Avoiding Project Failure by using Project Management methodologies

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Declaration

I, Akash saxena, declare that this research is my original work and that it has never been presented to any institution or university for the award of Degree or Diploma. In addition, I have referenced correctly all literature and sources used in this work and this work is fully compliant with the Dublin Business School’s academic honesty policy.

Signed: _____________________________

Date: 22 August 2016
Acknowledgements

This research study has been of great learning for me. The study has helped to gain knowledge about the Project management Techniques and avoidance of project failures. It has contributed in enhancing my knowledge and analytical skills. It was also necessary to overcome the limitations, which came in the process of the study. However this project was successful because of the support of many persons. Firstly I would like to thank my supervisor Mr Eddie McConnon who has given me an opportunity to do the project and also have guided me throughout the project. Special thanks to my academic guides for giving me valuable information’s which I needed to complete the project. I am also thankful to my other classmates who helped me with the data collection part. Finally I would thank the project managers who had helped me by giving their valuable opinions, which is the primary need of this project. Without the support and guidance of these above mentioned people the project would not be completed.

Thanking you all

Yours sincerely

Akash Saxena
Abstract

The project management is the process of initiating, planning and closing the project process successfully. Project management can be considered as the discipline of initiating, planning, executing, controlling as well as closing the project or a work in order to meet target of the project. A project is designed by the team leader or the manager of an organization in order to develop a unique product. In the present scenario, there are majority of the cases of project failure, which are resulting within the construction industry of UK. In this research project, the research is focused on analyzing the different causes behind the failure of the project and the techniques that will help in avoiding project failure. The qualitative research conducted with the project managers shows that the project failure can be avoided with the adoption of PERT, either CPA or Agile techniques.
Glossary

UK- United Kingdom

PM- Project Management

PMIS- Project Management Information System

PMO- Project Management Office
# Table of Contents

Chapter 1: Introduction

1.1 Introduction .......................................................... 12

1.2 Background of the research .............................................. 13

1.3 Research Aim ............................................................ 14

1.4 Research Objectives ..................................................... 14

1.5 Research Questions ..................................................... 15

1.6 Rationale of the Study .................................................... 15

1.7 The Roadmap for the Current dissertation ............................ 16

1.8 The Scope and Limitations of the research ............................. 18

1.9 Contributions of the study ............................................... 19

1.10 Chapter summary ........................................................ 19

Chapter 2: Literature Review .................................................. 21

2.1 Introduction .................................................................. 21

2.1.1. Conceptual Framework ............................................. 22

   Figure 1: Conceptual Framework ......................................... 23

2.2 Overview of a project .................................................... 23

2.3 Fundamental components of a project ............................... 23

2.4 Factors that can affect the project (internal and external factors) .................................................... 25

2.5 The concept of Project Management .................................... 26
2.6 Project management methodology ................................................................. 29

Figure 2: Waterfall Methodology ........................................................................ 31

Figure 3: CPM Methodology ............................................................................... 32

Figure 4: CCPM Methodology ........................................................................... 33

2.7 Definition of project failure ........................................................................ 37

2.8 Reasons behind Project Failure .................................................................... 38

2.9 Definition of Project success ......................................................................... 39

2.10 The indicators of project performance ......................................................... 40

2.11 The Key performance indicators ................................................................. 40

2.12 The use of key performance indicators to measure project success .......... 41

2.13 Project success factors and criteria ............................................................. 41

2.14 Earned Value Management as a method of measuring Project Success or Failure ................................................................. 42

2.15 ROI as a measurement of Project Success/Failure ..................................... 43

Figure 5: Criteria for measuring project success .............................................. 44

2.16 Chapter summary ....................................................................................... 45

Chapter 3: Research Methodology .................................................................... 46

3.1 Introduction .................................................................................................. 46

3.2 Present research proposition ...................................................................... 46

3.3. Research paradigms .................................................................................. 47

Figure 6: Various research paradigms ............................................................... 47
3.3.1 Justification for selection of appropriate research paradigm (Positivism)........... 48

3.4 Research approach ........................................................................................................ 48

Figure 7: Research approaches ......................................................................................... 49

3.4.1 Justification for selection of appropriate research approach (deductive approach). 50

3.5 Research design ........................................................................................................... 50

Figure 8: Research designs ............................................................................................... 52

3.5.1 Justification for selection of appropriate research design (Descriptive design) ...... 52

3.6 Primary research ......................................................................................................... 52

3.6.1 Quantitative research .............................................................................................. 53

3.6.2 Qualitative research ............................................................................................... 53

3.7 Secondary research .................................................................................................... 54

3.8 Data collection instruments ......................................................................................... 54

3.9 Data sampling technique ............................................................................................ 55

3.9.1 Justification for selection of non probability sampling ....................................... 55

3.9 Data analysis ................................................................................................................ 56

3.10 Research ethics .......................................................................................................... 56

3.11 Limitation of research ............................................................................................... 57

3.12 Research timeline ....................................................................................................... 58

Figure 9: Gantt chart .......................................................................................................... 60

3.12 Summary .................................................................................................................... 60
Chapter 4: Data analysis and Findings................................................................. 61

4.1 Introduction........................................................................................................ 61

4.2 Qualitative Data analysis .................................................................................. 61

Table 1: Profile of the Managers ........................................................................... 62

Table 2: Definition of Project Management as per Managers ............................... 63

Table 3: Major Areas of managing project ............................................................ 64

Table 5: Factors responsible for project success.................................................... 66

Table 8: Techniques for avoiding project failure ................................................... 70

4.3 Summary ........................................................................................................... 71

Chapter 5: Discussion ............................................................................................. 72

5.1 Introduction........................................................................................................ 72

5.2 Discussion on the responses ............................................................................ 72

5.2.1 Analysis of the Respondent’s profile ............................................................ 72

5.2.2 Analysis of definition of project management ............................................. 73

5.2.3 Assessment of major areas of project management ..................................... 73

5.2.4 Assessment of project classifications ........................................................... 74

5.2.5 Assessment of factors responsible for project success ............................... 75

5.2.6 Assessment of factors responsible for project failures ............................... 76

5.2.7 Assessment of project failure effects on organizational operations ............. 78

5.2.8 Assessment of major techniques that can be used in order to avoid project failures 79
5.3 Summary ................................................................................................................... 81

Chapter 6: Conclusion and Recommendations ........................................................... 82

6.1 Conclusion ............................................................................................................... 82

6.2 Linking with objectives ......................................................................................... 83

6.3 Recommendation .................................................................................................. 85

6.4 Future scope of research ....................................................................................... 87

7. Reflection .................................................................................................................. 88

Reference ..................................................................................................................... 92

Bibliography list .......................................................................................................... 99

Appendices ................................................................................................................... 100

Appendix 1: Qualitative Questions ............................................................................ 100
List of Figures

Figure 1: Conceptual Framework .......................................................... 23
Figure 2: Waterfall Methodology .......................................................... 31
Figure 3: CPM Methodology ............................................................... 32
Figure 4: CCPM Methodology ............................................................. 33
Figure 5: Criteria for measuring project success .................................... 44
Figure 6: Various research paradigms .................................................. 47
Figure 7: Research approaches ............................................................ 49
Figure 8: Research designs ................................................................. 52
Figure 9: Gantt chart ........................................................................ 60
List of Tables

Table 1: Profile of the Managers ................................................................. 62
Table 2: Definition of Project Management as per Managers .................. 63
Table 3: Major Areas of managing project .............................................. 64
Table 4: Classification of Project................................................................. 65
Table 5: Factors responsible for project success ...................................... 66
Table 6: Reasons behind project failure ................................................... 67
Table 7: Effects of Project Failure .............................................................. 68
Table 8: Techniques for avoiding project failure ..................................... 70
Chapter 1: Introduction

1.1 Introduction

According to Chen, Xu and Whinston (2010), the Project Management can be considered as the discipline of initiating, planning, executing, controlling as well as closing the project or a work in order to meet target of the project. A project is designed by the team leader or the manager of an organization in order to develop a unique product (Nawi, Rahman and Ibrahim 2011). It can be said that a project is itself a unique thing. Thus, the project initiators need to take unique steps to fulfill the target of the projects. However, Kaur and Sengupta (2013) showed in their research that most of the projects fails due to the failure of selecting appropriate project management methodology for the project. On the other hand, it is found that the field of project management has turned out to be one of the most important subjects due to its huge implementation in the field of business (Stoica and Brouse 2013). Whether it is an electrical, IT, mechanical, or construction project, it is found that the implementation of an appropriate project methodology is not only important but also crucial in order to meet the project goals. According to Whitney and Daniels (2013), more than 80% of the projects failed due to the absence of introducing Project Management in an appropriate way. Whenever, the outcomes of a project do not meet the expectations of the project initiators, the project can be considered as a “failure”. Henceforth in order to achieve the project goals successfully, the project initiators need to consider three perspectives of the project management methodologies, which may include Quality, Cost and Time (Daniel, Andrew and Naomi 2013). In this research study, the researcher is going to demonstrate the importance of the implementation of the project management methodologies in order to avoid project failure.
1.2 Background of the research

All Projects has an important contribution in the growth of the industrializations along with the significant contributions in the development of the economical balance of the country. According to Kendrick (2015), the ongoing projects in a country have a significant contribution in the development of the country and the amount of contributions is so significant that cannot be overlooked by the government. However, Janssen and Klievink (2010) showed that more than 80% of the projects end up as a “failure.” Therefore, a large number of researchers are investigating in order to find out the possible reasons behind this failure of the “full-proof projects.” From the previous researches, it is found that there are several tools and techniques that are helpful to avoid the project failure. The researchers showed in their studies that failure of a project have a bad impact on the growth of the particular organization as well as it hampers the economical balance of the country. This is mainly because the industries and businesses are considered as the pillar of the economy of a country. Failure of a project can destroy the pillar as well as the economical balance. According to Pajares and Lopez-Paredes (2011), while undertaking a project, the toughest step is to execute the project. Many researchers conduct their research on the Project Management and project success. However, it is found that project success and the Project Management are not directly related with each other (De Bakker, Boonstra and Wortmann 2010). All of the projects are unique in nature and therefore, comprises of several natural risks (constrain of time and capital). Accumulation of the knowledge about these risks can be assumed a critical part in order to avoid project failure.

