrastructure and the dissemination and processing of information and how effectively a society gives people access to affordable and effective information and communications. Here, IT project success is clearly of paramount importance. Incentives relate to the economic and institutional framework, providing a stable macro-economy, a competitive environment, a flexible labour market and adequate social protection. Innovation brings together research and business activities in commercial applications of science and technology, with emerging sectors such as pharmaceuticals, bio- and nano-technologies and wireless communication systems. Finally, intelligence refers to education systems, where citizens acquire, share and use knowledge (Ausberg *et al.*, 2009; Randeree and Gaad, 2008).

The UAE has set its sights on joining the ranks of the world's leading knowledge-based economies with a comprehensive strategy to enhance knowledge-driven development, underpinned by IT project investment in a diverse range of businesses. Dubai aims to generate 25 per cent of its GDP from knowledge-based businesses and industries and seeks to raise the role of foreign direct investment in the country's economy to 4 per cent of the GDP (Randeree and Chaudhry, 2007).

6. Methodology

Table I details the research methodology, which is process based and utilizes a customized instrument to evaluate six leadership and team processes across six assessment levels.

Table I.
Scoring table for the five process areas for each project team

Level 0	Level 1	Level 2	Level 3	Level 4	Level 5
Zero level	Willingness level	Transactional (task focussed)	Transactional (relation focussed)	Transformational	Change oriented
<i>General goals</i> Leadership: characterized by laissez-faire style Team: concept is non-existent	Leadership: identified but based on traits and not situation specific Team: team processes are understood and there is willingness to improve	Leadership: transactional leadership based on exchange of rewards Team: team processes are task focused geared towards successful execution of assigned tasks	Leadership: goals and objectives are defined. Leadership promotes sharing of goals and effective team interaction Team: processes are geared towards the achievement of team goals rather than individual goals	Leadership: focus on sharing team vision, enhancing creativity, fostering motivation to perform with extra effort Team: goals are identified, team belonging; provide support to team success, work on mature partnerships	Leadership: team leadership is encouraged, respond effectively to a changing environment Team: team process variables are outcomes of the team process
<i>Leadership</i> Laissez-faire leadership style	Leadership is assigned based on traits	Goals and objectives are defined Task structure and procedures are clear Leader-member relation based on exchange of rewards	Leader promotes more interaction to develop shared goals More communication is encouraged among team members	Leadership inspires and motivates Leader understands followers Leader challenges followers to achieve goals Leadership promotes team mental models Leader promotes risk taking and inculcate psychological safety in team members to adopt change	Leadership is shared among team members Leadership is not assigned to one particular individual Change-oriented leadership style with focus on internal and external activities that drive change Promotes creativity and innovation
<i>Trust</i> No trust relationships present between team members	Trust is identified as essential for success but low-quality exchanges among members, therefore low trust	Tasks which are structured and clearly defined are assigned based on individual perceptions of competency	Teams are trusted with complex tasks which may be more unstructured	High levels of affective interpersonal trust which brings extra effort outside contractual obligations	High-performing teams lead to trust as an outcome of the leadership process

(continued)

Level 0	Level 1	Level 2	Level 3	Level 4	Level 5
Zero level	Willingness level	Transactional (task focussed)	Transactional (relation focussed)	Transformational	Change oriented
		Stranger phase, based on exchange of rewards – absence of caring and commitment	Acquaintance phase, based on sharing information	Mature partnership, behavioral and emotional exchange. Members depend on each other and trust them for support, loyalty and have mutual obligation. Leaders provide support, encouragement and guidance	High levels of mutual trust between members and between member and leader High levels of trust between leader and followers lead to change-oriented behaviours like risk taking and empowerment
<i>Team mental model</i> Team members do not share goals Team members vary in their cognitive interpretations and therefore have difficulty coordinating activities	Willing to share information Goals are not shared though among members	Task structure is clearly understood and team members know who knows what, who performs which role, etc.	Team interaction is promoted Team members share information for achieving goals Team members are capable of learning from previous experiences and develop team working in future cycles	Team members relate to the vision of the leader and the goals of the team Teams conceptualize the interpretation of team goals in the same cognitive manner	Highly similar and accurate team mental models lead to coordinated decision making and performance based on shared common knowledge (mental models) Team members exchange enough information and mutually agree on desired solution and plan of action to achieve goals Cognitive diversity is used effectively to define solutions and generate cognitive consensus among team members
<i>Cohesion</i> (continued)					

Table I.

