Management Framework for Globally Distributed Teams in IT Industry

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Abstract

Software development is a highly creative and collaborative endeavor in which success requires a fine degree of coordination between many people from many different disciplines, often working across different geographies and time zones and sometimes across cultural borders. When implementing software development in a global environment, a popular strategy is the establishment of globally distributed teams.

Project management owes its existence as a management discipline to the complex, high technology undertakings. Projects are complex endeavors and project outcomes are far from being certain. Software development teams are plagued by management problems that result in missed deadlines, budget overruns, and canceled projects, and effective management remains an open problem. The management aspect becomes further challenging and complicated while dealing ethical, time zone, cross cultural issues inherent to a globally distributed team. In this paper we have presented an adept management framework for globally distributed teams.

Keywords

Management Framework, Globally Distributed Teams, Global Teams, Distributed Teams

1. Introduction

Software development is a highly creative and collaborative endeavor in which success requires a fine degree of coordination between many people from many different disciplines, often working across different geographies and time zones and sometimes across cultural borders. The goal of such arrangements is to bring together the mix of intellectual, technical, and industrial skills and resources needed to design, construct, and operate the systems and facilities required to solve complex business problems [1]. When implementing software development in a global environment, a popular strategy is the establishment of globally distributed teams [2]. Such an arrangement is required when projects are complex in nature. One of such a requirement is in Enterprise Application Integration (EAI) wherein a globally distributed enterprise' applications are integrated to provide a global view to the top management. We have presented various affordable solutions for EAI [3, 4, 5]. Research on the definition of complexity yields two observations: i) No consensus exists on a single definition and ii) the definition is sometimes a function of the industry or domain associated with the research. For example, a researcher in the information technology industry defines complexity as a "high number of cognitive operations." In the supply chain management industry complexity means "proliferation of individual items, either in input components and subassemblies or finished goods." These definitions may be useful for the purpose of understanding the relationship, but do not serve as universal definitions of complexity in the context of understanding or predicting success in IT related projects [6]. Another reason why such globally distributed teams are necessary is: With software maintenance accounting for an excess of 50% of the total programming effort, several organizations have realized the benefits of outsourcing these activities [7]. Maintenance tasks that are outsourced range from feature enhancements, defect repairs, code restructuring that require significant change to the existing system to migration, version management and customer support. In several scenarios, software maintenance tasks are executed across geographic locations. Global software development and maintenance (GSDM) is being adopted by several organizations expecting to realize the benefits of reduction in cost and time.

2. Management Framework for Globally Distributed Teams

Projects are complex endeavors and project outcomes are far from being certain. Software development teams are plagued by management problems that result in missed deadlines, budget overruns, and canceled projects, and effective management remains an open problem as development teams struggle to keep pace with changing technology [8]. Project management owes its existence as a management discipline to the complex, high technology undertakings. Even though the modern project management discipline has been around for almost sixty years, delivering

successful projects is still an obstacle for many organizations. An increase in the use of distributed teams, which, unlike traditional, co-located project teams, have the added difficulty of collaborating across the boundaries of space and time, has further complicated the issue of project management. Expected to compete with traditional teams in terms of quality and efficiency, distributed teams rely heavily on information technology to support many of the communicative and collaborative processes that traditional teams take for granted.

The increased diversity of skills, knowledge, cultures, and perspectives of globally spanning project teams can potentially have both positive and negative influences on group processes and outcomes [9]. Poorly coordinated teams do not communicate or make team decisions effectively. The members of a poorly coordinated team focus on individual tasks and have little awareness of the activities and perspectives of their teammates or of how the pieces of the project fit together. Unable to work as a cohesive unit, these teams find it difficult to focus on overall project goals. In contrast, a well-coordinated team remains focused on the project as a whole [10]. It is imperative for such global organization of team to use project management methods and tools. Project management tools can greatly assist managers in tracking and controlling their projects. However, their structured and analytical nature does not necessarily match the decision-making styles of project managers [11]. Management methods that are adopted may vary, from manager to manager, and may have its own impact on outcome. We advocate a management framework for such globally distributed teams since managing such teams requires altogether a different skill set and a framework to work with. Below are pillars of such a framework.