Generally, an ideal project consists of three parts such as start, execution and assessment (Kaur and Sengupta 2013). It is found that any mistakes in one of the stages can cause the failure. On the other hand, from the study of Abouzahra (2011), it is found that the project
success and the project management are unique based on expenditure, time and progress. Therefore all of the factors need to be considered by the project supervisors in order to avoid the project failure. According to Kendrick (2015), it is found that the success and failure in a project is multidimensional issue and dependent on several factors. Some of the projects failed due to improper procurement practices while some of them failed due to wrong budgeting or delaying the project schedule.

Usually a project is undertaken in order to meet the profits and goals of the stakeholders. Therefore, the targets and the profitability are the most important criteria in the success of a project. This research is aimed to deduce the reasons behind the failure of the research projects based on the case studies of failure and success in the United Kingdom.

1.3 Research Aim

In this research study, it is aimed to find out the factors that can influence in project failure as well as aimed to determine the effectiveness of the Project Management Methodologies that can help the project initiators in order to avoid the project failure and achieve the desired goals.

1.4 Research Objectives

While conducting the research study it is important to develop objectives for the particular research study, as without appropriate objectives the research study it is not possible to meet the research aim. The research objective developed for this project is as follows-

• To provide appropriate assessment of the Project Management.
• To identify the success criteria while conducting a project.
• To identify the reasons or the factors behind project failure.
• To find out essential techniques and tools in order to avoid project failure.

1.5 Research Questions

In order to meet the research aim and address the research objectives it is important that the researcher should develop appropriate research questions. The research questions developed in order to address the research objectives and meet the research aim are as follows-

• What are the possible ways to assess the Project Management?
• What is the importance of success criteria in a project and how can one identify the success criteria?
• What are the possible reasons behind the project failure?
• What are the major tools and techniques that can be used to avoid project failures?

1.6 Rationale of the Study

The managers or the team leaders of an organization undertake several projects in order to contribute towards growth of the organization. Although, every project has different aim or goals, the ultimate target of undertaking any project is to influence the growth of the particular organization. However, it is identified that most of the projects (more than 80%) undertaken by the organization’s managers or the team leaders failed to meet their objectives. A handful number of research has been performed in order to determine the reasons behind the failure of the projects that are important as well as valuable for the growth of the organization. However, it is still not clearly defined how a project initiator could avoid the chances of failure of the project. This problem is highlighted since the industrial growth took the attention of the researchers.
Although, the previous researchers provided various suggestions or solutions in order to avoid the project failure, this is still considered as the problem or hindrance to the organizational growth. Therefore, it is important to address this problem and find out proper solutions. Therefore, through this research study, the research is aimed to identify the factors that can have direct contributions in the project failure. In addition, this research also helps to provide reasons to consider the implementation of appropriate project management methodology as a possible solution to avoid the project failure.

1.7 The Roadmap for the Current dissertation

Chapter 1: Introduction

In this chapter, a brief discussion is presented, which is based on the research topic that is “Avoiding Project Failure by using Project Management methodologies.” This chapter is helpful in order to offer an overview of the research study including the structure of the research study. This chapter includes research aim, research background, research objectives, research questions, rational of the research study, significance of the research study and the limitations of the research study.
**Chapter 2: Literature Review**

In this chapter, I tried to explain the theories as well as the models that are relevant to the research topic. In order to prepare this chapter, the I conducted a thorough library research using appropriate databases and find out current journals and papers that are relevant to the research topic. The concepts, theories and models discussed in this chapter are taken from the previous research studies; henceforth, this chapter is well cited with appropriate references.

**Chapter 3: Research Methodology**

In this chapter, I have tried to describe all of the research philosophies and research approaches that are applicable in this research study. In addition, while selecting an appropriate research strategy, research philosophy or research model a proper justification has been provided. It is recognized from the previous research studies that without an appropriate research methodology it is not possible to perform an efficient research study.

**Chapter 4: Data Analysis and findings**

In this chapter I will take the interview transcripts of the qualitative interview process that has been undertaken for the managers. This chapter will also provide a brief interpretation of the responses.

**Chapter 5: Discussion**

In this chapter I have tried to focus on analyzing the collected qualitative data with the help of the secondary resources. The discussion in this chapter will focus on linking the responses of the managers with the past data collected on Project Management failures and the techniques of avoiding such failures in future.
Chapter 6: Conclusion and Recommendations

In this chapter, I have provided the conclusion, which is based on the data analysis performed in the previous chapter. Further, data analysis and conclusion I have offered a set of recommendations, which are helpful to resolve the problems.

Chapter 7: Reflection

In this final chapter, I have provided an overview of the journey of this research study and his or her opinion about the study in detail. This chapter will highlight the learning and will also focus on the importance of dissertation in a student’s career.

1.8 The Scope and Limitations of the research

In this research study, one of the most concerning problem in the business sectors has been addressed. This research study is focused to find out the possible reasons behind failure of the projects. In addition, this research study also addresses the Project Management Methodologies as a possible solution in order to avoid project failure. In this study, I have included several constructions projects that were executed in the United Kingdom over the last two decades. Therefore, it can be said that this research study is helpful in order to determine the possible reasons behind the project failure in the United Kingdom. In addition, this research study is significant, as it will helpful to identify the number of the research projects failed in the United Kingdom. Being a developed country, huge number of projects is ongoing in the United Kingdom. The results of this study will contribute in order to increase the ongoing efficiency of the projects in the United Kingdom.
On the other hand, while conducting the research it is found that only United Kingdom was focused in this research study. Henceforth, it can be said that the identified factors or problems regarding this topic is only focused on the United Kingdom and lacking the worldwide perception of the study. In this study, I have limited the study within United Kingdom, which may represents the situations of the other European countries but the issues faced by the developing countries are not addressed in this study.

1.9 Contributions of the study

This study helps to identify the factors that are contributing in the failure of the projects within the United Kingdom. In addition, this study adds value of introducing project management methodologies in order to avoid project failure. In the previous research studies, I have focused on the random failure of the projects and determined the significant number of the failed project cases. The research result of this study contributes in the improvement of the projects in a significant way so that the project initiators can avoid project failure, in turn; this also contributes in the boosting of the growth rates of the industries as well as improving the economic balance of the country.

1.10 Chapter summary

In this chapter (Chapter 1), begins the research study. In this chapter, an overall introduction is presented along with the background of the research study. In addition a clear and precise research aim is mentioned. A set of objectives as well as research questions is stated in order to address the research aim. A roadmap of the research is provided, which is followed by the scope and limitations of the study. Finally, this chapter is concluded with the contributions of this research study along with a chapter summary.
Chapter 2: Literature Review

2.1 Introduction

According to Lehtinen et al. (2014), while conducting a research project it is important to have a literature review or a library research. Many of the researchers have acknowledged the importance of literature review in their project. This is primarily because; a proper literature review is valuable in order to provide an overview of the research topic, research area and the data found from the previous researches on the same topic. In this research study the literature review is presented depending on different themes.

According to Heagney (2012), the most important thing in the delivery of an efficient project is to assess the overall project. A review with appropriate standard is able to identify the research problems as well as determine the factors related to the topic. Therefore, it is helpful for the managers or the project initiators in order to develop and deliver effective projects by controlling the movement of the project with the target that the organization is aimed to achieve and then start to execute the project. On the other hand, it is evident that despite of the best efforts given by the companies, most of the projects are failing to reach their goals. While the managers tried to identify the reasons behind the failure of the projects, which took them many months to design and launch, it is found that the team members or the project executioners do not have essential training or facilities. In this context it can be said that implementation of Project Management Methodologies can identify the factors that contribute in the failure of the project prior to the starting of project work. Henceforth, it is beneficial in order to complete and deliver projects successfully.
Generally, factors that contribute in the failure of a project may include continuous renewal of the staffs, lack of specialization, lack of administration’s support, lack of sufficient technologies and lack of group correspondence. Therefore, the key factors to ensure the success of a project are to identify the loopholes of the project and consider the implementation of appropriate project management methodology. This research study is focused on the factors behind the project failure and thus the literature review considered all of the theories and models regarding the topic.

### 2.1.1. Conceptual Framework

![Conceptual Framework Diagram]
2.2 Overview of a project

A project can be defined as temporary work that has to maintain several limitations and achieve the defined goal. According to Kerzner (2013), every project is unique in nature and cannot be considered as a routine operation. While developing a project several limitations are considered by the mangers or the project developers such as time, assets and resources of the company. According to Burke (2013), although every project has their individual goals; however, that the main goal of the project is to benefit the company as well as the stockholders.

Although, all of the projects has a simpler structure that consists of defining the aim of the project, selection of project strategy and then start it, it can be said that there are several factors (the benefits and consequences) that changes the definition of the particular project. However, a particular project can be further defined as a procedure that helps to connect the motivations of the employees with the organization’s goal. Larson and Gray (2011) defined the term project as a non-standard, one-time and a complex effort, which is constrained by asset, plan and time as well as the determinations of the executioners of the project. From different definitions of the project, it can be concluded that companies perform various operations or “small” projects that contribute in the growth of the organization (Burke 2013).

