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The application and impact of using virtual team in Middle East (case study)

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Abstract

The purpose of this paper is to identify the application and impact of using virtual team in Middle East in construction field. The literature and various studies concluded that virtual teams are still in its nascent stages and because of the relative newness of virtual teams; many areas of research have not been examined, especially Middle East region. Studies like these are rare or not exist in our region. This paper is an endeavor to facilitate using of virtual team in Middle East, types of virtual team, challenges of virtual team and benefits of virtual team. The data were collected from construction organizations in Middle East. In all, 140 self-administered questionnaires were distributed among these organizations of different countries and they returned 100 completed useable questionnaires for response rate of 71.4%. The statistical analysis showed that only 37.60% of companies in middle east using virtual team. Due to these result a large engineering effort is needed. This study is hoping presents a useful source of information which would benefit organizations that achieved a global scope of work by using virtual team in Middle East.

Keywords: Virtual team, construction field, Middle East.

1.0 Introduction

Communication plays a very important function in the dissemination of information and day-to-day operation of any organization. Advancements in information and communication technologies, specifically the use of Internet-based systems, have endowed people with the ability to work and learn remotely and virtually while retaining or superseding the performance of traditional teams. The trends of merger and acquisition, alliance, hyper-competition, downsizing, and globalization have pressured firms to locate the best talents around the world and group them to serve the firms' best interests (Kerber & Buono, 2004). The virtual team is becoming the basic work unit in the Information Age (Lipnack & Stamps, 1997).

Research on virtual teams is still in its nascent stages (Badrinarayanan and Arnett, 2008, Prasad and Akhilesh, 2002) and because of the relative newness of virtual teams; many areas of research have not been examined (Badrinarayanan and Arnett, 2008) especially Middle East region. Camarinha-Matos and Afsarmanesh (2003) conclude that, setting up an infrastructure for virtual team still requires a large engineering effort, which represents a major obstacle for the implantation of this new paradigm. Effective and efficient cooperation across disciplines and distributed teams becomes essential for the success of engineering projects (Zhang et al., 2008). Therefore the experiments suggest that more research is needed to explore the ways to enhance the performance of virtual teams (El- Tayeh et al., 2008).

Virtual teams differ from face-to-face teams. Virtual teams are significantly different from traditional teams. In the proverbial traditional team, the members work next to one another, while in virtual teams they work in different locations. In traditional teams the coordination of tasks is straight forward and performed by the members of the team together; in virtual teams, in contrast, tasks must be much more highly structured. Also, virtual teams rely on electronic communication, as opposed to face-to-face communication in traditional teams. In particular, reliance on computer-mediated communication makes virtual teams unique from traditional ones (Munkvold and Zigurs, 2007).

Previous studies have investigated issues in virtual teams (Yoong 2001, Suchan et. al. 2001). A multi-cultural team is a team whose members have different cultural backgrounds, for instance because they are from different countries. In a global marketplace, more and more companies need international presence; therefore the need for creating virtual teams exists. By dynamically allocating people to projects based on expertise rather than location, organizations can more easily assign the most qualified people to appropriate projects without concern for the expense and wasted productivity caused by extensive travel or frequent relocation (Goldman 2000).

The control of virtual environments allows us to focus our attention on some key elements as leadership effectiveness, team trust, propensity to trust, and team effectiveness. Work on the performance of virtual teams by Kirkman and Rosen, et al. (2004) demonstrates a positive correlation between empowerment and virtual team performance. High-performance teams are distinguished by passionate dedication to goals, identification and

emotional bonding among team members, and a balance between unity and respect for individual differences (Kirkman and Rosen, et al. 2004)

2.0 Definition of Virtual Team

Virtual teams define as a group of people and sub-teams who interact through interdependent tasks guided by common purpose and work across links strengthened by information, communication, and transport technologies. Another definition suggests that virtual teams are distributed work teams whose members are geographically dispersed and coordinate their work predominantly with electronic information and communication technologies (e-mail, video-conferencing, telephone, etc.) (Gassmann and Von Zedtwitz, 2003b). The multiple-relationships nature in virtual teams is exemplified by Cascio and Shurygailo's classifications with reference to the number of locations and the number of managers involved, ranging from the single teleworker working largely on his own at a single location to the remote team which consists of a single manager of a team in many locations to matrixes teleworkers of multiple managers of a team in a single location to the matrixes remote team consisting of multiple managers across many locations. Also, virtual teams can defined as groups of geographically, organizationally or time dispersed workers brought together by information and telecommunication technologies to accomplish one or more organizational tasks (Alavi & Yoo, 1997; De Sanctis & Poole, 1997; Jarvenpaa & Leidner, 1999).While they can be ongoing, virtual teams are often assembled on an as needed basis to cooperate on specific deliverables, or to fulfill specific customer needs. Distinctive features of virtual teams include their preponderant – and at times exclusive – reliance on IT to communicate with each other, their flexible composition, and their ability, if necessary, to traverse traditional organizational boundaries and time constraints.

