

Leadership in Virtual Teams

Amin Kaboli^{1,*}

Mojtaba Tabari²

Elham Kaboli³

¹Department of Industrial Engineering, Iran University of Science & Technology

²Department of Management, Ghaemshahr Azad University-Iran

³Faculty of Humanities and Administrative sciences, Mazandaran University-Iran

Abstract Today's organizations use virtual teams in order to respond to their dynamic environments. Members in virtual teams geographically dispersed and coordinate their work predominately via information and communication technology (ICT). Leadership in virtual teams need to be redefined, it is surely different from the traditional one. In this paper we try to answer this question: How does ICT affect the leadership?

Keywords leadership; virtual teams; information and communication technology

1 Introduction

An electronic change has altered the trading in various ways. The old structure of organizations is not adaptable any more. The high rate of globalization and rapid change necessitates a trade structure which can use these conditions in the best way. Ignoring these new conditions lead some organizations to bankruptcy.

A new market needs a constant reaction and a continuous adaptation. It is one of the competitive indices. Those organizations are successful in the modern market, which can utilize modern experts, technology and knowledge. Approaches such as minimizing, centralization, re-engineering is of great value for modern organization. There are some modern organizations that conform to new and remarkable development of information technology to decrease the amount of complexity and extension of operations to shorten the period of response, and to develop flexibility.

The term "virtual organization" has been used and widely defined in the management literature since 1990. The major future of this organization is flexibility. Virtual teams are spinal coral of these organizations, which are considered as the most important type of virtual organization.

2 Virtual Organization

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

*Corresponding Author. E-mail: kaboli@ind.iust.ac.ir

assign the most qualified people to appropriate projects without concern for the expense and wasted productivity caused by travel or frequent relocation. [1] Verbally, the term “virtual” was taken from the computer fields in which a virtual memory refers to a memory, which has a capacity more than a real cell.

Likewise an organization, called “Virtual Organization” was formed from external resources which do not belong to it, and that the organization does not exist by itself but whose existence belongs to other organizations. [2]

2.1 Virtual Organizations Types

Respondents identified the scope of the work, the projected length of time spent in virtual work, types of projects, the range of involvement and the number of personnel involved. These criteria suggested four distinct virtual organizational types: permanent virtual organizations, virtual teams, virtual projects, and temporary virtual organizations.

2.1.1 Permanent Virtual Organizations

This virtual organization was designed, from its inception, as a virtual organization to bring together market players and respond to opportunities for both improved revenue-generating activities as well as cost savings. This is a model which involves the virtual concept in all operations, including virtual tasks, teams, and management of the organization’s activities.

2.1.2 Virtual Teams

Internal organizational use of the virtual concept has generated virtual teams in a variety of organizations. In most cases these teams come from a specific functional, process or strategic business unit within a larger organization. The organizational use of the virtual concept in this instance is in virtual tasks and virtual teams.

2.1.3 Virtual Projects

A third incarnation of the virtual organization is the virtual project. In this design, organizations form alliances or consortia to bring complementary organizations together in meeting market opportunities. Alliances formed call on manufacturers, developers, and markets from a variety of organizations to respond more effectively to market opportunities.

2.1.4 Temporary Virtual Organizations

An extension of the virtual project design is to establish a temporary virtual organization to take on multiple projects and develop responses to a specific market opportunity. When the market opportunity has ended, so has the organization. This is the initial virtual organizational model [1, 3] virtual tasks, teams, operation, and virtual management of the organization’s activities.

Virtual team, one of types of virtual organization, is of great importance and plays a great role in improving organization goals.

Table 1: Virtual Organization Types Comparison on Multiple Dimensions

	Virtual Teams	Virtual Projects	Temporary Virtual Organizations	Permanent Virtual Organizations
Range of Involvement	Internal to an organizational function or departmental unit	Across functions and organizations	Across organizations	Across organizations
Membership	Small, local	Indeterminate	Typically larger	Typically smaller, but scaleable
Mission	Teams on specific, ongoing tasks	Multiple organizational representatives working on specific projects	Multiple functions responding to a market opportunity	All functions and full functionality as a working organization
Length of project	Membership varies, but form is permanent	Temporary	Temporary	Permanent
Uses of IT	connectivity, sharing embedded knowledge (e-mail, groupware)	Repository of shared data (databases, groupware)	shared infrastructure (groupware, WANs, remote computing)	channel for marketing and distribution, replacing physical infrastructure (Web, Intranet)