2.3 Fundamental components of a project

According to Meredith and Mantel (2011), while developing a project, it is important to identify strengths and weaknesses of the fundamental components of the project. There are three
fundamental components identified for a project that may include the structure of the organization, the manager of the project and the project execution team.

**Structure of the organization**

From previous researches, it is identified that success and failure of a project hugely depends on the strengths and the structure of the organization. The organizational structure contributes to define the coordination among the employees, planning as well as implementation of the project activities (Burke 2013). A healthy organizational structure motivates the employees to engage in the projects and thus it fosters the efficiency of a project of the company. Therefore, the managers of the organizations need to concentrate on the development of the organizational structure.

**Project Manager**

According to Schwalbe (2015), project managers are considered as the responsible persons who define goals for the project and develop a team in order to accomplish the project in a fruitful manner. On the other hand, the project managers also have the responsibilities to select appropriate members who have the eligibility in order to accomplish the particular project. As every project is unique in nature, it is found that the managers of particular project should have a vision about the completion of the project. In addition, the project manager should have knowledge about the actors that can hinder the completion of the project. From the study of Wysocki (2011), it is found that the most important characteristic that should be possessed by a project manager is responsiveness. The other qualities that should be possessed by a manager may include good communication, high technological skills and a profound knowledge about the operational structure of the organization.
**Project Team**

From the study of Walker (2015), it is found that the selection of an ideal team in order to accomplish a project is the most important thing for an organization. The success of a project is dependent on the strength and eligibility of the selected team. From the previous researches, it is found that planning of a project is completely wasted when the company does not have an efficient team. A perfect team for the project should possess motivation, experience and knowledge to accomplish the project. Project manager needs to identify the technological and professional knowledge possessed by the employee should match the project’s needs while selecting the project team.

**2.4 Factors that can affect the project (internal and external factors)**

While conducting project work, it is important to identify both internal and external environment factors. From the research study of Burke (2013), it is found that apart from the team and the project manager, the external and internal environments of the organization can have impact on the success of a project. In order to accomplish a project a healthy environment is necessary. Among different factors, the socioeconomic issues and the organizational structure can have impact on the success of the project. A project can have both external and internal factors that can affect the efficiency of the project; however, the project manager should have vision to identify the factors and plan to overcome the issues. The internal environment factors that can affect the progress of the project may include organizational culture, policies, technology, values and the procedural structure of the organization. On the other hand, the external environment factors that can have impact on the progress of the project may include rules and regulations of the government, local infrastructure and the availability of skilled
employee for the project. However, from the study of Leach (2014), another external factor is identified that has a direct influence in the progress of any project, which is Project Stakeholders. There are two types of stakeholders identified, which can have influence in a project such as formal stakeholders and informal stakeholders. The formal stakeholders can be further defined as the people who have invested in the project as per their own interest. On the other hand, the informal stakeholders can further be defined as the investors who may not involved in the project directly but can affect the project results.

### 2.5 The concept of Project Management

The project management can be considered as a formula, which can be derived from an association that helps the managers to utilize their methodologies, aptitudes as well as information in order to control, arrange and execute a project by fulfilling all of the requirements within deadline and the resources provided by the organization. On the other hand, Heagney (2012) defined the concept of project management as a process, which is aimed to accomplish the project objectives with the help of organization’s strength and resources and meet the desired project goal.

Project managers have the responsibility to develop the skillful undertaking measures that is associated with the aptitudes and the executive control power of the project managers. The major concern of the method is associated with the development and the completion of the project under the restricted lifespan of the projects and understands to solve the complexity of the project in detail (Kerzner, 2013). A significant part of project management is associated with the consideration of the all the requirements provided by the organization. In addition, project management concerned as the process that involves with the tools, techniques and the systems of
the organization that contributes to control as per the project management process set by the organization. The setting of the criteria and the project development is completely dependent on the structure and the assets of the organization. The successful completion of a project is completely dependent on the six traditional phases of the project management. The stages are associated with the \textit{initiation, definition, design, development, implementation and the follow-up} phase (Špundak, 2014). These phases are associated with the completion of the project work and these phases provide the best background and direction to the project work. However, the following of the traditional plan in most of the cases results in exceeding of project plan and the cost of the project by 33\% (Kerzner, 2013). Therefore, it is mandatory to make changes in the procedures of the project management as per the demand of the organization. It is the responsibility of the project managers to perform the necessary changes in the management process that can increase the execution level and maintain the activities regarding the capital.

Moreover, the successful running of the project is associated with the consideration and the implementation of the core values in the project management areas. As stated by Young, (2013) the core values of the project management are associated with the parameters such as \textit{open communication, focus on the clients, spirit of the team, and attention of the management}. Areas of the project management are comprised of several key management concerns of the project values. The following are the major areas of the project management-

1. \textbf{Scope management} - Management of the project that concerns with the time limit of the project work and provide the necessary scope to avoid the project risks.
2. **Quality Management** - One of the major concerns of the project management is associated with the control of the quality of the work that ultimately ensures the success of the project work.

3. **Time Management** - Another essential step for the development of the successful completion of the project work it is essential for the project manager to manage the time as per the requirement of the project work.

4. **Cost Management** - Perhaps the most significant part of the project management is associated with the proper cost management of the project work and a significant part of the process is to complete the project under the defined cost. It is the duty of the project manager to define the cost before the setting of the project work (Kononenko and Kharazii, 2014).

5. **Risk Management** - Each Project Management is associated with certain problems and risks that exert extreme pressure in the completion of the project and in some cases delayed the overall process. Therefore, it is mandatory to minimize the risk of the project management and manage the risks in proper way.

6. **Resource Management** - As stated by Binder, (2016) the successful completion of the project work depends on the proper supply of the resources necessary for the development and completion of the project work. Therefore, the project manager has the responsibility to conduct the availability of the necessary resources in proper way to conduct the project in time.

7. **Change Management** - Change in the management affects the progression of project work and it results in extension of the time. Therefore, it is
necessary for the organization to conduct the project work in such a way that cannot affect the extent of the project work progression. Moreover, change in managing body helps to keep the project in flow due to proper monitoring process.

8. **Communication Management** - Proper maintenance of the communication is mandatory in case of completion of a project work in time. Appropriate communication between staffs and project manager is essential for the maintenance of the proper monitoring of a project work process (Binder, 2016).

### 2.6 Project management methodology

As stated by Aghaee, Kononenko and Lutsenko, (2016) the project can be divided into three major stages such as Initiation, Execution and Closure that helps the progression of the Project Management. It is evident that the complication is associated with every stages of the Project Management and it is important to meet the complications before commencing of the following stages. The management of the project relies on the measurement process of the stages. According to Piasny and Kurzydłowska,, (2016) the complex process of one large project is associated with development of an auxiliary methodologies that can easily relate and monitor individuals who are working on a project, the involvement of the assets, time and capital for the project. The applications of auxiliary methodologies are associated with incorporation of more steps in respective phases of the project. The incorporation of new steps in a project is helping the project managers to complete each steps with guarantee and deliver expected work in the provided time (Kendrick 2015).
It is evident that the development of the essential steps of the Project Management is associated with the type of the project that the particular organization is dealing with. The organizations are supposed to follow some of the specific types of the project method (Wright, 2013). Additionally, depending on the type of project the project manager of an organization is supposed to merge different steps of various projects to develop a new hybridization of approach that can help the organization to complete project in expected deadline in a successful manner. In the following definition of various management methodologies applied by the organizations for successful completion of a project has been described below-

1. Methodologies associated with the traditional approach

   **Waterfall** - One of the most commonly used methods for development of a plan for the project. The waterfall method is considered as sequential approach for completion of the project work. The sequences of methodology provide the opportunity to project manager to complete each sequential step before starting of the new phase. The research work by Mahadevan et al., (2015) has highlighted development of the waterfall methodology is tested at the beginning of an implementation phase. The process is mainly associated with software development process that reflects downward flowing through the phases. Moreover, the phases are associated with conception, initiation, analysis, design and construction, testing, production and implementation.
Figura 2: Waterfall Methodología
(Source: Mahadevan et al., 2015)

**Critical Path Method (CPM)** - One of the significant parts of the traditional method for Project Management is associated with consideration of the modelling techniques developed in the year 1950’s. Morgan R. Walker of Dupont and James E. Kelley of Remington Rand are the developer of the CPM. The major contribution of the method is associated with representation of the longest possible pathway for completion of the project in a sequential manner and determines the shortest possible duration of a project methods (Şandru and Olaru 2013).
Critical Chain Project Management (CCPM) - The development of the management methodology is associated with the consideration of the Theory of Constraints and the development of the methodology begins with the idea in the year 1997. Considering the extent of the volatile time Eliyahu M. Goldratt has developed the planning to manage a project to operate in the single or in the multiple environments. As stated by Leach, (2014) the application of the methodology, the critical chain of the Project Management represents the lead-time of the management process. The management methodology highlights the planning and managing of the resources depending on the people, equipment’s and physical space.

Figure 3: CPM Methodology
(Source: Shaw and Sellers 2015)
2. The PMI/PMBOK method - According to Snijders, Wuttke and Zandhuis, (2012) this type of methodology is associated with the breaking down of a project work in several segments that provide the opportunity to project manager to divide the project in five steps for an effective completion. The Project Management institute has agreed the breakdown of the process in five steps and it is documented in the guidebook of the Project Management Body of Knowledge. The processed five groups are initiating, planning, executing, controlling and closing.