Level 0	Level 1	Level 2	Level 3	Level 4	Level 5
Zero level	Willingness level	Transactional (task focussed)	Transactional (relation focussed)	Transformational	Change oriented
Team not united in purpose	Team members are willing to interact socially for team performance	Team united at task level Communication and cooperation are antecedents for task cohesion Individuals relate to the goals at the personal level	Teams have shared commitment to group goals Social cohesion though is a precondition to group commitment to tasks	Team united at the task and social level Working towards a common goal, interact constructively, openness to sharing Members relate to the goals at the group level Teams are cooperative and supportive. Share workload, participate in decision making and are interdependent for achieving team goals	Teams that are cohesive at the task and social-level drive performance which in turn lead to cohesion as an outcome in team models
<i>Empowerment</i> Team members not willing to take responsibility	Have the ability to be empowered	Performance-based incentive (supervisor dependent)	Involved in decision making (consulted) Individual desire to be empowered Teams share knowledge and develop a powerful team environment	Participative shared decision making	Delegation of responsibility (power)

The field study then combines both qualitative and quantitative research methods. The purpose of qualitative research is to gain a deeper understanding into a problem; is conducted through a meaningful survey in a limited number of companies in order to obtain comprehensive information; and facilitates the holistic exploration of a set of circumstances (Marshall and Rossman, 2006; Saunders *et al.*, 2000). A quantitative instrument on the other hand, is designed to measure statistical data from a given sample selection (Bertrand and Fransoo, 2002; Yin, 1994). A survey method was adopted to explore ideas, feelings and attitudes, which is essential for a maturity level analysis of this type. Each of the teams was contacted to explain the purpose of the research and the expected mode of responses. Data collection occurred by means of a questionnaire, distributed and returned over a two-week period. A data sheet tracked the progress of data collection and email and telephone call reminders were also used as required. A total of 42 project teams were contacted and an average of three to four individual responses was expected from each team, leading to a total expectation of approximately 120 responses. Both the private and public sectors were targeted for this study. The selection has been with the objective of having an equal representation of all the different cases possible. The representation of the target teams with respect to sector, team role and industry are shown in Table II. Individual responses were then evaluated and aggregated for obtaining the team level measure. Finally, focus group meetings were held with participants from each of the analyzed teams to obtain personal insights into team and leadership issues.

7. Results

A total of 44 responses were received which represents a response rate of 36.6 per cent for the total individual responses. Since the evaluation was at the team level only, 11 of the 44 returned responses could not be considered as the remaining were either less than

Category	Sub-category	No. of teams contacted	Representation (%)
Sector	Financial	4	10
	Private	25	17
	Semi-government	6	59
	Government	7	14
	Total	42	100
Team role	Client	25	60
	Solution provider	17	40
	Total	42	100
Industry	Bank	3	7
	Construction	1	2
	Education	1	2
	Health	2	5
	Infrastructure	3	7
	Insurance	1	2
	IT	25	61
	Retail	3	7
	Telecommunication	2	5
	Transportation	1	2
	Total	42	100

Table II.
Sector demographics of
the sample population

the minimum number of responses required from a single team or were incomplete. This constituted responses from ten project teams which represents 23 per cent of the total project team contacted. The ten project teams are thus detailed in Table III.

The experience levels of the project team members are shown in Table IV. It can be seen that most of the project team members had more than 5 years of total experience and represented 76 per cent of the sample population. The experience of the respondents within the current organization was varied. There were members who had less than two years of experience as well as those who were with the company for more than 15 years. The important experience factor though is in terms of project teams. Most of the project members were in the three to five years and six to ten years group representing around 29 and 41 per cent of the total, respectively. The private sector had a higher representation than the public sector in the sample population (80 per cent).