2.2 2.2. Virtual Teams

A virtual team also known as a Geographically Dispersed Team (GDT) – is a group of individuals who work across time, space, and organizational boundaries with links strengthened by webs of communication technology. They have complementary skills and are committed to a common purpose, have interdependent performance goals, and share an approach to work for which they hold themselves mutually accountable. Geographically dispersed teams allow organizations to hire and retain the best people regardless of location. A virtual team does not always mean tele-workers. Tele-workers are defined as individuals who work from home. Many virtual teams in today's organizations consist of employees both working at home and small groups in the office but in different geographic locations. Jarvenpaa [4] see the virtual team one of the basic blocks of the VO. It should be "a self-managed knowledge team with distributed expertise that forms and disbands to address a specific organizational goal". The virtual team may be spread over the world, or over different campuses, or over employee's homes. It is dynamic in terms of its goals, structure, and control and resource deployment. Virtual Team Theory can be understood by looking at the following diagram.

The core is a set of unique individuals who have a range of work related skills. All have high skills in using computer mediated communication and can create strong networks via virtual interactions. There should be no more than 10-12 individuals in the core. They may work from home, or an office and the main tools that need to be provided for the job are a desktop or laptop computer, and a connection to the Internet. The extended team includes people connected to the team. They may be middle level managers, engineers, developers, graphic designers, and who work on specific projects and move in and out of the extended team frequently. The extended team may have access to computers and Internet at work or home. The partners may

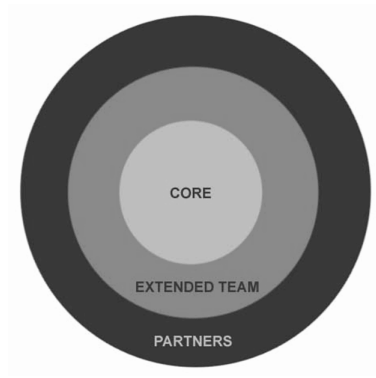


Figure 1: Virtual team's theory

be other companies, government bodies or consultants who are involved in some capacity with projects or the supply chain. [5, 6, 7]

2.2.1 7 Basic Types of Virtual Teams

Durate and Snyder [8] in their book observe that virtual teams have many different configurations and that they can be categorized in to seven basic types of teams: Networked Teams, Parallel Teams, Project or Product-Development Teams, Work or Production Teams, Service Teams, Management Teams, Action Teams.

1) Networked Teams

Consist of individuals who collaborate to achieve a common goal or purpose, Membership is frequently diffuse and fluid. The networked team is different from a project team in that the membership is not always clearly delineated from the rest of the organization and a final product is not always clearly defined and can often be a recommendation. Examples of the networked team are often found in consulting firms and in high tech organizations.

2) Parallel Teams

Virtual parallel teams are becoming a fairly common way for multinational and global organizations to make recommendations about worldwide process and systems that take into account a global perspective. Also, Work in short term to develop recommendations for an Improvement in a process or system; has a distinct membership.

3) Project or Product-Development Teams

Conduct projects for users or customers for a defined period of time. Tasks are usually no routine, and the results are specific and measurable; team has decision making authority.

4) Work or Production Teams

Perform regular and ongoing work usually in one function; clearly defined membership.

5) Service Teams

These team Support customers or the internal organization in typically a service/technical support role around the clock. An example of a virtual service team is a customer support center that has operations in strategic locations across the globe to take advantage of a "follow the sun" strategy.

6) Management Teams

Work collaboratively on a daily basis within a functional division of a corporation.

7) Action Teams

Offer immediate responses activated in (typically) emergency situations. They can cross distance and organizational boundaries. They are different from all of the other types of teams in that they are usually formed only to meet a specific and urgent need.

2.2.2 Critical Success Factors of Virtual Teams

- The existence of availability standards.
- Ample resources to buy and support state-of-the-art reliable communication and collaboration tools for all team members.
- The existence of corporate memory systems such as lessons learned databases.
- The existence of written goals, objectives, project specifications, and performance metrics; results orientation.
- Managers and team members with a better-than-average ability to accurately estimate.
- A lower-than-normal ration of pushed to pulled information.
- Team communication is prioritized by the sender.
- Human resource policies, reward/recognition systems as well as career development systems address the unique needs of virtual workers.
- Good access to technical training and information on how to work across cultures.
- Training methods accommodate continual and just-in-time learning.
- There are standard and agreed on technical and "soft" team processes.
- A "high trust" culture; teamwork and collaboration are the norm.
- Leaders set high performance expectations; model behaviors such as working across boundaries and using technology effectively.
- Team leaders and members exhibit competence in working in virtual environments.

3 There Are Some Problems in Managing and Leading Virtual Teams such as

As much as we have to learn about virtual teams in general, we know participating little about leadership in virtual teams. How does leadership play itself out in an environment where trust is difficult to build? , influence is difficult to express,

self leadership is required, and communication is often ambiguous? [9] We list five major problems of leading virtual teams before discussion about leadership.