3. Methodologies for the agile family

Agile - The project managers are likely to found the approach as it is completely based on the value driven process that guide the project managers to deliver high priority and high quality work for stakeholders. One of the advantages of the methodology is associated with the

Figure 4: CCPM Methodology
(Source: Leach 2014)
consideration of the work first and the outcome of the work is likely to be evaluated at the end. The advantage of the methodology is associated with modification of result of the project by considering the results of an ongoing project (Patwardhan et al. 2016).

**Scrum** - It is mainly associated with the software development of the Project Management Methodology and it is one of the important parts of the agile process. According to Christofi, (2015) the methodology is mainly concerned with the areas in which a software developer struggles most. Considering the process of this methodology the team of the project is divided into two parts and it is comprised of scrum master and product owner. The duty of scrum master is to solve the obstacles of the project and the product owner is responsible for represent the business customer foe the development of right product.

**Kanban** - This management methodology of project is associated with the continuous delivery service system without providing the external pressure on development unit of the organization. Moreover, this methodology is associated with three principles that are associated with workflow, work in progress and enhanced flow in work. These methods are effective to console the employees to work in an efficient manner.

**Extreme Programming (XP)** - It is mandatory to understand the need of stakeholders and simplify quality of software. The process is comprised of using continual testing and revision of software’s. In addition, the process of the methodology is different from other traditional approach of methodologies and other agile process as it helps in processing of adaptability and predictability. As stated by Rumpe and Schröder, (2014) the project team get aid of writing the code, test, analyse, design the project development, and can make the necessary changes in the ongoing project.
**Adaptive Project Framework (APF)** - Apart from the other aspects of project work it has been found in relevant findings that one evident part for the completion of project work is concerned with managing the policies and decisions. The outcome from previous decision plays a crucial role for current practices. This agile process is mainly associated with the implication of Requirement Breakdown Structure for defining the strategy and goals. It is a new level of agile methodology and the project elements are based on risk, cost, duration, complexity, market stability and client involvement (Rao et al., 2013).

**4. Methodologies for the Change Management**

**Event Chain Methodology (ECM)** - One significant part of the methodology is associated with prediction of risk management by highlighting the uncertainties of project work. It is mainly dependent on six principles. The first principle helps to determine the state of activity and helps to measure the moment of risk. Second principle highlights the existence of the event chains. In case of third principle, use of Monte Carlo simulations helps to determine and analyse the consequences of events. Fourth principle help to identify the potential events associated with Project Management. The fifth principle helps to complete the process of performance tracking and sixth principle draws an event chain diagram (Paraskevopoulos et al. 2016).

**Extreme Project Management (XPM)** - It is considered as the short and flexible methodology for managing the project work. The basic characteristics of methodology is associated with providing the fast pace in work, frequent changes in the project progression as per the need, trial and error approach application and move away from hierarchy decision making process. Moreover, XPM is people driven project rather than process driven, as the
employees are mainly concerned with adaptation of the model that can fit the project. This method is completely opposite of the waterfall method (Kirkland 2015).

5. Methodologies related to the process-based approach

*Lean* - it is evident that the one significant part of Project Management is to control cutting down of waste regarding project. Most of the project managers are likely to face the problem of waste control in the aspect of the budget control. In addition, major concern of the approach is to gain more with use of fewer resources. The process is mainly concerned with elimination of waste from existing manufacturing system.

*Six Sigma* - The methodology of the research is mainly concerned with the data driven approach that maintained a disciplined nature in project process from manufacturing to transactional and product to service level operation. Major two methodologies of the six-sigma process are comprised of DMAIC and DMADV. The DMAIC process includes parameters such as define, measure, analyse, improve and control whereas DMADV is associated with design and verify instead of control and improvement.

*Lean Six Sigma* - It is mainly known as the combination of lean methodology and six-sigma methodology. The major concern of a cumulative application of these two methodologies is concerned with the fact to eliminate waste and make the project defect free. The combinations of the two methodologies are very much effective for making the Project Management more effective and cost efficient in nature (Heldman 2013).

6. The other different methodologies
Prince 2 - It is considered as the government endorsed Project Management Methodology that was enabled in the year 1996 by the government of United Kingdom. The major concept of application of the methodology is associated with development of a process-oriented approach towards successful implication of the project work. Dividing the project into multiple stages in turn helps to build plans and processes for each step. Additionally, the process helps project manager to develop business operations in more efficient manner to command over all resources to mitigate the defects (Kaya et al. 2014).

Prism - For the incorporation of the environmental factors for performing the project in large scale, GPM Global has developed projects integrating sustainable methods (Prism). The methodology is unique in nature and the process involves rewarding process for project managers with accreditation. Moreover, the Project Management Methodology is applicable in case of construction process as a construction projects are large-scale in nature and it sometimes associated with exerting adverse effect in the environment (Snijders at al. 2012).

2.7 Definition of project failure

A project is considered as a failure one if a project fails to meet the expectation in line with the stakeholders and the failure incident of project is associated with consideration of cost, quality and time. According to Heldman, (2013) the significant part of a project failure is associated with the consideration with not meeting specific targeted benefit for business case. Major reason behind the failure of the project not only associated with only one reason. There are several reasons that contribute to the failure of the project. It is the failure of meeting the expectation of result from a project by the stakeholders. Success regarding the project work highlights the finishing of proposed solution. Therefore, as per the view of the researchers it is
clear that anything opposite to success indicator of project work can be considered as failure. Moreover, the extent of failure in case is rather an unlikeable occasion that associated with leading to the loss of the organization. Therefore, failure of a project concerned with neglecting the responsibility of proposed plan (Stoica and Brouse 2013).

2.8 Reasons behind Project Failure

Several research works has been performed for the determination of reasons behind the failure of project. The major indicators regarding the failure of project are defined by the lack in internal efficiency and external effectiveness (Grefen et al. 2012). As mentioned earlier that the extent of failure is not depending on only one reason rather it is a collection of inefficiency in work with individual contribution. The major reasons behind the failure of one project has been discussed in following manner-

1. Lack in the changing pattern in management that clearly indicates a deficiency in to encounter recognizable changes

2. One significant reason is the lack in the communication. Deficiency in the proper maintenance of the required communication about the project with project manager incorporates the chance of failure.

3. Inadequate availability of resources increases the chance of project failure as it extends the time of completion for project.

4. The organization is not always providing necessary free hand to project managers that hindered progression of the project.

5. Lack in the development of essential structure for the project
6. The arrangement of organization based on the top-down approach limits accessibility of the project estimation that ultimately extends the budget (Kaya et al. 2014).

7. It is necessary to determine the associated risks with project that ensure success of the work but project managers in most of the cases not concern with the basic assignment (Herroelen 2014).

8. Incompetent in the skills of the project managers

9. Change in the project objectives often results in the development of additional requirements.

10. Moreover, it is completely impractical for a project to succeed if the right assets are not accessible for the project manager (Young 2013).

2.9 Definition of Project success

The major aim of the manager of project work is to ensure success of undergoing project. Therefore, it includes the duty of manager to determine success of ongoing project in terms of cost, time and expectation of stakeholders. As stated by Scott, (2013) the main indicator of success of the project is comprised of on time finishing of work, finish the work under predicted budget, and most significantly meet the exact desire of customers. As found in several literature works that ultimate success of a project lies in the accomplishment of the proposed reason. One significant part to ensure the success of the project is associated with expressing deliverables of the project. Another view from other relevant researcher has provided the concept that consideration of time and spending of money on the objective of project purpose usually define success. The assurance of project success is associated with administrators of organization that connects all assets, abilities and unpredictable parameters of project (Scott, 2013).
2.10 The indicators of project performance

Proper measurement of execution of the project work is considered as the most important part for an organization. The US-based Development Industry Institute has developed the Project Definition Rating Index that can be used as successful apparatus to support several stages of project. In case of R&D project work, development of the Integrated Performance Index provides insight regarding practical experience of Project Management.

The designing of DQI (Design Quality Indicator) is associated with three major perspectives that help in enhancing the outline of the project work. Moreover, in case of R&D projects the application of IPI is associated with consideration of eight phases comprised of benefit, risk, project preference and effective decisions (Caniëls and Bakens, 2012).

2.11 The Key performance indicators

Determination of positioning of the success related to project is an uneven judgement and characterization of the necessary implication is one of the prime parameter for a project. It is the responsibility of the project manager to implement the essential changes with consideration of multi-dimensional and multi-criteria approach (Patwardhan et al., 2016).

One significant way to ensure the success is associated with groupings of criteria. The possible four grouping of the criteria are inside target of project, advantage towards the client, direct commitment and future door (Mir and Pinnington, 2014).
2.12 The use of key performance indicators to measure project success

The development of the Key Performance Indicators is associated with determination of the performance in the construction industry. The following factors are responsible for assurance of project success-

- KPI are mainly focussing on the general aspects of the results of project performance.

- Use of KPI ensure the consumption of time and resources

- Simple use of methodology for the data collection process

- Orderly utilization of KPI is essential for the derivation of steady use.

- KPI implementation is liable for the change and implementation

- It is evident that the graphic delay of KPI should be straightforward in design and in addition it is simple in nature and updates are available (Mir and Pinnington, 2014).

- The major indicators of the KPI’s are the construction time, time variation, unit cost, speed of the construction, quality, functionality and satisfaction of the design and the construction team.

2.13 Project success factors and criteria

The utilization of the Project Management can be maintained in two parts such as independent variables that contribute to the possibility of successive and reliant variables that ensure the success of the project work. Moreover, the other parameter that helps the project to
success is associated with the objective and quality of project work. Specific development of activities with the consideration of resources and time is essential that helps in the process to meet the distinctive necessities and desires (Christofi, 2015).

