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Coordinating a Remote Group for a Project

Prabhdeep Singh[1], Rajesh Upadhyay[2]

[1]Department of Computer Science & Engineering,Graphic Era Deemed to be University, Dehradun, Uttarakhand India, 248002
[2]School of Management, Graphic Era Hill University, Dehradun, Uttarakhand India, 248002

ABSTRACT

Because of the intricacy and the dangers involved, we say that managing a virtual project team is difficult. We further show why it is difficult to manage a virtual team and how such issue may be handled by management via an in-depth analysis of a worldwide virtual project (Project A) done by a multinational firm (Organization X). Although we were restricted in the scope of our analysis, we believe that virtual project management presents an alternative for businesses constrained by low budgets and short time slots, provided that managers are well taught and equipped.

Keywords: Virtual team practices, virtual engineering teams, virtual project teams, remote teams, engineering management, portfolio management, programmanagement, project management, technology management, global team practices,dispersed team best practices, technology strategy

INTRODUCTION

Project team cooperation has evolved substantially during the last two decades, thanks to the revolutionary development of information technologies. Modern project teams are geographically spread in a more fluid fashion than in the past, in contrast to the co-located, side-by-side setup of conventional collaborative environments [1]. Also, businesses now face incremental competition, which necessitates swift responses to market shifts and adjustments in client demand. There has been a shift in recent years toward the usage of virtual project teams as an alternative to traditional in-house project teams in the pursuit of cost savings and faster project completion. Moreover, studies show that a company's bottom line may be boosted and sustained by implementing virtual teams, even in the face of intense competition. Implementation times are cut down and talent shortages are eased. Whether or whether virtual teams can outperform co-located ones is an open question in the academic community. Although there are risks associated with virtual teams, many companies nevertheless choose to utilise them due to short-term financial constraints [2]. Therefore, it is of great importance to businesses to investigate virtual team as a potential problem in project management and to be well prepared for them. This article seeks to thoroughly investigate the difficulties posed by virtual projects and provide project managers with useful answers by utilising a geographically dispersed IT project (Project A) based on a field research into a multinational organisation. Each section of the report focuses on a different aspect of the topic at hand. In the first section, we get a bird's-eye perspective of the whole project, including a breakdown of the work involved and how it fits into the larger organization [3]. What follows is a conceptual analysis of

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some of the most pressing problems that the virtual team must solve. Part 3 builds on Part 2 by discussing how organisation X could be affected by these difficulties and how it might respond to the opportunities and threats that result from them.

Goals

Company X operates on a global scale as a major multinational corporation in the field of communications. In order to better compete on a worldwide scale, the company initiated Project A to create internal software. There are around 125 people working on the project from five different sites throughout the world (4 in the US and 1 in India). The fundamental objective of this project is to provide a middleware platform that can provide the organisation with an API service, allowing the organisation to build its own enterprise-level applications using the API as a foundation [4].

The organisation formerly ran on a hodgepodge of application software. Many issues arise as a result, including the necessity to create a more complex software programme and the possibility of work being repeated inside Organization X. Organization chose to unify present disjointed elements into a uniform, homogeneous, and simplified platform to emphasise existing high-level application software and avoid the expensive expense of building new higher-level application software.

There were eighteen individual modules that made up the platform, and they were all set to be introduced at the same time. In fact, only a few of these 18 modules could function without the results from the other modules. Collaboration and cooperation permeate every aspect of Project A. For instance, in order to begin installing the release, all other modules have to first be set up. Many separate release cycles, each lasting around three months, formed the project's total release. In addition to fixing issues, each new version will bring some brand-new functionality. Once the current release had completed all of the necessary steps, the next one would be scheduled.

