Management of Communication Risks: Evidence from international projects case study

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Abstract

The realization of project requires collaboration between many different participants. The majority of interactions happen on the project management team level. The general believe is that teams/groups can achieve more efficiency if they use effective instruments of risk management in their communication process. The aim of this study is to investigate how the level of communication risks varies between different project group development stages and how project manager can help project group to reach the maximum effectiveness of communication. The study analyzes different communication barriers that project group meets while working at project. The investigation was performed by using qualitative analysis method in four different projects of an engineering and consulting company involved with mining industries in South Africa. Interpersonal relationships were measured by FIRO model and communication risks were evaluated by a typical risk analysis method. Results of investigations show that communication risks are directly affected by the stage of group development and different factors of group development tend to synchronize with each other. The total amount of risks tends to decrease as group moves from one stage to another on the FIRO model. For improving communication process in project groups the dynamic nature of FIRO model should be considered. The risks will not be settled down unless the group stands in “Openness” stage and the group development stage is vulnerable to any changes; the environmental effects should be carefully followed for preventive action.

Keywords:
Project risk management, Communication, FIRO model, Group development

1. Introduction

Risk management is considered as the identification, assessment, and prioritization of risks followed by coordinated and economical application of resources to minimize, monitor, and control the probability and/or impact of unfortunate events or to maximize the realization of opportunities (Hubbard (2009)). Managing risks on
projects is an important factor affecting the successful reaching of project goals. Nowadays risk management has become “an integral part of project management” (Olsson (2007)).

Working groups have different challenges during their project work. The group members should pass different stages to become an effective group or a team. Although each group may face different difficulties during project lifecycle, there are some challenges that are related to the group development stage and getting familiar with them helps to prevent/overcome these difficulties. That is why it is important to investigate the effects of risks in communication that frequently occurs between team members in international projects.

The aim of this study is to investigate how the level of communication risks varies between different project group development stages and how project manager can help project group to reach the maximum effectiveness of communication. The investigation is focused only on communication processes that occur within the project group and does not cover communication with other stakeholders.

One can find a lot of discussions underlining to the importance of communication management in international projects, but researches in this area are limited. This paper is the novel attempt to unite existing group development theory with risk management tools and to investigate whether the relationship exist between them, more specifically to investigate in what way they are connected in the area of project communications. That is why the result of this study can be considered as a relevant contribution to communication risk management science.

2. Literature review

Recent studies in the area of project management indicate that geographical zone and cultural differences affect communications and team relations on projects. Lee-Kelley and Sankey (2008) in their study consider a number of issues that team members often encountered while working on projects. For example, lack of communication can lead to confusion that can add more cost and more time, misunderstandings are expensive in terms of time and resources and they also create bad feeling within a team. We have summarized most important communication barriers that can be met in project work:


To study the relationship of the group members and different challenges which exist in each stage, we use FIRO model (Fundamental Interpersonal Relation
Orientation), introduced by William C. Schutz in 1958 as a theory of interpersonal behavior. This model describes a team’s development in the following three phases:

1. Inclusion. The team is formed and the members get to know each other during the Inclusion phase. The project manager maps out the objectives of the project, which have to be achieved by the team.
2. Control. The project manager identifies each team members’ values during this phase. This phase satisfies the members’ social need or individual attention and their sense of contributing to the overall project.
3. Openness. By this phase the team is working well and strong group identity has developed. An atmosphere of openness has developed within the team. In the last phase the group becomes highly efficient. All teams are not progress to the Openness phase. When changes in personnel occur in the team, it is common for it to take one or more steps backwards in its development.

3. Research method

Research method is based on qualitative case study analysis. To ensure the reliability of the paper, the most reliable resources were considered for literature review. To ensure the validity of the paper only the tested methods were applied. The risk analysis matrix for example was constructed in a similar way that the one used in the research for South African Air force before (Jensen (2001)). Also the cases were selected within four projects of a company to unify organizational culture and policy. Sometimes a specific person involved in more than one project was investigated for different projects to emphasize on the role of the individuals within a group.

After thorough literature review we have created a list of common risk communication related factors described above and formulated a number of survey questions for face-to-face interviews of project managers and project team members. Three different phrases were placed at the top of the page indicating the three different stages of FIRO to let the interviewee choose their current state. Using this data enabled us to find out the perspective of the interviewees about their stage of group development. It should be considered that this data was not the basis to judge the project group development stage but it enable us to find out whether the project members are aware of their stage of group development. To identify and evaluate the scale of the communication risks, the perception of project members in this approach was measured (Chicken (1996)) and to collect their opinion regarding this approach, Dephi method was applied (Bilal (2001)). The respondents were asked to evaluate different communication barriers they encountered working on projects and also to evaluate the level of likelihood and the level of impact of the identified barriers in their current situation to make the risk analysis possible. This process was supposed to be three times for three existing stages of group development based on FIRO model. The result analysis was aligned with risk matrix (Heldman( 2005)).