2.14 Earned Value Management as a method of measuring Project Success or Failure

Earned value management or EVM is considered as a Project Management technique in order to measure project performance as well as its progress rate. According to Meredith and Mantel (2011), having control on a project is the key to ensure the success of a project. Losing control on a project will evidently lead to failure. The researchers showed that the proper implementation of Earned Value Management (EVM) is helpful in order to control the performance, cost and time of the project. This technique is also proved as beneficial in order to predict the ultimate project cost as well as maximum project duration. From the research study of Pajares and Lopez-Paredes (2011), it is reflected that most of the projects in different industries failed due to the lack of control on time and cost of the project. The EVM tool or technique is helpful to generate warning signals prior to the occurrence of any problems regarding costing or time in a project. Most of the field members and the project managers admired the efficiency of using EVM or Earned Value Management in order to develop better strategy to conduct a project and meet the project goals. The implementation of Earned Value Management is helpful to draw the current picture and the ups and downs of the project. The implementation of EVM is proved as beneficial to predict the success or failure of the project depending on the capability of the project manager, organizational infrastructure and the project resources.
2.15 ROI as a measurement of Project Success/Failure

As per the views of Phillips, Phillips and Ray, (2015) Project Management is a tool or bunch of techniques, which are related, with operational process of any project. Now, after the completion of project, it is important to measure the project with different parameters by which it will be easier to comprehend, if the project has succeeded or failed. Now there are various parameters that are used for measuring success and failure of the project, which may also vary depending upon requirement and the domain of the project. However, as opined by Barclay and Barclay, (2015) some parameters are there which are universal for the success and failure measurement of project regardless of the vertical or size of project. For example, time, cost, products, utilization of resources, and values are universal parameters for appropriate measurement of project.
Now, in value section, there are other sub parameters like NPV, ROI etc. In this section the importance of return on investment (ROI) have been described as the prime parameter for measuring project parameter. ROI indicates cumulative return in terms of value, which has been generated as revenue through the project, can be used as parameter to measure the success of project. It can be comprehended that, the rate of investment is need to correlate with returns from the investment. Moreover, the project can be mentioned as successful one if return generated from project is exceeding value of investment. For example, if a project has been designed to make a specific product, which will be sold in market, then the project manager must calculate properly the approximate budget before commencing project. Moreover, it can also be mentioned that project manager is also required to calculate the volume of production and better satiation of demand as per requirement. This will ensure best possible return from the investment as described by Badewi, (2016).

On other hand, time and cost is also having impact on success and failure of project. For example, time overrun can hinder the project delivery, which can associate extra cost with factor. Thus, it may lead to failure of the project. Additionally ROI is also dependent upon this specific factor of time overrun and over expenditure, as mentioned by Phillips, Phillips and Ray, (2015). These two aspects can lead to failure of the project or compromising profit margin as well. Hence, it can be mentioned that, optimal measurement of time, value of the project, scope determination are parameters, which can lead to better delivery of the successful project. Otherwise due mal handling of these parameters and possible misinterpretation of the strategies.
by the different classes of employees can lead to the lesser revenue generation. This may also be mentioned as the reason behind the lower ROI, as suggested by Hughes et al. (2016).

2.16 Chapter summary

The development of the findings from the literature finding has been associated with addressing the research aim and objectives for the research. The researcher has intended to perform the assessment of the project and developed the definition of project with the proper understanding of the organization structure associated with completion of Project Management. In addition to identify the success criteria of Project Management it has been found that the role of the project manager and project team is most important parameters. Moreover, the literature findings have indicated that external and internal factors associated with the Project Management are the key drivers that guide a project towards success or failure. Existing factors found in the research literatures has revealed the facts associated with nature of project failure, which is associated with communication gap, inadequate resources and poor risk management as the primary reason. Considering the tools and techniques required to avoid the failure of the project the literature findings have suggested the fact that concentrating on key performance indicators indicates the success of the project work. Depending on the literature findings to address the research objectives the researcher has developed the research methodologies in following chapter.
Chapter 3: Research Methodology

3.1 Introduction

The research methodology is the chapter that focuses on the researcher’s blueprint of selection of the different research methods that will be successfully used for the completion of the research project. The chapter will show the process, philosophy, method and also the sampling techniques that are adopted by the researcher and used for completion of the project. This specific chapter is focused on the research techniques and possible implementation of the distinguished research tools. Here in this section in depth analyses regarding research instruments and associated techniques have been described in details. However, the modes and research methods, which are relevant to this subject of research, have also been described as well. In addition to this, ethical consideration and specific limitations of the research has also been considered as subject of discussion in this particular chapter. Entire discussion made in this chapter has been summarized in the concluding note.

3.2 Present research proposition

In these research chief issues is the success of Project Management while striving to avoid possible failure cases in context of Project Management. As opined by Levin, Hayes and Vilardaga, (2012) Project Management can be described as the collection of the possible approaches, which helps project manager to remain focused towards the aim of the project and maintaining parameter for the success of project. Thus, in this research the in depth analysis will be made on the causes of project failure and possible approaches for a successful project completion. Hence, in this research appropriate research tools are required to be selected as per the requirement of the project. Moreover, the appropriate justification for the particular selection
of the research techniques are required to be provided, which have been discussed in the later section of the study.

3.3. Research paradigms

Research paradigms are specific parameters in the research, which helps to carry out research while making particular decisions. It can also be mentioned as discipline of the research, as suggested by Carpenter et al. (2012). In contrast Lewis, (2015) argued that, it could also be mentioned as establish sets of practices in research. These paradigms can be of three different types. They are positivism, interpretivism and realism.

![Research Paradigms Diagram](Source: Malterud, 2012)

**Figure 6: Various research paradigms**

(Source: Malterud, 2012)

Positivism can be described as the experimental testing process, which is vastly, depends on the detailed description based analysis method. On the other hand, interpretivism can be
mentioned as discussion based method of research, which focuses on labyrinths of the scenario. Realism can be described as combination of techniques, positivism and interpretivism. However, these all research paradigms are being used in research depending upon the requirement of subject topic.

3.3.1 Justification for selection of appropriate research paradigm (Positivism)

In this specific research _Project Management_ and parameters due to which project success can be hindered has been discussed in details. Thus, it is important to choose research discipline, which may help in describing situation of entire project and the parameters, which are chief concerns for successful completion of the project. This would require the description of situation and the discussion depending upon description as well. On the other hand, interpretivism and realism may not help the research as those paradigm will go into the root cause analysis from a specific point rather than discussing the overall requirement of the project. Hence, it can be mentioned that positivism paradigm will be justified approach for this specific research. Previously the selection of positivism was important for the researchers. However in the current scenario the selection of post positivism philosophy is highly important for the researchers. Positivism philosophy focuses on the process of experimental testing and post positivism philosophy depends on the process of showing the scientific process behind each and every phase of the project. Thus in this case the researcher will also focus on the selection of the post positivism philosophy after focusing on the positivism philosophy.

3.4 Research approach

Research approach is one of vital parts of research, irrespective of subject of research and area as well, as mentioned by Maxwell, (2012). However, this can be described as tools of the
research, which helps in better description of theories and helps in formation of research hypotheses. As per the views of Merriam and Tisdell, (2015) research approach can be of two different types, deductive and inductive research approach. In deductive research approach, conclusions are made based on known parameters found during the research. On the other hand, inductive research approach strives to infer untested conclusions in form of hypothesis at concluding note of research. Additionally Creswell, (2013) described that; another major difference in between this two specific type of research approach is the use of data collected from respondents. In case of deductive research approach, collected data are being used as the tools to establish a hypothesis while linking it with the existing theories. In contrast, inductive research approach helps in formation of the new conceptual framework with the help of collected data while identifying various themes and exploring entire topic in detail.

Figure 7: Research approaches
(Source: Rhodin 2013)
3.4.1 Justification for selection of appropriate research approach (deductive approach)

This specific research is based on causes of the Project Management and reasons of failure of Project Management. Thus, in this case deductive research approach is required as the entire data collection will be done from the respondents and those data will be used as the building block of the valuable propositions. On the other hand Mertens, (2014) mentioned that the inductive approach generally strive to generate theories and hypothesis, which is not at all required in this specific research topic. The topic is to identify chief reasons due to which project can be failed. Hence, it is very important make detailed discussion regarding entire situation. Thus, deductive research approach is the justified one to be selected for this particular research. A deductive approach usually begins with determination of a research thesis. On the other hand in case of inductive approach the use of research questions are done. Thus if the researcher selects the deductive approach then the researcher will be able to focus on making the research project as per the research problem since the identification of the research thesis will be done in this case. Moreover, Rhodin (2013) stated that the use of the deductive approach would also help in determining the causality of the research where in case of inductive research the researcher is focused on identifying something new and establish a new theory for the project. However the major purpose behind selection of the research approach is focused on the scope of the research, the methods of the research and most importantly the research problem. Depending on these factors it is possible to select a correct research approach.

3.5 Research design

The research design refers to the overall strategy that you choose to integrate the different components of the study in a coherent and logical way, thereby, ensuring you will effectively address the research problem; it constitutes the blueprint for the collection,
measurement, and analysis of data. As opined by Punch, (2013) research design can be described as structural design of research, which helps in conducting research in specific direction as per requirement. Research design can be of three different types, exploratory, explanatory and descriptive research design. Exploratory research design strives to find out chief cause of the specific phenomenon from a particular subject area. In contrast, explanatory research design helps in explaining e point phenomena with specified course of research. On the other hand, Du et al., (2014) mentioned that, descriptive research design describes the entire situation and then helps in classifying the behavioral factors, which are having significant impact on entire course of research depending upon the subject of topic.
3.5.1 Justification for selection of appropriate research design (Descriptive design)

Here in this research issues of Project Management are required to be analyzed in light of data collected from the respondents. Moreover, the research will also strive to include associated phenomenon as well for the overall evaluation of project. As described by Farrington, Ohlin and Wilson, (2012) in the research, where vast scenario are required to be monitored and analyzed as well, then for that specific research descriptive research design is required to be chosen. In this specific research regarding the cause analysis for project failure and the mitigating reasons of failure by utilizing the Project Management techniques, thus, the entire scenario of project is need to be taken into consideration for better analysis. Hence, in this particular research descriptive research design will be justified one to be selected.