The mean scores for the five process areas obtained from the survey are given in Table V.

8. Analysis

(i) Leadership

Leadership levels in the project teams considered in this study show that they stand at an intermediate level indicated by an average score of 3.68. This shows that leadership in these teams is based on a transactional perspective. There are instances in which leadership is more flexible and tries to inculcate in followers a feeling of being self-dependent and innovative. Project Team 8 for example has a leader that tries to empower teams to perform. This is evident in its average leadership score of 4.08, where a score exceeding 4 indicates the presence of transformational leadership (Table I), characterized, in part, by the empowerment of employees. Further, the interview session with one of the team members whose response was:

[. . .] the team leader tries to create an environment for teams to act independently but due to the culture present within the organization that calls for routine monitoring and evaluation, the leader gets involved in operations which would not have been required otherwise.

Additionally, this could also be due to the fact that team members in most of these teams had varied experience of working in project teams.

Project teams that take into consideration the environmental factors seem to perform better as teams and such teams evaluate leadership on a higher scale. This is evident in Project Team 8 which has a “projectized” environment and the role of the leader is in providing a facilitating environment and in guiding the team towards the goals of the project as well as the organization. One of the team members in a similar team (Project Team 9) aptly remarked saying that “the leader inculcates the value of sharing goals and its importance to organizational objectives”. This again should be the focus of organizations to strive and develop leaders who are capable of taking teams to higher levels not only for one project alone but for all projects the team is involved in. This is mostly not the perspective of organizations whose goals are focused on short-term gains with less attention to long-term team success.

(ii) Team processes

Team cohesion. Cohesion refers to an individual’s attraction to the group as well as the level of group integration and is considered both at the task level and the social level.

Project team	Project title	Project description	Project category	Project scale (AED)	Completion date	Organization sector	Project team role
1	ERP implementation	To automate transactions as a part of an enterprise resource planning project and link people, processes and workflows. Modules implemented are accounts, distribution, and inventory	ERP	5,000,000	NA	Private	Client
2	Graveyard management system	System for automation business processes of grave yards unit	Application	500,000	Apr-09	Private	Solution provider
3	Mobile (PDA) application for municipal inspections	To apply PDA-based mobile solution for municipality inspectors, helping them to their routine work efficiently and effectively. The system uses GPRS for connectivity to the central database	Application	1,000,000	Under implementation	Public	Client
4	Data centre power system	Design and implementation of a power system for the data center	Infrastructure	180,000	Completed	Public	Client
5	ERP implementation	Implement full ERP solution to part of the business. Modules include operations and finance	ERP	9,000,000	March 2009	Private	Solution provider
6	LAN connectivity and design	Design and implementation of LAN cabling for 2000 DATA – VOICE Nodes	Infrastructure	NA	June 2009	Private	Solution provider
7	Parking control system	Supply, installation, testing, commissioning and maintenance of all hardware and management system	Infrastructure	NA	February 2010	Private	Solution provider
8	Application tracking system	Application tracking system using barcodes based on a workflow for a major bank	Application	100,000	February 2009	Private	Solution provider
9	Unified automated fare collection	Setting up a central repository of all transactional data acquired across different departments	Application	NA	September 2009	Private	Supplier
10	Van sales automation	This is a project to automate the sales done by van sales representatives for better control and integration with SAP	Application	NA	July 2009	Private	Solution provider

Note: *\$1 = AED3.68

Table III.
Details of project teams
analyzed in the study

Task-level cohesion is essential so that interrelated tasks are executed without interruptions and delays. Social-level cohesion improves the closeness of the group and thereby its performance. The cohesion level in the project teams that were considered in this study had an average score of 3.7 indicating that cohesion within the team is evident at the primary level. This means that teams behave cohesively both with respect to the task and social characteristics.