The project board consisted of senior executives such as the CIO, CTO, and CFO of the project sponsor. Each construction site had its own project manager who reported to the project board. However, we are unable to provide a more thorough project structure due to the lack of further information, such as how the eighteen modules were divided among the several teams [5].A software development team's first priority should be making an accurate estimate of the amount of time and effort required to complete a given project. When other aspects of the project, like the skill of the project team, the nature of the project, and its size, are held constant, an increase in project effort can actually lengthen the duration of the project, which could contribute to project creep if it is underestimated by project managers. Argue that the project's scope and effort will grow as a result of the project's complexity and variety. Because of this, businesses now face more difficulties than ever before. Given the complexities of the virtual project environment and needs, it is important to appreciate the IT project effort required in Project A prior to delving into the project's difficulties. Staff working hours are a good indicator of how much effort was put into a project. The total number of people involved in Project A is close to 125. System engineers, system architects, platform developers, testers, Source Code Management, and in-house workers make up the whole of the project team. Managers provide guidance and instruction to team members. There are anything from a few to over thirty people participating across all five sites. Most of the developers, testers, and operational level managers included in this group gave their all to the project. The availability

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of additional workers was conditional on the current release phase. Some system engineers, for instance, worked full time at some periods, but their typical schedules consisted of part-time hours[6].

Release cycles were supposed to be used for the rollout of Project A. Every release schedule is on average three to four months in length. Plus, there are eighteen highly interactive modules, and each release cycle was dependent on the one before it. Every member of the five-person team was under intense pressure to complete the job on time. Given a team size of 125 employees working together for at least six months (two or more cycles), the total project effort is likely to be substantial, even though neither the total working hours of the whole project team nor the number of release cycles is given by the field study

COMPREHEND THE CHALLENGE OF MANAGING A VIRTUAL PROJECT TEAM

This section will describe a virtual project team and discuss the difficulties that may arise while leading a remote group of workers. The purpose of this article is to increase the reader's understanding of the aspects of virtual project teams, the seven possible hazards connected with this difficulty, and various solutions to this challenge. Our analysis is predicated on the work used a sophisticated approach to verify these dangers. We picked the top seven threats that were most likely to influence workers working on a virtual project. Online Collaboration Team A virtual project team, also known as a distributed project team, is a group whose members are physically, temporally, and organizationally scattered. Despite the fact that its members may be spread over a wide geographic area, this group has a clearly defined starting point, a concluding point, and a regular meeting schedule. Increases in communication and globalisation, as well as the high expense and inconvenient nature of business travel, have all contributed to the rise of the virtual project team. It's Hard to Lead a Virtual Team in a Project Environment The connection between members of a virtual team is as Design, culture, technology, and staff training are all contributors. To achieve the desired outcomes, these elements must interact with both the social and emotional ones (relationship development, group cohesiveness, and trust) and the task process ones (communication, group coordination, and task technology) (perfection and satisfaction). All of the components must be included at the beginning and conclusion of this cycle for the intended outcomes to materialise. In contrast, unfavourable outcomes are more likely when the component is not functioning properly. As a result, businesses exert considerable effort to provide the necessary resources to support the integration of all relevant elements (Macgregory & Torres-Coronas 2007). Therefore, project managers should devote considerable time and effort to the complex task of leading a virtual workforce. Data Relating to the Activity of Virtual Teams.

Online Project Teams

Numerous studies have already been conducted on topics including trust, conflict, and communication in virtual project teams. Three key distinctions were observed between virtual and conventional co-located teams. Differences in language and culture, as well as in attitudes to work and problem-solving, were all factors. As researchers were worried about communication differences, they discovered that when negotiating requirements among team members had "conflicting viewpoints," a virtual team was more beneficial. This benefit was attributed to the fact that there were no vocal signals involved since the conversation was conducted online rather than in

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person. It has also been suggested by previous studies that, owing to style differences, great care should be used in selecting team members while constructing virtual teams (flexibility). This was due to the fact that remote groups often dealt with greater uncertainty than their in-person counterparts.