3.6 Primary research

Primary research can be mentioned as specific process of the research, which involves data accumulation from respondents. This data, from respondents, can be collected through utilization of the techniques known as quantitative and qualitative researches, which have been described in below mentioned sections. As per the views of Farrington, Ohlin and Wilson, (2012) primary research helps in proper evaluation of incumbent scenario of research topic while generating the database of authenticated responses from relevant respondents. Thus, this approach of the research is helpful for real-time evaluation of entire scenario. In this research, primary research techniques have been deployed, in order to complete research successfully.
3.6.1 Quantitative research

In this type of research, data are collected in form of responses from the respondents. Generally, close-ended questions are asked to the large number of respondents. This approach helps in getting the overview of the section of population regarding a specific subject matter and topic as well. This helps in preparing the tabular format of the numeric responses collected from the respondents. In this specific research, quantitative research techniques have not been used.

3.6.2 Qualitative research

Qualitative research is based on descriptive answers collected from experienced respondents regarding a specific topic, as specified by Green and Thorogood, (2013). Qualitative research is generally of four types namely individual interviews, focus groups, observations and action research. In this case I have focused on using the individual interview method with the help of the open-ended questions that will help to extract relevant data from the project manager. The researcher has selected the qualitative technique because this technique will help the researcher to gain insight knowledge on the different factors related to project managers. Since there will be open ended questions thus the there will be no limit of answering the questions and the respondents will have a free access where they will be able to provide their valuable response. Moreover, this is mostly based on conversational approach and generally, open-ended questions are being asked to the respondents. Here, this particular research is regarding cause analysis for failures of Project Management. Hence, the experiences of project managers regarding Project Management will be preliminary basis of the data analysis. In this research, chiefly qualitative researches have been used for data collection and analysis as well.
3.7 Secondary research

This research approach is generally based on theoretical analysis and established model based analysis of the subject topic. In this particular research, an analysis of root causes of project failure and implementation of the process of Project Management has been described. However, in these research real time experiences of project manager is very important factor to be evaluated than established theories and models of Project Management. Thus, secondary research method has been used in this research marginally for better review of literature only. For the secondary research I have selected around 1000 articles with the help of inclusive and exclusive criteria and keyword search strategy. This article has been selected from around 60 journal article which has helped me to conduct the in depth secondary research.

3.8 Data collection instruments

As discussed in earlier section of chapter that primary qualitative research technique will be used in this particular research, thus the interview and confrontational process is paramount for this research. Now, in this approach, I will be using the open-ended questions for selected managers that have been approached to become the respondents. During interview process, I will be taking important notes and may record conversation with the managers for authentication of research process. For interview process, managers will be approached through emails first and then they will be requested for an appointment for face-to-face conversation in physical meeting or virtual meeting through Skype. The use of the email will be done initially since the researcher is targeting high profile project managers of some of the renowned construction companies. Direct face-to–face interview with the managers will not be possible in this case because in that case less number of respondents will be more effectively participating in the research. I will thus
take the permission of the project managers through email first and then will proceed with the interview.

### 3.9 Data sampling technique

According to Green and Thorogood (2013) a subset of the overall population is known as sample size. Sampling technique is the process that is used for selection of the relevant subset from the overall population. In case of qualitative research, the main focus is to gain deep understanding of the research problem from the responses of the participants. There are majorly two types of sampling techniques namely probability sampling and non-probability sampling. Green and Thorogood (2013) stated that usage of probability sampling provides all individuals within the population and equal chance of getting selected in the research project. On the contrary Hesse-Biber and Leavy (2013) mentioned that non-probability sampling is used when it is focused on certain particular attributes that should be present within the respondents. Thus usage of non-probability sampling prevents random selection of the respondents.

#### 3.9.1 Justification for selection of non probability sampling

In this project, I have selected non-probability sampling technique for the selection of the project managers. The sample size for the selected dissertation is 5 project managers. Since the focus is on collection of qualitative responses from the project managers thus the number of managers became limited. I have chosen purposive non probability sampling technique which has helped me to purposefully select only the project managers as the respondents of the project. While selection of the respondents I had tried to maintain some specific attributes like, experience of the project managers and role of the project managers. These attributes have
helped me to get logical responses from the managers with respect to project failures and project management techniques.

### 3.9 Data analysis

In this research, qualitative data has been considered for research purpose. Thus, collected data will be in a descriptive conversational form. Hence, qualitative responses will be analyzed along with established models and theories. Graphical analysis has also been included from the data found from relevant journals and articles to comparing and contrasting views provided by project managers selected as respondents. In order to make proper qualitative analysis it is very important that, to consider the research approach and philosophies. As in this research I have selected deductive approach for the research, thus, the chief aim of the data analysis will be to corroborate one of the hypothesis made in the introductory part of the study. In addition to this, the research data will help the researcher to provide suitable justification as well to reject the other hypothesis as well.

### 3.10 Research ethics

As mentioned by Hesse-Biber and Leavy, (2013) ethical consideration is very important for an authentic and ethical research. Thus, in this particular research, I will be concerned regarding the codes of ethics and will be abiding by ethical considerations of research. In order to do so, I will keep information of the respondents confidential and data collected from the respondents will be used for these particular academic purposes. In this specific approach, researcher will be taking the help of data protection act 1998. Additionally, I will also use the data and resources collected from internet sources along with appropriate referencing format in order to avoid issues of plagiarism. Further as per the ethical checklist, the researcher will take
the consent of all the respondents before they participate in the project. In this case I will use the mails in order to get formal confirmation from the respondents about the research project. Since I will be focusing on interviewing the project managers from some of the popular construction companies thus it will be highly necessary for me to manage the research ethics and keep the identity of the respondents completely hidden so that the respondents do not face any trouble within their professional life. Moreover I will also need to confirm within the ethical guidelines that the material and opinions taken from the respondents for conducting this particular research study will be solely used for academic purpose and none of the information will be used for any external sources and purpose. Moreover I will also show the permission note of the university as a proof of research evidence to the respondents before proceeding with the research project interview.

3.11 Limitation of research

In this specific research, the chief limitation is lack of structural regulation in research. The topic is vast enough to be covered as a whole. Moreover, every project has their possible limitation and stringency as well. Thus, Project Management style can also differ. Thus, causes of failure can also be different in different aspects. However, in this research basic causes of the project failure have been described in details. Additionally depending on the volume and size of the project, nature of problems faced by projects can differ, so there causes of failure. Hence, these are the limitations of this research. Moreover I have faced limitation during conducting the primary research with the managers. Since project failure and its reasons are some of the integral part of any organization, thus majority of the managers who were approached refused to participate in the research project. Further use of open-ended questions has also made it difficult for me to obtain the correct data from the respondents. Further the researcher has also faced
limitation in terms of financial resources. Since, I as student did not have sufficient financial resources to get printed questionnaires. Moreover the face-to-face interview would have forced me to travel to different companies and take the interview accordingly. However since this would cost high transportation costs hence I have tried to focus on Skype interviews, which will help in reducing these costs. Moreover, since the time span for the completion of the project is very less thus I was not able to conduct the primary analysis on a bigger sample size. The time was very limited and thus I was not able to convince more number of managers for the survey. Thus there is a lack of in-depth analysis in the research project. However there is future scope of further research on the given topic in future.

3.12 Research timeline

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3.12 Summary

In this chapter, research tools and the techniques have been analyzed. Moreover, beside the description of process of the research, proper justification has also been provided for selecting that specific technique of research along with suitability of the context of project management. Various data collection tools and techniques of data analysis have also been described in this chapter. Ethical consideration and limitation of this particular research have also been taken into consideration in this chapter.
**Chapter 4: Data analysis and Findings**

**4.1 Introduction**

Data analysis of a dissertation is the major part of the dissertation that focuses on highlighting the findings obtained by the researcher during the project. As me as researcher in this dissertation has focused on conducting qualitative research. With the help of open-ended questions I had focused on extracting the views of the five managers of different construction project companies of UK. Since I have used purposive sampling technique for selection of the respondents thus, I have focused on selection of only the project managers of some of the reputed construction companies of UK. The following chapter will highlight the interview transcripts of the five managers, which will help in understanding the views and opinions and will also shed light on the discussion, which is presented in the next chapter of the dissertation.

