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″Success Factors on Research Projects at University'' An Exploratory Study

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Abstract

The study was aimed at investigating the factors that lead to success or failure of research projects and to find out critical factors that contribute to the success of research project. Research questions are: To investigate the factors that lead to success or failure of the projects? Which factors have critical impact to determine project success? were formulated. Researchers adopted qualitative approach and 15 interviews were conducted. Data driven content analysis was adopted to categorize the factors and proposed 11 critical factors that can enhance organizational profitability.

Keywords: success factor, critical factor, research project, project failure;

1. Introduction

Generally defining "*Project is a temporary endeavour undertaken to create a unique product, service, or result. The purpose of the project is to attain its objective and then terminate*" *(*Anthony, 2007, p.44). Projects are often utilized as a way of achieving organizational strategic plan by the project team within the organization or service provider. Usually projects are planned for considerations of market demands whereby extra production is required according to market needs. Likewise research projects in educational institutions are usually established to enhance research productivity and achieve those objectives set by the particular institution. Academic institutions also focus on solving educational issues through the research projects. Importantly it depends on the success of the research projects that we make ourselves able to solve the issues. For a project to be successful, it is important to consider project requirements right from its start that provides directions to project managers and their respective teams. It also helps to execute the project efficiently. Success of the projects depends on the in-time completion and within the allocated budget. Most of the major projects are technically complicated therefore it is necessary for the team to understand market trends, technology and related environment so that they may be able to make their projects successful. Lewis (2003) described that projects operate under many influences for example team members' perceptions and their competency, economic and organizational measures, knowledge of project manager and the organizational control measures. He further added that it is also important for the manager to understand organizational operating procedures to run the projects. Good planning and management of the members also lead to

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greater productivity as if the project manager knows economic, legal, institutional, psychological and technical influences throughout the project cycle. Various researchers have studied different types of projects and identified the Critical Success Factors (CSF) needed for successful project implementation. Top management support or involvement is one of the main Critical Success Factors associated with project success. Many of the studies even revealed that top management involvement is a main ingredient in the recipe of project success. In addition, in the survey conducted by Ofer (2007) to determine the current practice in project management, support of top management ranked third out of 23 critical factors listed. It is essential to ensure top management support for the project success. He further concluded that top management' support and encouragement have positive impact on the project success. They also considered important the role of project manager and the team members (members' skill and competency and the knowledge of project manager), to the organization (support from the management), and to the external environment (political, economic, and social factors). Similarly, White & Fortune (2002) differentiated factors leading to the success of project that is measured against the organizational objectives of the project, and it also includes the possible benefits to the stakeholders.

Lewis (2003) tells us that one essential element of project success is open and honest communications among the stake holders. His major indicator of project failure in this area is when a project manager is incompetent to read warning signs that communication is breaking down. The result is a missed opportunity to correct the situation before it becomes too late. Lewis (2003) again argues that User Participation and Team Skills are two of seven imperative implementation factors that determine project success or failure. User Participation occurs when users are assigned project roles and tasks, which lead to a better communication of their needs, and help ensure that the system is implemented successfully. Good project management is a process of continuous improvement. It is a process of making mistakes and learning from those mistakes. It is a process of continuous study and learning. It is argued that for those who cannot devote themselves to this never-ending process, there will be few successes. There are many ways to make the projects successful at the institutions. Different organizations provide funds for the smooth conduct and success of the projects especially at educational institutions. Pakistan is developing country and trying to focus on research activities and research institutes especially at universities and the role of Higher Education Commission (HEC) is worth appreciating in this regard. In Pakistan HEC facilitates universities for establishing research projects. But many of the university research projects fail due to many factors and lots of time and energy of the personnels go waste. Studies indicate that for a project to be successful, it is essential to understand the project requirements right from the start and go for project planning which provides the right direction to project managers and their teams and execute the project accordingly. A successful project is one that is delivered on time and managed within the budget.

Therefore the researcher attempted to find out those factors at universities in Pakistan which lead to the success of research projects according to their environment.

2. Objectives of the study

This study was based on two major objectives that are:
- What are the factors that lead to the success or failure of research projects?
- Which factors play a critical role to determine project success?

3. Delimitations of the study

The study was delimited to only one university of Faisalabad city. Only those teachers/ project managers/ directors of research were included who had conducted research projects or presently they were holding research projects at the university.