3.0 Types of Virtual Team

Generally, we can differentiate various forms of virtual work depending on the number of persons involved and the degree of interaction between them. The first is telework (telecommuting) which is done partially or completely outside of the main company workplace with the aid of information and telecommunication services. Virtual groups exist when several teleworkers are combined and each member reports to the same manager. Cascio and Shurygailo (2003) have clarified the difference form of virtual team by classifying it with respect to two primary variables namely; the number of location (one or more) and the number of managers (one or more) [15].Therefore there are four categories of teams:

- Teleworkers: A single manager of a team at one location.
- Remote team: A single manager of a team distributed across multiple locations.
- Matrixes teleworkers: Multiple manager of a team at one location.
- Matrixes remote teams: Multiple managers across multiple locations.

Other classifications of virtual teams are:

1. **Networked teams**: Generally, networked teams are geographically distributed and not necessarily from the same organization. These teams are frequently created and just as frequently dissolved; they are usually formed to discuss specific topics where members from the area of expertise, possibly from different organizations, pitch their ideas in the same discussion.
2. **Parallel teams**: Parallel teams are highly task oriented teams that usually consist of specialized professionals.
3. **Project development teams:** Similar to parallel teams, these teams are geographically distributed and may operate from different time zones. Project development teams are mainly focused on creating new products, information systems or organizational processes for users or customers.
4. **Work, production or functional teams**: These teams are totally function specific where they only work on a particular area within an organization (i.e. finance, training, research, etcetera)
5. **Service teams:** Service teams are geographically located in different time zones and are assigned to a particular service such as customer support, network upgrades, data maintenance, etc...
6. **Offshore ISD teams:** Offshore ISD outsourcing teams are independent service provider teams that a company can subcontract portions of work to. These teams usually work in conjunction with an onshore team.

4.0 Benefits of Virtual Team

During the last decade, words such as virtual, virtualization, or virtualized have been very often advocated by scholars and practitioners in the discussion of social and economic issues (Vaccaro et al., 2008) but the advantages and pitfalls of virtual team is concealed. The availability of a flexible and configurable base infrastructure is one of the main advantages of agile virtual teams. Anderson et al. (2007) suggest that the effective use of communication, especially during the early stages of the team's development, plays an equally

important role in gaining and maintaining trust. Forming and performing in virtual teams is useful for projects that require cross -functional or cross boundary skilled inputs and the key to their value creation is to have a defined strategy in place to overcome the issues highlighted, especially the time zones and cultural issues. Wayna (2000) concluded that many companies have instituted virtual work places and have reaped the following benefits: reduced real estate expense, increase productivity, higher profit, improve customer service, environmental benefits, and access to global markets (Wayna, 2000)

5.0 Main Objective

The main objective of the study is to evaluate the application of virtual team and its impact in construction industry in Middle East countries. This research aims to investigate using of virtual team and presents a useful source of information which would benefit organizations that achieved a global scope of work by using virtual team.

6.0 Methodology

Present research emphases on the Private and Public companies in Middle East in construction sector. A newly established questionnaire was used for this study which was retested for better results. For the study simple random population of 140 companies were selected. The reasons of including all these companies are their positive and prominent growth in recent years in these countries.

6.1 The Zone of Data Collection

The questionnaire is addressed to a sample of one hundred forty companies working in various construction sectors in the Middle East such Egypt, Saudi Arabia, Qatar, Kuwait and Jordon as in table (1).

Table 1. No Of Questionnaire

NO	Country	No of questionnaire	Notes
1	Egypt	50	
2	Saudi Arabia	35	
3	Qatar	20	
4	Kuwait	20	
5	Jordon	15	

6.2 Analysis Method

Data collected from the survey was analyzed using descriptive statistical techniques. An advanced and accurate analysis method was needed to arrange the large body of data in a systematic, fast and reliable way. For this purpose the computer software Microsoft Excel and Statistical Package for the Social Sciences (SPSS.19) were chosen as the best options available.

7.0 Results and Analysis

Both mailing and interviewed methods were used in different situations to distributing the questionnaire. Out of 140 questionnaire distributed 71.4% responds rate of 100 respondents,

According to Fig (1.0) feedback that comprises of 57% contract, 28% representing consultants, remaining 10% numbers from developers or clients, and another 5% are working with firm that running its two business nature as contractor and developer.

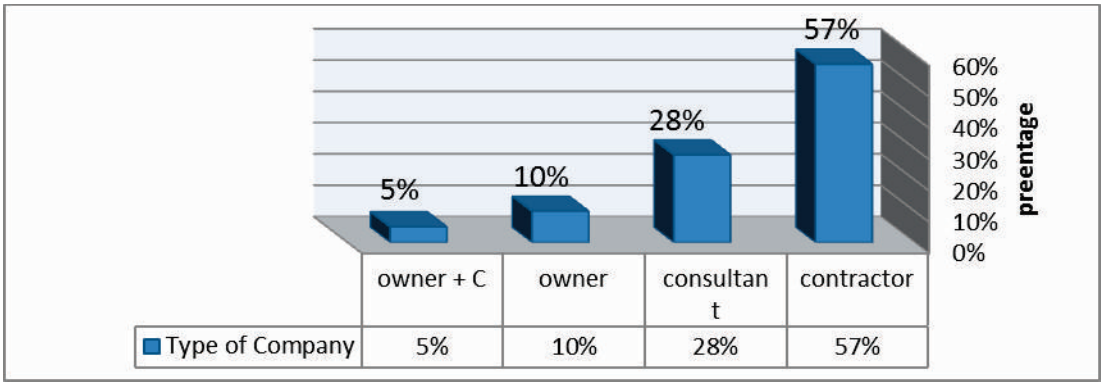

Figure 1. Types of Companies Involved in the Questionnaire

During personnel interviews, it's note that a high ratio of male participation is because of easy access to males than females in construction field as shown in Fig. (2.0).