Totally twenty eight estimation were collected from a group of fourteen people. The interviewees were from different nations and different races according to the nature of the country.
4. Data collecting

The main process of data collection was performed during May to August 2009 in South Africa in four different projects of an engineering and consulting company involved with mining industries. As the paper is going to study the communication related to the interpersonal relationship developed in the project groups, we have assumed that the whole organization is working with four project groups; three groups consist of the members of running projects and the forth project group represents of higher levels of the permanent organization who set up the projects and are involved working with the project managers.

Case-1(Permanent Organization): In the higher levels of the permanent organization, there are usually managers who have been working with each other for a long term. As the project goes to new phases according to the project life cycle, new project managers would be employed. The respondents’ estimation regarding the group development degree was so different but over 70% of them were aware of where they are standing.

Case-2: Comparing to the other projects of the company, this project has a small scale. The project group is consisting of the available human resources employed by the company and if the project would be extended for further works, new people would be employed according to the requirements. Despite these people are experiencing work in this group for the first time, they know each other from the past. There are 10 people involved in this project of which some are not working full time on that. The result of questionnaire indicates that the estimation of the respondent about their group development stage is different from each other but over 60% of the respondents were aware of their group development stage.

Case-3: This case is Engineering Procurement Construction Management project. There were fifteen people at the time working in the project that has been started 6 months ago. Relations in this group used to be problematic as it is located in another country. Despite CEO interfered to improve the situation, the project climate did not seem to be stable; the project team faces so many changes that the group development is not successful. The result of questionnaire indicates that only 28% of the respondents were aware of their group development scale.

Case-4: This is an Engineering Procurement Construction Management Project that has been running about 15 months. As the project life cycle changed, new people were employed and it brought changes for the project team. There are 25 people working in this project from this company and new people are being employed. Those experiencing a longer period of work in this project believe that they are in phase 3 of FIRO but new comers evaluate it as phase 2. The result of questionnaire indicates that only 40% were aware of their group development stage.

5. Results

According to the related theory by applying Median as a measure of central tendency the best value among the expert cases for probability and impact are found, and by applying risk matrix (Appendix 1) the values for risk assessment would be achieved. The identified risks are classified in four classes of High, Significant, Moderate and Low based on the severity. Appendix 2 shows the transfer of each single risk in different stages of FIRO circle for each case.
Case-1: Despite the result of interview indicates that this group is standing in Openness, according to the FIRO model, this stage implies high level of cooperation and goal sharing; consequently, the likelihood of the barriers that might affect the group goal or cooperation should be minimum to enable us conclude standing in Openness. So according to the FIRO model this group is standing in Control stage. In this situation we should consider that the level of risk is being shaped by two factors of likelihood and impact; exploring the risk matrix makes it clear that unlikely and rare Likelihoods –that are the expected likelihood values in Openness—do not return the result of risk assessment as High (unless it is unlikely but the impact would be catastrophic). In other words, while 36% of all the specified risks are specified as high risks and the remaining 64% as the significant risks in FIRO first stage, this percentages change into 27% high risks and 73% significant risks in the second stage and also 18% high risks, 36% significant risks, 36% moderate risk and 5% low risks in the third stage (Appendix 2). Comparing the theory with the results achieved in Openness emphasizes on the dynamic process of FIRO and the importance of a precise group development measurement in finding the results. In other words the high risks appeared in Openness dedicates the fact that the result of high risk in this stage is due to a return to the previous stage of group development and as the result the impact affecting the medium likelihood of the barrier composed the high risk.

Case-2: The result of interview indicates that the members of this group have different opinion about the stage that they are standing in. Although the group members know each other well and some of them have experienced working in a group with each other, it seems that they are not working as a team. They are not facing plenty of problems with each other but many of them still think that they are standing in the second stage of FIRO. The reason for this misjudgment is due to changes occurred on the type of work they are doing. According to the FIRO model this group is standing in Control. In this case we found that while 41% of all the specified risks are specified as high risks and the remaining 59% as the significant risks in FIRO first stage, this percentages change into 18% high risks, 68% significant risks, 9% moderate risks and 5% low risks in the second stage and in the third stage, they would be 5% high risks, 45% significant risks, 23% moderate risk and 23% low risks (Appendix 2). The rate of changes shows that moving from Inclusion to Control stage, the high risks are the most influenced group by the changes and moving from Control to Openness stage the significant risks are the most influenced. All the changes are in order to descend the severity of risks. Each of the single risks had a descendent rate in their severity or remained unchanged by moving from first stage of FIRO to the second stage and the third stage. Despite the apparent results seems satisfactory, there is an unfavorable implication about risk evaluation of Openness. It can be identified that there are quite many items that the likelihood has been evaluated as Moderate or even Likely. It clarifies the dynamic process of FIRO; so it can be concluded that the group would be shifted to previous stages by evaluating this likelihood for the barrier.