Problems/Threats Associated with a Remote Project Team

Problems, failures, and even catastrophes in a project may be avoided with proper risk management. Moreover, the study's authors determined that poor risk management was a major contributor to the study's gloomy findings about the high failure rates of the projects it examined (Lim & Mohamed 1999). Defining the nature of the hazards at hand is a prerequisite to any attempt at risk management. This paper utilises the advanced research methods to identify dangers associated with virtual projects. Questionnaires are used to determine potential dangers in a digital project, but not until a few checks have been made. They began by doing a literature search for potential project threats. Second, we conducted in-person interviews with project managers working in a variety of roles inside a few representative organisations. The next step was an online focus group that was organised by experts in order to confirm the findings of the literature research and in-person interviews, as well as to identify any other risk factors that may have been overlooked. At long last, we compiled what we learned into a comprehensive inventory of possible dangers. Once all contributing elements were identified, they were given ratings based on the severity of the effect they had on the projects. Since the list of risk factors has been verified by both academic literatures and practitioners with first-hand experience facing and resolving virtual project challenges, their discovery is a good approximation of the scenario faced by genuine virtual project teams.The survey results indicated the following seven threats are most likely to have a major effect on the project effort while working with a remote workforce. Inadequate technological resources, insufficient time, inexperience, team member attrition, and hidden objectives are all examples of these.

A major difference in the effectiveness of remote and in-person groups was found to be the result of inadequate knowledge transfer. Acquired information includes specifics on a software programme, the inner workings of a project team, and company protocols and procedures. The absence of such communication would be disastrous.

Unless people were talking about the finer points of the project with one another, nothing would be done. The members of a virtual team outperformed those of a physically present team on this risk factor. Because of this, virtual teams have greater cause for worry than their co-located counterparts when it comes to this potential downside. This distinction may have resulted from distinct patterns of information sharing between the two groups. According to Jones's own study, the absence of in-person interaction among members of virtual project teams is a barrier to the effective transmission of information.

Fragmentation of the team is a second potential danger. Instability in a project team happens when members' ability to work together is threatened or when there is friction between them. Virtual teams suffered more from a lack of cohesiveness than their co-located counterparts. Potentially attributable to the fact that they are able to form cohesive units more rapidly than virtual teams. Therefore, the virtual team must take this into account.

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Third, having team members who speak diverse languages may reduce the impact of cultural and linguistic barriers. If a team member from a different country has a distinct interpretation of a given topic, then cultural differences exist. This might refer to punctuality or fulfilling deadlines, either of which could cause important events to be missed. This is more of an issue for a remote team than for a physical one. Consistent with the results found by Lipnack and Stamps, these new insights are consistent with their research.

The fourth problem is a lack of technical resources, such as when team members need to perform test cycles on the corporate mainframe but aren't allotted enough CPU processing time. This is more indicative of a distributed team than a physically present one. This might be due to the fact that the virtual team is having trouble communicating in order to get the necessary information. In order to do their work, virtual teams need access to a wide variety of technological resources, as shown by Mayer's study results.

After that, the lack of experience with the passage of time is the sixth most influential factor. Members of a virtual project team may be unfamiliar with business norms and practises as well. These may contain the company's mission and values, as well as the steps required to carry out tasks like launching a new software programme or requesting new rounds of testing. As a result, this is something that poses greater issues for remote teams than it does for physically situated ones. According to Jones's findings, this is due to the fact that, unlike their co-located counterparts, employees of virtual teams often operate in locations far from the company's headquarters. Impact analysis placed the loss or replacement of a team member sixth on the list. When a team member quits before the project is finished, this is a potential risk. The superstar syndrome may be linked to the fact that this risk factor had a greater impact on the remote team than on the in-person group (loss of best of the best member). If the project's fulfilment depends on the cooperation of several individuals, then losing even one of them might spell disaster.

The final problem is a covert objective. One potential danger is that team members may exploit the project to further their own secret agendas (Kevin 2004). It has a greater impact on remote teams than on those working in the same physical location. This may be because members with hidden objectives are more likely to be discovered when they are in close physical proximity to one another. Among the members of the remote group, A covert objective may remain undetected for as long as there are no nonverbal clues to reveal it. However, in both circumstances, this danger may be connected to the degree of trust that exists between the parties.