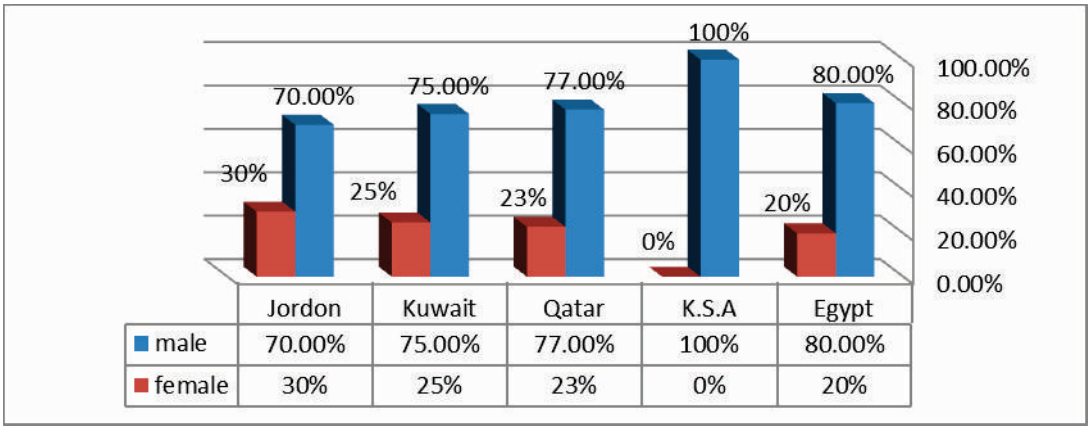

Figure 2. Questionnaire Respondent Gender

7.10 The Company Using Virtual Team

The highest rates of feedback (50%), the second (25%), the third (15%), the fourth (7%) and last highest (3%) of respondents make attempts to very uncommon, uncommon, less common, common and very common respectively. In accordance to the rating tools, the result of 1.88 (37.60%) average index results indicates that poor using of virtual team**.**

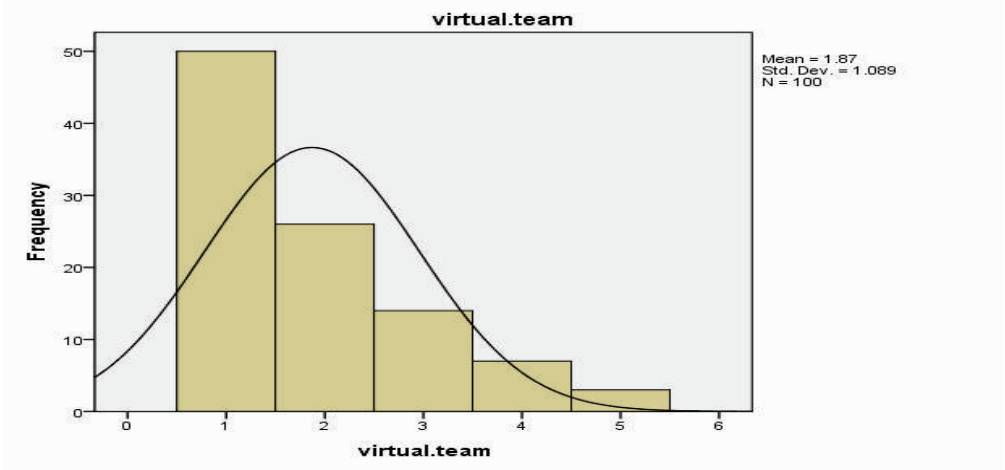

Figure 3.0: The Company Which Using Virtual Team

8.0 Conclusions

Strong business and social pressures are driving the adoption of virtual team working. Find that success in implementing virtual team working is more about processes and people than about technology. Virtual teams offer many benefits to organizations striving to handle a more demanding work environment, but also present

many challenges and potential pitfalls. Virtual teams play an essential part in enhancing organization performance and productivity. Virtual teams are a new and exciting work form with many fascinating opportunities. Due to these opportunities, virtual teamwork becomes increasingly popular in organizations.
Virtual teams is useful for projects that require cross-functional or cross boundary skilled inputs and the key to their value creation is to have a defined strategy in place to overcome the issues highlighted, especially the time zones and cultural issues. The statistical analysis showed that only 37.60% of companies in middle east using virtual team. This result indicates that a large engineering effort is still needed in this area.

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