4. Procedure of the study

To categorize success factors on research projects as perceived by the respondents, the researchers conducted empirical qualitative study. 15 semi-structured interviews were conducted by the researchers. Data driven content analysis technique was used to categorise all the data, it was further extended by laddering technique to get additional data based on the mentioned factors. Upward laddering and downward laddering technique was used. Upward laddering for those factors in which the respondents provided some additional or contributing information to the positive aspects of the factors and downward laddering when they provided examples to elaborate the positive pole of the factors. In this way we identified the factors in three ways. Firstly, the respondents were asked if the factor was clear in context. Secondly, upward laddering was used for the factors of higher hierarchical level. Thirdly the researchers used downward laddering to make sure that the each factor was sufficiently refined during and after

the discussion. This process was repeated until no further factor emerged from the data. After the interviews, all the transcribed data were sent to the interviewees for verification. The interviewees verified the transcriptions as they perceived and mentioned.

5. Data analysis

Data driven content analysis was applied to categorize the data. The researcher with the help of co-analyst conducted content analysis. All the data were reviewed by the researchers that either each factor fits into the already identified category or to create a new one. The researchers identified further factors by laddering statements and found the relationship between factors and illustrated the relationship of most important factors in a figure. The raw factors were consolidated into unique factors after a rigorous review. Incoming and outgoing relationship was mentioned in a table. The most important factor from all the transcriptions was presented in the figure.1.

<u>Table.1content analysis of the categories</u>

Sr. No.	Category	Description of the Factors	Raw Factors	Unique Factors	Incoming relations	Outgoing relations
1	Project safety	It is concerned with the handling of risks	8	1	3	7
2	Team members' relationship	These factors are concerned with the relationship of team members of the project	23	10	8	9
3	Team members' interest	Factors related to the interest and motivation of the members	Laddering Category		6	6
4	Team members' qualification	These are related to the competency and skills of the team members	8	5	3	5
5	Focus on the project	It is concerned with the concentration of the team members to the project	7	1	5	2
6	Clarity of objectives	It is concerned with clearly defined objectives and targets of the objectives	7	4	6	6
7	Transparency	It is related to the clarity of the team members to the projects activities, status and functions	Laddering Category		5	8
8	Communication	It focuses on the communication between members and the principal investigator	Laddering Category		10	9
9	Planning and controlling of the project	These are the factors related to project plan and its control	9	2	9	8
10	Administrative support	It is related to the top management support to the team members and the investigator	25	8	15	13
11	Budgeting	Budgeting is related to financial support and its related factors	10	15	5	8
Total			97	46	75	81

This table shows a complete picture of the data categorized by the researchers according to their importance and relationship with each other. 12 out of 15 interviewees mentioned the category administrative support most important and ten out of 15 members identified the category team members' relationship most important. Therefore, we decided these two categories to examine further as example categories.
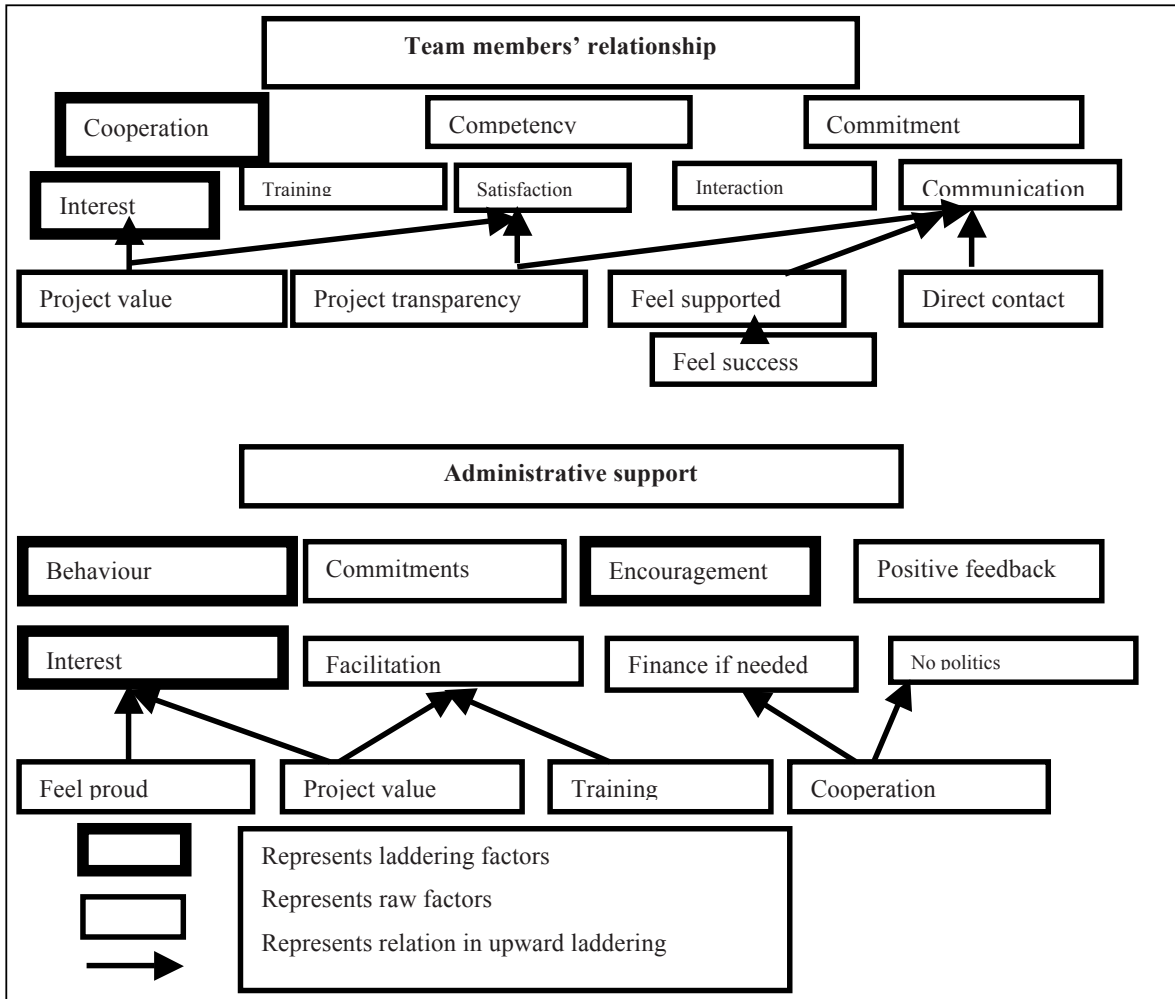
Figure. 1 Most critical factors