- We can't manage, coach, or mentor what we can't see.
- We'll never be able to learn the whole technology.
- We'll never see the people who work for us.
- The complexity of the technology used by virtual teams is greatly exaggerated.
- Good Virtual team managers and leaders are well traveled and probably know at least three different languages.

4 Leadership Competencies Rated Against the 7 Types of Virtual Teams

The following table lists the seven different types of virtual teams and then rates seven leadership competencies required for that type of team as Low (L), Medium (M), or High (H). This tool will assist leaders in their personal development plans. [8]

Table 2: Leadership Competencies rated against the 7 type's of virtual teams

Type of Team	Performance Management and Coaching	Appropriate Use of Technology	Cross-Cultural Management	Career Development and Transition of Team Members	Building Trust	Networking	Developing and Adapting Team Processes
Network	<i>M</i>	<i>H</i>	<i>L - M - H</i>	<i>L</i>	<i>H</i>	<i>H</i>	<i>H</i>
Parallel	<i>M</i>	<i>H</i>	<i>L - M - H</i>	<i>M</i>	<i>H</i>	<i>M</i>	<i>H</i>
Project or Product	<i>H</i>	<i>H</i>	<i>L - M - H</i>	<i>M - H</i>	<i>H</i>	<i>M</i>	<i>H</i>
Work or Production	<i>H</i>	<i>M - H</i>	<i>L - M - H</i>	<i>M - H</i>	<i>H</i>	<i>M - H</i>	<i>M - H</i>
Action	<i>M - H</i>	<i>M - H</i>	<i>L - M - H</i>	<i>L - M</i>	<i>H</i>	<i>M - H</i>	<i>M - H</i>
Service	<i>H</i>	<i>M - H</i>	<i>L - M - H</i>	<i>M - H</i>	<i>H</i>	<i>L - M</i>	<i>M - H</i>
Management	<i>M</i>	<i>M</i>	<i>L - M - H</i>	<i>M</i>	<i>H</i>	<i>H</i>	<i>M</i>

5 Human Resources Management in Virtual Organizations

To achieve human resources management goals in virtual organizations, it is necessary to combine various tasks and functions appropriately and establish such an order that controls all activities of human resources management systematically and dynamically with respect to inner and outer factors involved in mechanism of each organization.

The daily development of virtual organizations has caused the staff to plan appropriately to survive in future. As the new way of companies is planned according to dominating changes, the staff must plan their position based on these principles. Restructuring of labor force is one of the consequences of virtual organization development.

In these organizations as the old ways of employment are destroyed and many positions are deleted, some new ways of job designing, such as motivation, substitute for the ergonomic method.

There would be a changing in employing human force and multiple exams of employment are replaced with face-to-face interview and especial panels. The system of counter railing of staff services become more flexible, focusing on the improvement of life quality of the staff, and the criteria are based on their knowledge levels and their skills. Training the multilateral skills, Perception-communication skills, systematic attitude and self-regulating education is of great importance, in case of education of the staff.

6 Trust in Virtual Organizations

Charles Hendy believes that truthfulness is the most important factor in a virtual work setting.

The more you move from old centralized organizations to virtual decentralized ones, the less you will have controlling power and management coordination because employees do their activities without being seen during the day by their colleagues and managers. So obviously, it will influence on the employer employee relation. On the other hand it is not possible to establish loyalty and commitment in the staff easily. Expertise people can leave an organization easily to join another one; hence, there will be more competition to achieve these resources than ever before.

It seems necessary for virtual organizations to gain a great deal of trust and confidence compared to old organizations, and this maybe possible by the reinforcement of leadership skill of managers.

Leadership defines future for the staff and unites them while giving a picture of future and establishes confidence among them.

7 Implication for Leadership in Virtual Teams

We have identified some key leadership challenges inherent in the virtual work environment, yet there is a fundamental issue that in many ways supersedes all others, namely; the impact of culture on E-leaders. In a broad sense, culture refers to shared norms about expected behavior. In the case of virtual teams, company cultures may overlay national cultures. National cultures, in turn, may be individualistic or collectivist in nature. Much research and writing in the field of management reflects individualistic values and points of view, but it is important to recognize that at least 70 percent of the world's population is socialized in collectivist cultures. While the impact of company and national culture on leadership orientation and style in virtual teams is clearly the subject for future research, we mention it here simply to highlight its importance, and to emphasize that E-leader must be sensitive to cultural norms, especially where virtual teams span multiple regions of the world. We know that with respect to intact work teams, patterns of leadership vary across cultures as well as individuals. There is every reason to expect similar patterns of variation across virtual teams.[10]

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