Team trust. Team trust is defined as the willingness of one person to be vulnerable to another person's actions and decisions. The trust factor is essential in project teams that consist of individuals from diverse backgrounds and are probably together for only a short period of time. The team trust variable's average score in the study is 3.9 as shown in Table V, one of the highest among all of the process areas. This is due to the fact that the project teams considered have members who believe in the ability and integrity of their team members. Their relationships are mature partnerships that can drive extra effort from the team. But whether the trust levels formed within the team is a result of leadership interactions is unclear. The team that has shown the most promise is Project Team 9 whose aggregate score is 4.35. The explanation given by one of the team members is that "they have been involved in similar projects before and have got members who have got experience and been with the company for quite some time". There are four other teams that have a value above 4 (Project Teams 2, 5, 6 and 8).

Team mental model. The general consensus among research studies is that team effectiveness improves if the team has a shared understanding of the team, its internal components and external influences (Mohammed and Dumville, 2001). IT project teams are characterized by multiple task assignments executed by people with different functional backgrounds. This therefore requires that they develop a high level of team understanding and interdependency. As shown in Table IV, this variable has an average value of 3.86 in this study. This reflects that the teams are above Level 3 and therefore

Table IV.

Number of years of experience of participants

Total experience (years)					Organizational experience (years)					Project experience (years)				
0-2	3-5	6-10	11-15	>15	0-2	3-5	6-10	11-15	>15	0-2	3-5	6-10	11-15	>15
12%	12%	24%	28%	24%	23%	18%	23%	24%	12%	18%	29%	41%	12%	0%

Table V.

Process scores for each project team

Project team	Team leadership	Team trust	Team mental model	Team cohesion	Team empowerment	Average team score
1	3.96	3.90	4.20	3.79	4.01	3.97
2	3.40	4.30	4.21	3.96	4.10	3.99
3	3.20	3.63	3.13	3.11	3.24	3.26
4	3.66	3.65	3.34	3.58	3.60	3.57
5	3.66	4.13	3.69	3.44	3.71	3.73
6	3.56	4.05	4.13	3.72	3.19	3.73
7	3.72	3.20	3.88	3.72	3.95	3.69
8	4.08	4.15	4.25	4.50	4.67	4.33
9	3.76	4.35	3.88	4.00	4.38	4.07
10	3.80	3.80	3.88	3.89	4.14	3.90
Process scores	3.68	3.92	3.86	3.77	3.90	3.82
Overall process scores	3.68			3.86		

have developed themselves in terms of information sharing, knowledge dissemination about tasks, resource availability, and learning from existing experiences. The team members are updated on who knows what and have strategies in place for accessing as well as disseminating any shared information. This helps teams to perform without delays which are very crucial in projects that have high levels of urgency for project execution. There are four teams in the study sample that have a value above 4 (Project Teams 1, 2, 6 and 8). It is noted that Team 8 makes use of technology to share information and keep the team members updated on any development or changes in team tasks and objectives, thus helping the team to concentrate on assigned tasks by providing accessibility to shared resources.

Team empowerment. The team empowerment variable as shown in Table III produced an average score of 3.9 in this study. This reflects that project teams see meaning in their work and are competent enough to take responsibilities. The extent to which responsibilities are assigned though is based on the perceptions of the team leader. Most of the teams in the study have scores above 4 or are close to it. This shows that IT project teams generally have the freedom to take actions or are at least consulted before the team leadership takes decisions. This is crucial as IT project teams need to be involved in the decision-making process as it allows the team to act without delay when required and also be more committed to the goals of the project. Project Team 3 though is one team that is low on the empowerment scale. This is explained by one of the team members who said they “faced numerous difficulties and delays due to non-action from management for longer periods and lack of power to act instantly”. This is reflected in their score of 3.24 indicating Level 3 characteristics. Project Team 3 understands the need to be empowered and have the competency but lacks the power due to the existing culture in the organization. It is also interesting to note that this project team is part of the public sector which is known to have a bureaucratic environment. This indication becomes stronger as a similar trend is seen in Project Team 4 which is also part of a public sector entity. The only project team in the private sector that had a score below 4 was Project Team 6. This probably is due to the fact that the team was involved in small scale projects and has team members that need constant supervision for effective task execution. This was reflected in the statement from the team’s project manager who mentioned that the “team consists of team members who need monitoring and control”.