2.1 Lead through Change; be a Change Champion

Change is inherent to any organization, including IT industry. The goal for change is to cope with new, more challenging market by changing how business is conducted. Change usually involves numerous phases that, together, usually take a long time. Figure 1 shows a typical change cycle. Skipping steps creates only an illusion of speed and never produces a satisfying result. Fundamental changes can occur in any organization quickly when the beliefs and energies of a critical mass of people create an epidemic movement towards an idea [12]. Manager should begin the cognitive hurdles that block organizations from recognizing the need for change by putting subordinates face to face, not in literal terms, with operational problems. Next, the manager should manage around limitations of funds, staff, or equipment by concentrating resources on

the areas that are most in need of change and that have biggest payoffs. The change means walk over the obvious, reach a second logical level and examining the situation through a different pair of lens. In management, this means to adjust the philosophy top-down, to secure that the proposed improvements in efficiency are related with a project management strategic approach in the whole organization [13].
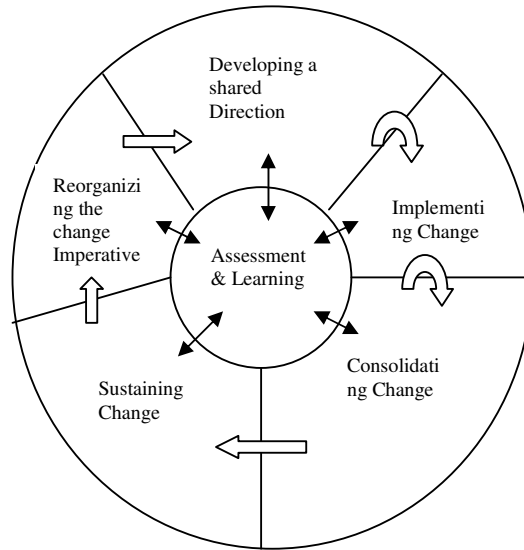

Fig. 1: The Change Cycle

2.2 Make a Team not a group

Groups don't become teams because that is what someone calls them. Nor do teamwork values by themselves ensure team performance. So what is a team? "A team is a small number of people with complementary skills who are committed to a common purpose, set of performance goals, and approach for which they hold themselves mutually accountable" [14]. The essence of a team is common commitment. Without it, groups perform as individuals; with it, they become a powerful unit of collective performance. Teams develop direction, momentum, and commitments by working to shape a meaningful purpose.

Team is the primary unit of performance in high-performance organizations. This, of course, does not mean that teams will swarm out individual opportunities or formal hierarchy and process. Rather, teams will enhance existing structures without replacing them. A team opportunity exists anywhere hierarchy or organizational

boundaries inhibit the skills and perspectives needed for optimal results. Teams are the most practical and powerful vehicle, at disposal of managers, to attain specific performance challenges. The critical role for managers, therefore, is to worry about performance and project targets. There are certain approaches a manager needs to employ to build team performance.

i. Establish demanding performance and direction
ii. Select members for skill and skill potential, not personality
iii. Pay particular attention to first meetings and action items
iv. Set some clear rules for behavior
v. Challenge members regularly with fresh facts and information
vi. Exploit the power of positive feedback, recognition, and reward

### 2.3 Build Emotional Intelligence (EI) of Team

The management world knows by now that to be effective in workplace, an individual needs high emotional intelligence. What isn't so well understood is that teams need it, too. High group intelligence may seem like a simple matter putting a group of emotionally intelligent individuals together. It is not. For a team to have high emotional intelligence, it needs to create norms that establish mutual trust among members, a sense of group identity, and a sense of group efficacy. These three directions are essential to a team's effectiveness because they are the foundation of true co-operation and collaboration. Bringing emotional intelligence is a step-wise approach. First, focus on individual level, then on the group level and finally at the cross boundary level. Conscious efforts should be made to build team's emotional capacity. Obvious way is to simply create an affirmative environment. Figure 2 shows these steps and their impact on team's effectiveness.

Since team is formed of members from different time zones, a particular timing for conference calls may not be suitable for all. If team is large and if it is possible,, manager should divide bigger team into number of small teams, fitting logically. If it is not possible, then manager should keep rotating conference call timings on regular basis so that every member, for majority times, has comfortable timing.

Personal experience of the author indicates another crucial problem, especially for new comers to the world of conference calls, that it is difficult to follow accent of people from different geographical regions, especially Chinese and Russians. It takes time for one to get used to the accent. For a fresher, it may be a good idea to, at least in the initial period, to be a passive member, performing mainly listening activity. As a manager one has to see that majority of the communication is email based or net meeting based.