**4.2 Qualitative Data analysis**

**Q1. Respondent’s profile**

Me as researcher out of 20 managers was able to receive appointment of five managers for which the following qualitative interview was done. The following table shows the respondent profile of the five managers

<table>
<thead>
<tr>
<th>Number of managers</th>
<th>Name of the company</th>
<th>Age of the respondent</th>
<th>Designation</th>
<th>Years of experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manager 1</td>
<td>Balfour Beatty</td>
<td>44 years</td>
<td>Senior project Manager</td>
<td>7 years</td>
</tr>
<tr>
<td>Manager 2</td>
<td>Morgan Sindall</td>
<td>40 years</td>
<td>Project coordinator</td>
<td>5 years</td>
</tr>
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<td>-----------</td>
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<td>----------</td>
<td>---------------------</td>
<td>--------</td>
</tr>
<tr>
<td>Manager 3</td>
<td>Wates</td>
<td>36 years</td>
<td>Project Analyst</td>
<td>3.5 years</td>
</tr>
<tr>
<td>Manager 4</td>
<td>Mace</td>
<td>42 years</td>
<td>Project Director</td>
<td>4 years</td>
</tr>
<tr>
<td>Manager 5</td>
<td>Amey UK</td>
<td>35 years</td>
<td>Assistant project manager</td>
<td>2 years</td>
</tr>
</tbody>
</table>

Table 1: Profile of the Managers

**Interpretation**

The respondent profile of the managers who have been interviewed shows that the selection of the managers with varied job experience will allow me to get opinions about the different phases of Project Management. The experience and the age of the managers range from 7 to 2 years respectively. The manager with 7 years of experience will be able to highlight the strategies of effective Project Management since the concerned manager has already faced many project failures in his career. Moreover, the manager with 2 years experience has been selected so that the manager is able to highlight the new strategies that are generally undertaken by the organizations. The researcher’s selection of the respondents will help the researcher to compare the responses in the discussion part.

**Q 2. What according to you is the definition of project management?**

<table>
<thead>
<tr>
<th>Number of managers</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manager 1</td>
<td>Project management is the process of managing projects effectively</td>
</tr>
<tr>
<td>Manager 2</td>
<td>Project management can be defined as the</td>
</tr>
</tbody>
</table>
application of different processes, skills and 
experience to achieve a fruitful outcome of the 
project.

Manager 3

Projects can be managed with the help of good resources and effective teamwork

Manager 4

Project management is the process of managing projects effectively

Manager 5

Project management is the process of planning the project and executing the same effectively.

<table>
<thead>
<tr>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Me as researcher in this question has focused on getting the opinion of the experienced managers about the definition of the term “Project Management”. The responses obtained from the interview shows that for the managers the definition of Project Management is majorly focused on delivering good quality projects within the given deadline at effective costing. From the responses it can be interpreted that majority of the project managers majorly concentrate on making effective plan and design the project before starting with the project. However it is necessary to include competent workforce along with valuable resources for a project to become effective. The comparison in the responses between the high experienced managers and the low experienced managers shows that new managers feel that resource, time management, teamwork is also an important component of Project Management. However the experienced managers would like to rely on the project design and project planning part for making a project successful.</td>
</tr>
</tbody>
</table>

**Q 3. What are the major areas of managing a project?**
<table>
<thead>
<tr>
<th>Number of managers</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manager 1</td>
<td>Quality management, risk management, resource management</td>
</tr>
<tr>
<td>Manager 2</td>
<td>Risk management, team management, communication management</td>
</tr>
<tr>
<td>Manager 3</td>
<td>Cost and risk management</td>
</tr>
<tr>
<td>Manager 4</td>
<td>Cost management, quality management, team management</td>
</tr>
<tr>
<td>Manager 5</td>
<td>Time management, cost management and quality management</td>
</tr>
</tbody>
</table>

**Table 3: Major Areas of managing project**

**Interpretation**

The response in this regard shows that the managers have highlighted that some of the common areas where the managers put stress while managing any construction project includes cost management, quality management, risk management and team management. However apart from the common answers some of the managers also pointed that time management and resource management also plays an important role in enhancing the quality of the project. In this regard a comparison between the responses of the experienced and inexperienced managers shows that in case of experienced managers the stress is on management of risks, costs, time and quality, which are the four most important components in a project. However the inexperienced managers are of the opinion that team management and good communication management is highly important for successful project completion. Critical evaluation of the responses shows that since, the experienced managers have already faced different project failure scenarios thus
they have learnt from their past mistakes and changed the approach of Project Management over time. However in case of managers with experienced between 2 to 2.5 years, not much project failures cases have been encountered thus they rely on the basics of Project Management as stated theoretically in different scholarly articles.

**Q 4. What are the different classifications of any project?**

Me, as researcher in the initial question focused on obtaining answers related to the types of project that are generally presented in an organization. Among the five managers the following transcripts were obtained:

<table>
<thead>
<tr>
<th>Number of managers</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manager 1</td>
<td>There are 3 types of project namely business project, development project and technical projects</td>
</tr>
<tr>
<td>Manager 2 and manager 3 and manager 4</td>
<td>Successful projects, challenged projects and impaired projects</td>
</tr>
<tr>
<td>Manager 5</td>
<td>Construction projects and product development projects</td>
</tr>
</tbody>
</table>

**Table 4: Classification of Project**

**Interpretation**

From the above table it is clearly interpreted that 3 out of 5 managers are of the opinion that the status of the projects are generally ascertained by three major levels namely successful projects, challenged projects and impaired projects. Apart from the three managers the other two managers focused on classifying the projects on the basis of their content rather than focusing on
classifying the working status of a project. It may be noted that if the majority view is taken then it can be interpreted that status of all types of projects will fall under these three levels. In this regard first manager has classified the projects on the basis of their nature. However the broader classification of the projects as per successful, challenged and impaired should be done by the organizations in order to evaluate the status of the ongoing projects.

**Q 5. What according to you are the major factors responsible for success of any project?**

<table>
<thead>
<tr>
<th>Number of managers</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manager 1</td>
<td>Realistic goals, small project milestones, proper planning</td>
</tr>
<tr>
<td>Manager 2</td>
<td>Effective planning, good project management staffs, good quality resources</td>
</tr>
<tr>
<td>Manager 3</td>
<td>Good project management techniques</td>
</tr>
<tr>
<td>Manager 4</td>
<td>Availability of resources, good design, good leadership strategy</td>
</tr>
<tr>
<td>Manager 5</td>
<td>Good planning, resources, good design, realistic goals</td>
</tr>
</tbody>
</table>

**Table 5: Factors responsible for project success**

**Interpretation**

The major aim of the researcher in this project was to initially identify the success factors of construction projects for different companies. The managers in this regard has pointed out that the major factors that contributes to the success of the projects are setting of short and realistic goals, proper planning and use of resources, good project management techniques and good
staffs. The motive of the research behind farming this question is to highlight the positive factors that should be prioritized by other project managers while completion of their projects. In this case, 2 of the managers have responded that good design is an important component for successful project delivery. In case of contrition projects it can be seen that majority of the projects concerning construction of bridge, park or building fails due to lack of effective project designs. Thus, good and logical project design is highly important for project success. The 3rd manager has responded that good Project Management techniques are important for project success. Evaluation of different UK construction projects shows that adoption of a wrong Project Management technique has resulted non-timely delivery of the project. Apart from these factors the above-mentioned factors like proper planning, proper quality resources are also important.

**Q 6. What are the major issues according to you that lead to the project failures?**

<table>
<thead>
<tr>
<th>Number of managers</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manager 1</td>
<td>Poor design, frequent design changes, poor site management, unclear goals</td>
</tr>
<tr>
<td>Manager 2</td>
<td>Lack of financial resources, lack of project management techniques</td>
</tr>
<tr>
<td>Manager 3</td>
<td>Inaccurate planning, lack of resources</td>
</tr>
<tr>
<td>Manager 4</td>
<td>Poor planning and scheduling, inaccurate cost estimation, poor designs</td>
</tr>
<tr>
<td>Manager 5</td>
<td>Corruption, incompetent human resources, unrealistic expectations</td>
</tr>
</tbody>
</table>

**Table 6: Reasons behind project failure**

**Interpretation**
Me, as researcher in this question has shed direct focus on the factors that generally leads to high failure rates of the construction projects in UK. The responses obtained from the managers shows that majorly the managers’ focus on the fact that poor designs, poor sites, high costs, lack of proper resources and unrealistic goals are the major reason behind the failure of the projects. The nature of the responses in this case is common and relevant with that of the major reasons that have been highlighted in the secondary articles. However the interview has highlighted some of the factors that the managers feel are responsible for the failure of any project such as high level of political corruptions, unrealistic quality expectations from the clients and frequent changes made in the initial project design.

Q 7. What are the effects of project failure on the organizational operations?

<table>
<thead>
<tr>
<th>Number of managers</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manager 1</td>
<td>High financial loss, loss of goodwill, hampering organizational culture</td>
</tr>
<tr>
<td>Manager 2</td>
<td>Loss of money, loss of reputation, loss of clients</td>
</tr>
<tr>
<td>Manager 3</td>
<td>Loss of money, demotivation among employees</td>
</tr>
<tr>
<td>Manager 4</td>
<td>Financial loss, loss of reputation</td>
</tr>
<tr>
<td>Manager 5</td>
<td>Loss of employees, financial loss</td>
</tr>
</tbody>
</table>

Table 7: Effects of Project Failure

**Interpretation**
Since project failures are one of the major disruptions in the daily operations of any organization, thus the research in this project has questioned the effects of the project failures on the organizations. This question has helped the researcher to understand the seriousness of the issue. The discussion with the managers showed that various negative effects are found within the organization after any project failure. The managers highlighted that financial loss and loss of goodwill and reputation are the two major effects that the organizations face after repeated project failures. Apart from that loss of trustable clients, reduction in employment opportunities and demotivation among the employees are some of the other factors those crops up within the organizations. In this regard the third manager mentioned that although the organization faces high degree of losses due a project failure however the major failure is of the project owner who was handling the project delivery process. In majority of the cases it has been seen that the organization in order to mitigate the losses will cut the financial gains of the concerned project manager. Moreover depending on the strength of the company, the project failure consequences can also make the company bankrupt. In case of SME companies’ majority of the financial plan is made keeping in mind the future and the ongoing projects. Thus failure of the project also causes delay in the completion of the future projects, which further leads to development of more number of unsuccessful projects. Analysis of the other factors mentioned by the manager’s shows that loss of trust and reputation is also an important factor. In majority of the construction projects, media plays an important role. Since construction projects are majorly large scale thus the media coverage of the stages of the project is highlighted. Thus failure of the projects makes the future of the concerned organization highly uncertain. Moreover the external stakeholders lose their faith and thus the organizations tend to lose their client base.