9. Key findings

What is the level of IT project team effectiveness in the current context?

The project team processes that were considered in this study have an average score of 3.86 which shows that the team process is at Level 3. The teams have developed trust levels such that they are generally acquainted with one another and are trusted with tasks that are more complex, as the leader believes in their ability to perform. There are indications that they share information and are facilitated in doing so, which is considered very important in IT project teams.

The project teams that were evaluated gave an overall average score of 3.82 indicating that the effectiveness levels of IT project teams is above Level 3. Leadership and team processes are at the “transactional level with a relation focus”. This means that the projects have a task-focused approach to work, but at the same time also have an inclination towards people-oriented leadership styles. This needs to be taken as a base

to improve the effectiveness levels in such teams so that they move onto higher levels and are able to adopt transformation and change-oriented approaches towards project team design and functioning.

At what level does leadership stand in the current context?

The leadership of IT project teams is at Level 3 which is indicated by its average score of 3.68. Leadership at this level concentrates on developing norms, guidelines and monitoring for performance. The advantage of this is that there is clarity in the goals for the team, team members know the expectations of them, and that good performance will be rewarded. Leadership promotes effective team communication and encourages sharing of information so that the team has the same understanding of the project goals and achievements.

There is order, which is due to the presence of a transactional culture, but this may not be enough when there are changes and the team is required to adapt to these changes. These teams now need to move into higher levels that will enable them to be more creative and highly efficient. This will facilitate the teams to be adaptive and be flexible to the dynamic changes occurring in most project environments. The next level of effectiveness promotes empowerment, creativity and risk taking. Teams at this level have the capability to take on challenging jobs and will tend to look at solutions to problems from different perspectives. Leadership too at this level will focus on integrating different perspective of the team towards a common objective, with performance being derived through extra effort from every individual in the team.

10. Conclusions

The primary objective of this research work was to assess the effectiveness levels of IT project teams in the UAE context. IT project teams require leadership and team processes cope with the characteristics of the team to meet project requirements in a successful manner. The study has identified relevant team processes that are influential in IT project teams. The processes selected were team cohesion, team trust, team mental model and team empowerment. The influence of leadership in these team processes has been reviewed and based on this a comprehensive model has been developed that can evaluate effectiveness levels of IT project teams with respect to leadership and the identified team processes. A six-level model has been developed with Level 0 at the lowest that is characterized by non-leadership and absence of the relevant team processes. The effectiveness of a team moves higher up the levels as they attain the characteristics of the next level. The higher levels are characterized by transformational leadership with team processes showing their related effects. Such teams tend to perform well and are more flexible in a dynamic environment.

Within the teams investigated, commitment to team goals was found to be cohesive to a certain degree. This means that teams are willing to cooperate for team efforts and each individual knows the importance of their task and the relevance of its successful completion for others in the team. In terms of empowerment, most of the teams are involved in the project decision and are aware of the actions taken by the team leaders but are not yet delegated power to take actions on their own. The involvement of team members in team decision-making increases their self-worth and motivation. Consequently, the teams feel empowered.

The teams display characteristics at Level 3 which are transactional and based on a relational approach. This means that teams work according to norms and guidelines with performance based on rewards received. The interrelationships within and outside the team are considered important and therefore leadership in these teams promotes effective communication and shared team goals. This needs to be complemented with transformational leadership that can successfully lift the team level. If this is achieved then teams will be able to develop into high-performing teams that can meet the challenging needs of dynamic organizational environments and also be adaptive to change. This is especially useful when a sudden downturn occurs after continuous periods of growth in the economy. For organizations to survive in such environments, teams need to adapt and be receptive to these changes. It is only when IT project teams are able to continuously deliver in turbulent times that the longevity of a business reliant on technical projects can be ensured. Leadership in such environments is therefore crucial as it must create environments for teams to rise up to higher levels of performance.

The research establishes a platform for future research into cross-cultural issues in teams and leadership. Examination of other environments, such as the developing economies of India and China and comparison with mature industrialized nations will benefit the discourse, particularly in IT projects where high rates of failure are known to exist.

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