To maintain emotional attachment at higher level, it helps to keep holiday list of all branches of organization to which team members belong, and also, team member's personal data. Using this, the manager personally should send well wishing emails for festivities, birthdays, anniversaries and likes. It helps further if manager encourages other team members to do the same.

Fig. 2: Steps & Effects of EI
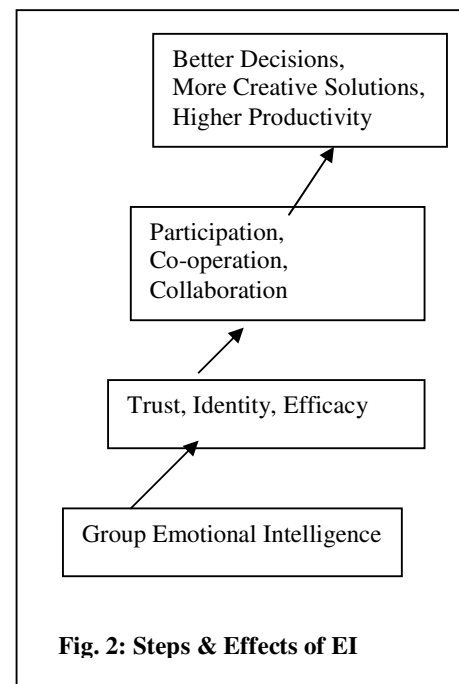
2.4 Become a High Performance Manager

Many managers feel overwhelmed. They have too many problems on their backs. All too often, they say, they find themselves running out of time while their subordinates are running out of work. Such situation arises where manager fails in delegation. Typically, there are three kinds of management times namely i. Boss-Imposed Time ii. System-Imposed Time and iii. Self-Imposed Time. Self-

Imposed Time is one that is used to do things that the manager originates or agrees to do. A manager do not have much choice about Boss-Imposed Time and System-Imposed Time; however in case of Self-Imposed Time, majority of these are subordinate-imposed. In accepting too many of these, the manager has voluntarily assumed position subordinate to his subordinates. To overcome such problems, manager should take necessary initiative. There are five degrees of initiatives; the manager can initiate i. Wait until told (lowest initiative) ii. Ask what to do iii. Recommend, then take resulting action iv. Act, but advice at once and v. Act on own, and then routinely report (highest initiative). A professional manager should never indulge in i and ii in relation either to the boss or to the system.

3. Interesting Observations

Most successful companies were not obsessed with their competitors; instead they were following the polestar of some truly noble aspirations. What counted was not so much how they positioned themselves against long-standing rivals, but how creatively they used their core competencies. Strategic intent, core competence, and industry foresight have become part of the management lexicon. Talking about strategic intent, one by default recalls Alexander-The Great. Alexander's contributions span many endeavors – cut across many disciplines. Arguably the best military strategist, tactician, and ruler in world history, Alexander's achievements have influenced many military, political, and business leaders [15]. Experience of author, as an observer and participant of management ideas, indicates that majority of the ideas, and concepts we use today have their origins in Alexander. It is no surprise, therefore, to frequently hear a chief executive or a senior manager exclaim, in the depths of a discussion about an intricate current problem, that the way to solve it might be to take approach that Alexander once did.

In any stream of ideas, some kind of deeper pattern will be evident. Patterns come in many forms:

- Allegiance to a standard, such as Microsoft's allegiance to operating system, which spawned, both within Microsoft and without, hundreds of small innovations built atop the windows standard.
- A widely shared core competence, such as GE Capital's competence in Risk Management based on cumulative learning.
- A set of values around a brand that can be applied broadly, as in the case of Virgin and Disney, and thereby yield economies of scope.
- A common customer set that is best served in a coordinated way, which is the logic behind Amazon.com's creating a wide variety of "Stores within Store" rather than making each store an independent entity.

4. Conclusion

Managing globally distributed teams poses altogether a different set of problems like ethical problems, Time zone problems, cross cultural problems. Attempting to address such problems requires altogether a different skill set and a framework to work with. Experience as an observer and participant of management ideas have yielded an adept management framework that can be useful in addressing issues resulting from managing globally distributed teams.

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Fig.1: [16]

Fig. 2: [14]