In the above mentioned categories, (team members' relationship and administrative support), two upper lines indicate the most important factors according to the perceptions of interviewees. Cooperation, interest, behaviour, encouragement and interest of administration are laddering factors in which interviewees mentioned positive consequences of team members and on the part of the administration. These factors lead to the higher satisfaction level of the team leader and lead the research projects to real success. Competency, commitment and satisfaction of the members are the factors that are important for the research projects prestige. Administrative positive feedback to the project manager and cooperation towards research activities, whenever or where ever needed, can support research projects beneficial for the university according to the perceived knowledge of the respondents. Any political interference or hurdle, lack of facilitation in form of finance, training or cooperation by the administration can lead to the failure of the research projects at universities. Members' training is necessary before starting the research work to avoid resistance or ambiguities during projects. If they feel satisfied they will value the projects. Effective communication among all the stakeholders is very crucial for the success or failure of the research projects at higher education level. If the research is transparent and all the members are well informed about the activities

and stages of that research project, it can lead to the success of the project. Regular communication and frequency of the communication among the stakeholders contributes to the real success of the research projects at university. Positive feedback from the administration to the project member/s can give value to that research project. The researcher/s feel supported if their research project is valued and administration feels proud of those project managers. This attitude leads to the encouragement of the individuals and ultimately contributes to their success. Research projects are almost funded by the Higher Education Commission of Pakistan or any other national or international organization but facilitation from the home institution is also very importantl if provided in time and properly.

6. Discussion

The researchers have collected data from 15 individuals that do not allow for rigorous statistical analysis. Therefore the perceptions of the interviewees were mentioned as their first insight into the success factors on research projects at GC University Faisalabad. Presently, the employees of this university are holding more than 50 research projects. Many of the research projects have failed due to many factors or the project owners could not complete them in time. Some projects are individually carried out by the project owner and in others joint efforts of more than two members are involved. Majority of the research projects at university are being carried out by a team of more than two members. Administration of this university seems interested in research activities and also very keen in upgrading the status of this university in research activities. The interviewees discussed many factors that lead to the success or failure of research projects but they mentioned the relationship of team and administrative support as most important factors that contribute to the real success of research projects at this university. Findings of this study also support the results of the study conducted by Nelson (2007). Napier, Keil & Tan (2009) also mentioned the key factors as competency, interest and cooperation of the members towards the success of a project. They also add project managers' skill as an effective contributor to the success of the project. Young and Jordan (2008) also supported the results of this study as they mentioned in their study the importance of top management support and cooperation. The results of their study highlighted management support as stand-alone factor that leads to the success of the projects.

7. Conclusions

This study concluded that administrative support (behavior, interest, encouragement, giving value, feeling proud and positive feedback) is essential for the smooth and successful conduct of research projects at GC University Faisalabad. Top management and department's administration can contribute a lot to make the research projects successful. On the other hand, positive relationship (cooperation, competency, commitment, communication, satisfaction, interest and training) among team members is also crucial that leads the projects to the success at this university.

8. Recommendations

- There must be positive environment among team members to lead research projects to success. The principal investigator should concentrate more on the members 'ability in formation of a team.
- Administration of the university and the department should fully facilitate the investigators for smooth conduct of research projects to make them successful.

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