Case-3: The result of interview indicates that most of the group members do not have a clear understanding of the current stage that they are standing in. Working in distance makes it difficult to have close relationships and frequent changes on arrangement and also some unclear procedures running in this group makes the situation harder. According to FIRO model this group is standing in Inclusion. Studying the rate of change of severity of these risks in different stages of FIRO shows that while 44% of all the specified risks are specified as high risks and the remaining 55% as the significant risks in FIRO first stage, this percentages change
into 14% high risks and 82% significant risks and 5% moderate risks in the second stage while there would be no residual high risks in the third stage but 36% significant risks, 27% moderate risk and 27% low risks in the third stage (Appendix 2). The rate of changes shows that moving from Inclusion to Control stage, the high risks are the most influenced group by the changes and moving from Control to Openness stage the significant risks are the most influenced. All the changes are in order to descend the severity of the risks. Each of the single risks had a descendent rate in their severity or remained unchanged by moving from first stage of FIRO to the second stage and third stage. In this case, Large risks reside in Openness are not due to the likely/moderate likelihood but they are caused by high level of impact evaluated for them. However, the moderate likelihoods for different single risks make doubt about the stability of different stages of FIRO during risk evaluation.

Case-4: Although the result of the questionnaire shows that most of this group members believe that they are standing in Openness and despite the steady and calm climate of the project, this is an overestimation. By the start of the new phase of activities, new members were employed in the group. Now the group is standing in the second stage of FIRO: Inclusion. Results indicate that while 32% of all the specified risks are specified as high risks and the remaining 68% as the significant risks in FIRO first stage, this percentages change into 14% high risks, 73% significant risks and 14% moderate risks in the second stage and in the third stage there would be no high risks but only 50% significant risks, 23% moderate risk and 27% low risks (Appendix 2). The rate of changes shows that when moving from Inclusion to Control stage high risks are the most influenced and when moving from Control to Openness stage significant risks are the most influenced. All changes are in order to descend the severity of risks. Each of single risks had a descendent rate in their severity or remained unchanged by moving from first stage of FIRO to the second stage and the third stage. The same as the previous cases, there are some items of barrier that the likelihood has been evaluated as Moderate. It makes the dynamic process of FIRO more clear and it can be concluded that the group would be shifted to previous stages by evaluating this likelihood for the barrier. In this case also the time pressure barrier that have been identified as likely to happen in Openness is a matter of environment that regardless of relationship running in the group is related to managerial aspect and sometimes external environment of the project.

6. Conclusion

Although the result of cases is different from each other, they are following a similar trend:

- Each of risk items has a descendent rate in the severity or remains unchanged by developing from Inclusion to Control and Openness in FIRO.
- The density of high risks decreases when moving from Inclusion to Control and Openness in FIRO.
- The density of significant risks increases when moving from Inclusion to Control in FIRO, but it sharply decreases when moving to Openness.
- The density of moderate risks and low risks increases when moving from Inclusion to Control and Openness.

This implies that residual risks of communication are directly affected by the scale of interpersonal relationship among the group members. To decrease the residual
risks to the minimum amount, project manager should try to lead the group into the next stage of the FIRO model and try to be aware of situational symptoms of stepping back into previous stage. It should be considered that the group is frequently in back and forward movements but the project manager can manage to shift the group in a specific stage of group development based on the applicable risk management tools and leadership skills. More over there are frequent changes in group development stages and it should be remarked that sometimes group members do not have a clear understanding of their group environment, their relation and the group stage. The changes within the stage of the group can be predicted by analyzing the internal and environmental situations.

References

Appendix 1

<table>
<thead>
<tr>
<th>Consequences</th>
<th>1 (Incignificant)</th>
<th>2 (Minor)</th>
<th>3 (Moderate)</th>
<th>4 (Major)</th>
<th>5 (Catastrophic)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (Almost certain)</td>
<td>S</td>
<td>S</td>
<td>H</td>
<td>H</td>
<td>H</td>
</tr>
<tr>
<td>B (Likely)</td>
<td>M</td>
<td>S</td>
<td>S</td>
<td>H</td>
<td>H</td>
</tr>
<tr>
<td>C (Moderate)</td>
<td>L</td>
<td>M</td>
<td>S</td>
<td>H</td>
<td>H</td>
</tr>
<tr>
<td>D (Unlikely)</td>
<td>L</td>
<td>L</td>
<td>M</td>
<td>S</td>
<td>H</td>
</tr>
<tr>
<td>E (Rare)</td>
<td>L</td>
<td>L</td>
<td>M</td>
<td>S</td>
<td>S</td>
</tr>
</tbody>
</table>

Table 1: Risk matrix to assess the level of risk (Jensen (2001))

H: High risks that require detail research and planning by senior managers
S: Significant risks that require attention of senior managers
M: Moderate risks that must be specified as the responsibility of management

Appendix 2

Figure 1: Rate of risk level changes according to their severity in FIRO circle