Overcome the Challenge

Team members who are located in other areas are given the chance to learn more about the organisation by travelling there on business. The goal is to overcome the difficulty of sharing information. The worldwide communication techniques used by businesses have been improved. With the advent of internet camera phones, users may now share their surroundings while chatting. The purpose of this face-to-face interaction in cyberspace is to counteract the problem of disunity. In order to overcome linguistic and cultural barriers, teams should make sure each member is responsible for tasks that are relevant to their home region. To overcome the difficulty of

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communicating between languages, technological devices that translate between them are deployed. These days, commercial computers use an efficient new form of operating systems developed by the computer industry. Microsoft Windows 7, for instance, has made it easier for companies to effectively deal with the problem of insufficient technological resources. Support task teams are groups of experienced employees inside a company that work together to train new employees. As a result of the board's and staff's consistent communication, the problem of team members leaving and of uncovering those with ulterior motives is becoming less of a problem.

See the accompanying graphic for a summary of the factors involved in the business data software department update. The Internet has enabled the connecting of computers as a consequence of these efforts. To ensure that all users, regardless of their physical location, have access to the same data, a central server is used. The following is a typical workplace computer setup for an employee that requires access to the company's database. A person's path to receiving information is shown in this graphic.
Information Flow Diagram

IMPORTANCE FOR MANAGERS

Using what we've learned about the difficulties of Project A, we can see that Organization X can save money by adopting a virtual project team, among other advantages.

Despite the benefits of a virtual team for Organization X, such as lower overhead, less time and money spent on travel, and a shorter project development cycle due to a more collaborative approach that takes advantage of workers in a variety of time zones, the company still faces a number of challenges. In this section, we'll talk about how a virtual project team might influence Organization X, what those effects can be, what challenges and possibilities may arise, and how a manager at that company should respond to them.

Disadvantages, Repercussions, and Remedy Sharing of Information
Our interdisciplinary IT workforce is spread all over the globe. In addition, the team is under intense time constraints due to the short turnaround of just three to four months between delivery cycles. All members of the team need to be in constant contact with one another. However, the team initially encountered difficulties due to a lack of communication on the processes and standards that were to be met throughout the software development process. This was primarily due to the fact that some team members in one or two locations took certain coding procedures and standards for granted and failed to clarify them with their colleagues in other locations. Many issues arose throughout the process of module integration owing to variations in coding practises and standards. This issue was discovered just before the first cycle's scheduled release date. The final code after integration was broken, therefore parts of the code had to be moved back to where they belonged, along with the well-defined set of guidelines for how things should be done. Since the whole code base needed to be changed, this set the project behind by approximately 2 weeks.

Before team members in different locations begin working on a project, the organisation must take responsibility for providing complete and clear instructions about the policies, coding standards, and procedures to be followed, and they must instruct team members to exchange all possible

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information about the project, even if it seems obvious to them, in advance Consistency of Effort

This team had many cohesion issues that the company was not able to identify in its early stages due to the fact that they do not get to communicate often due to time pressure to meet requirements of deliverables, differences in time zones, and differences in the amount of contribution to the project. Team members in a virtual team spend far less time together than their co-located counterparts, resulting in a lack of strong team bonds. Therefore, they avoided talking much about the reasoning for their codes. When this happened before, we had to reinvest effort into the same kind of coding logic that had previously been solved by the other team in the US. It caused them to spend time on creating redundant reasoning that might have been avoided with good team chemistry. It also came out that one of the US teams didn't agree with the conclusion the others had made regarding the project's needs, and that this was largely due to the fact that it hadn't been made aware of a few key considerations other teams had made. Problems of this kind may be resolved by taking the team on enjoyable outings where they can get to know each other and feel safe enough to open up about the methods and logics they use in the development process. In addition, once a week, the company invests in a video conference to update workers on developments and ideas, fostering a more cohesive team [7].

Issues of cultural and linguistic distance
The US and India, where the IT project team is based, are two very different civilizations with quite distinct languages, therefore linguistic and cultural barriers naturally arose. Since the Indian team members are not as fluent in English as American natives are, they struggled to effectively convey their ideas. Also, when US team members employed slang or jargon, they had trouble communicating. Indian team members misunderstood the criteria and began constructing the website based on their perception, but they were too embarrassed to approach the US team members to clarify. There was a snag in the delivery of the Indian team's phase-one module because of this. The Indian team lost a lot of time and energy making adjustments since the initial delivery of the project was delayed. As a result, the business incurred significant financial losses.

We proposed providing the Indian crew with instruction on American English and a taste of American culture in order to help them deal with such issues. Appoint a team leader who is fluent in English and has worked with Americans before so that any misunderstandings can be quickly resolved. Departure of a Team Member Team members leaving without warning is unusual, although it has happened a few times in the team we're looking at. A member of the team who had been instrumental in communicating with members in other countries has quit without giving any advance notice [8]. The rest of the Indian team members worried when he left since no one else on the team knew anything about his module and he was such an integral part of their communication with colleagues abroad. As a consequence of the time it took to fill his void, his order was late in arriving.

To solve this issue, project managers should ensure that all members of the team have enough knowledge about all the modules taking place at a certain location and solid relationships with individuals there in case they need to step in to replace someone else in an emergency [9].

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Covert Objectives

Particularly in a remote team, a hidden motive might do harm. Concerning the project we're looking at, there were some problems with this. Since just a few of the team members really like competing, they continued on bickering behind each other's backs. data that was expected to be disseminated among them. Members of the team were not getting enough face time to form strong enough bonds to openly discuss their particular objectives as a group. This resulted in a highly competitive spirit among the team members, which hampered their ability to work together, and ultimately led to a subpar performance.

Managers facing this challenge should take care to foster a culture of trust among their teams by establishing defined responsibilities and expectations for all members.

To begin, there has to be a set of clear rules for everyone's function inside the organisation. Virtual team members are less likely to agree on how the team should operate and what each member's responsibilities should be when they lack regular in-person interactions (Lam et al.). Secondly, the company might facilitate casual conversation among the remote workers by allowing them to share information about their lives, such their hobbies, families, and interests. This reduces the need for them to coordinate.

Instead of handing out tasks and assuming they'll all be completed on time, organisations should set interim milestones to evaluate team progress against realistic targets. If there are any issues along the process, they may be discovered and fixed before the project's deadline is impacted. This will help team members focus their conversations and encourage in-depth debate by setting clear goals for their work together.Fourth, while rating the team's performance, management should take into account each member's input during group deliberations as well as the group's overall output. Team members will be encouraged to share their thoughts and learn as much as they can about the project using this method.The team members should be given the opportunity to see and learn from the techniques and shows of competing teams. Members of the team will be more cautious about allowing the issue to really happen now that they are aware of the likelihood of it.Finally, a business may implement a peer evaluation system in which team members provide each other with constructive criticism in a safe environment. Such a technique is useful for discouraging the practise of free riding (Lam et al. 2005). The organization may save money on office space by establishing a virtual team if these conditions are met.

CONCLUSION

We conclude that there are at least seven dangers requiring attention from the management of a virtual team, and we do so by referring to an actual virtual project done by a global telecommunication business. A failure to address these dangers may result in a decline in productivity (perfection and satisfaction). This is consistent with earlier studies showing that it is still unclear if virtual teams can outperform conventional co-located project teams. difficult. There are, however, a number of options for dealing with the issues that may arise as a result of these virtual project risks. This is why we believe that managers may want to consider implementing a virtual project when resources are restricted.

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Due to the constraints imposed by the available resources, this study has several important caveats. To begin, Patil et alfieldwork .'s forms the foundation for the examination of Project As a consequence, we are unable to expand upon the information provided by their study, such as how the eighteen API modules are distributed throughout the different groups. When opposed to a classroom experiment, a field research may have less problems with generalizability simply because it more closely mimics the actual world of business. Second, references to Reed and Knight's work are made to highlight the seven hazards associated with leading a virtual project team. While they have taken some precautions to make sure the list is accurate, the small sample size of interviewers they have means this danger may still be open to generalisation problems. The third reason why we went with this particular project for this report is that it is a worldwide virtual project. Because it is difficult to disentangle the impact of language barrier from the impact of global virtual project, it has been proposed that the two should be treated differently. Consequently, overcoming the language barrier is likely to be the most difficult aspect of leading a worldwide virtual workforce. However, our argument for this point is global virtual project should be one form of virtual project because it is what is happening in the real world and even local project team can still encounter cultural or language difference if some team members are from overseas. As a result, the concept of a "local project team" has lost much of its significance in light of increased international mobility.

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