Q 8. What are the major techniques that can be used in order to avoid project failures?
<table>
<thead>
<tr>
<th>Number of managers</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manager 1</td>
<td>Critical path method or critical path analysis</td>
</tr>
<tr>
<td>Manager 2</td>
<td>PERT</td>
</tr>
<tr>
<td>Manager 3</td>
<td>Waterfall technique</td>
</tr>
<tr>
<td>Manager 4</td>
<td>Agile and Kanban</td>
</tr>
<tr>
<td>Manager 5</td>
<td>Gantt charts</td>
</tr>
</tbody>
</table>

**Table 8: Techniques for avoiding project failure**

**Interpretation**

Me as researcher has framed this last question for the managers to ascertain the project management techniques that should be used for avoidance of the project failures. In this question all five managers gave five different responses as mentioned above. This shows that they feel that usage of any of the above discussed project management techniques may help the managers to avoid project failures. The first manager who has the highest number of years experience in the profile of project manager is of the opinion that CPM or CPA is the best method for planning and implementing any project. The method of CPM is highly useful for lengthy projects since this method helps in displaying the sequence and timing of each project activity in a logical manner, which will help the manager and the team members to track the project delivery process. However, the mention of the use of Gantt chart by the fifth manager proves that the manager has not yet encountered high number of project failures thus the manager is relying on the easiest method of planning project. Gantt chart shows the timeline of the project. However, in case of lengthy projects it is difficult for the manager to predict the timeline at the initial stage of the project. The other managers in their response have mentioned the use of PERT, which also helps in identifying the best, and the worst probable duration of time, that will be taken for completion.
of each activity. The second manager is of the opinion that use of waterfall is the best way to avoid any project failure especially in case of construction projects. In case of waterfall approach the manager prefers completing each stage separately before completion of the next stage. According to the manager’s response this process will help in reducing the defects in each stage of the project and help in delivering high quality project. The fourth manager is of the opinion that use of either Agile or Kanban is the best way to avoid any kind of project failures. The manager also commented that with the use of Kanban the continuous flow and quality of project will be monitored and this will reduce the chance of defects within the project and will help in high quality project delivery within the given time period. Agile will also help in assessing the capability of project team since the project is evaluated based on the capability of the project team.

4.3 Summary

The data analysis and findings chapter shows the prompt responses of the managers and from the responses of the managers it can be ascertained that based on the experience the managers have changed their views on project failures. Although the managers have encountered several failures and are well aware of the reasons behind the project failures, however they have not been able to avoid future failures of projects. Thus, in the discussion section the researcher will evaluate the responses of the managers with the secondary data in order to view the relevancy of the data.
5.1 Introduction

This part of the dissertation will focus on making detailed explanation and discussion on the different responses obtained from the qualitative interview, which was presented in the data analysis chapter. In the discussion part of this particular dissertation the researcher will evaluate the responses obtained from the managers based on the secondary data available from the different journals and articles on Project Management. Thus the discussion presented below will show the relevance of the responses of the managers with the past analysis done in different journals and articles.

5.2 Discussion on the responses

5.2.1 Analysis of the Respondent’s profile

I have selected the manager from the top 100 construction companies of UK for analyzing the reasons behind the project failures and the techniques, which will help in avoiding such failures. The major reason behind focusing on interviewing the managers from the construction industry is because around 90% of the construction projects in UK fail. According to Chen, Xu and Whinston (2010) construction industry is popular for chronic problems like low productivity, inferior working conditions, unrealistic projects, high costs, poor safety and late project delivery. Thus, these factors justify the reason of choice of the project managers from the construction industry. The researcher has also focused on approaching managers with experience of more than 2 years so that the views about the reasons behind project failures and
5.2.2 Analysis of definition of Project Management

In the branch of Project Management, for failure of any project the initial blame is given on the project manager. According to Chen, Xu and Whinston (2010) management deficiencies are the major points that are highlighted in case of project failure. Thus it is necessary to understand the meaning and definition of Project Management before proceeding with the assessment of the factors, which are responsible for project failures. As per the definitions presented by Project Management Body of Knowledge (PMBOK) 2013, Project Management is the process where the application of skills are done for using the proper techniques and manage the project effectively. Thus, management of project although depends on the proper planning of the project manager however the Project Management techniques are also equally responsible for the completion of the projects.

The responses obtained from the managers of during the interview shows that they have highlighted that planning is the most important feature that is necessary in order to make a project successful. However Aghaee, Kononenko and Lutsenko (2016) suggests that for managing a project apart from planning it is highly necessary to set correct and short term objectives for a project before initiating the project. Thus the definitions of the project as per the project managers are not a feasible definition. Thus from this discussion it can be analyzed that the knowledge of the project managers about the Project Management definitions should be enhanced so that the instances of casual approach taken to manage projects can be avoided.

5.2.3 Assessment of major areas of Project Management

I have focused on this particular question since the researcher wanted to identify the major factors, which the managers prioritize before starting the project. The project planning is
based on the factors that are of the most importance to the managers. The managers in their responses have pointed out that the major factors that should be prioritized before starting the projects are the factors like the cost, risk assessment and resource availability. According to Aghaee, Kononenko and Lutsenko (2016) these factors that are responsible for the project success are interrelated. Thus if one factor is not successful the other factors will also fail. The first manager has responses that quality, risk and resource management are the three important factors. In this regard it can be stated that if the quality of the project is not good and the manager will not be able to manage the risk and if the resource availability if not sufficient then the quality will be effected thus there is an interrelation between all the factors that are being selected by any project manager. Thus, Badewi (2016) stated that prioritizing on any three factors for management of project is not feasible. It will not be possible to focus on three factors and make a project successful. In the above scenario if the case of the first manager is taken, it can be seen that since the first manager is not concentrating on the cost thus if the cost is not managed then the risk for project delivery will be high. Thus, Barclay and Barclay (2015) stated that progressive planning is desirable in case of Project Management. Progressive planning allows the project manager to effectively start with the focus on the major factors and continuously moving the focus to other factors in due course of time.

5.2.4 Assessment of project classifications

The data obtained from the managers’ shows that three out of five managers have commented that a particular project can be classified under three major categories namely successful projects, challenged projects and impaired projects. The 1994 Standish CHAOS report, confirms the classification of the projects under the above-mentioned classifications. According to Caniêls and Bakens (2012) a project is categorized under successful project when
the project has three major factors namely timely completion, cost effective and high customer satisfaction. On the contrary if even after the completion of the project the project is not cost effective and does not serve the purpose of the customer, then the project will be categorized under challenged project. As per the Standish report around 51% of the projects fall under the challenged project categories. However Chen Xu and Whinston (2010) commented that even if the project does not meet the complete requirement specifications of the customer still the on-time delivery of the project serves the completion aim of the project. In case if a project is cancelled before the completion date then the project is categorized under impaired project. From the discussion with the managers it was relevant that majority of the construction projects were categories under Challenged projects.

However from this discussion it can be concluded that in case of impaired projects which accounts for about 10% of the total projects undertaken by any company it is not advisable to blame any project personnel and nor is it advisable to mark the project as a failed project. From the view of the 2 managers it is clear that although they have prior experience to project management still they are not aware of the classifications of project status. Thus in majority of the case the project managers may mistakenly nominate an impaired project as a failed project. Thus it can be concluded that this lack of knowledge is increasing the rate of failed projects (De Bakker, Boonstra and Wortmann 2010).

5.2.5 Assessment of factors responsible for project success

The response in this regard accounts for many factors that generally contribute to the project success. According to Chen, Xu and Whinston (2010) a project can be successful only when the project owner is satisfied with the project quality and when the project successfully
fulfills the purpose of the project owner. Thus the factors stated by the managers are meaningless. The major factors that should be stressed for making a project successful, includes the good connection between the project manager and the project owner. However apart from this factor, other factors are focused for the project success. According to Christofi (2015) project focus is a vital factor that contributes to the success of the project. The project focus should be on three major components namely time, budget and quality of the project. Further, Daniel Andrew and Naomi (2013) stated that the sense of urgency is an important factor that will help in making the project successful. If the sense of urgency is present in the project team and the project managers then the project will be delivered within or before the given timeline. On case of construction project like building of roads, bridges and railway tracks, the urgency helps the organization to finalize the project quickly, which helps the users to get access to the sites easily. Further it is highly necessary for the organizations to hire the correct managers and engineers for the completion of the projects. However the success rate of the projects is determined by the degree of project failure. Cresswell, (2013) stated that projects can be categorized into five major heads namely abandoned projects, budget challenged projects, and schedule challenged projects, good performers and star performers. Thus, if a project misses the deadline then it may be categorized into schedule challenged project and not a failed project. Thus a project can be called failed when it is not possible to categorize the projects under these following heads.

5.2.6 Assessment of factors responsible for project failures

According to Abouzahra (2011) all projects are unique in their own requirements, however the reasons behind their failure are always the same. The analysis of the Harvard project surveys shows that Cost overrun is the major cause behind the failure of different projects.
According to Barclay and Barclay (2015) some of the famous projects like Euro Disney, Boston’s Big Dig and the Channel Tunnel was completed at a cost double of its estimate which had resulted in placing these projects in the category of Challenged projects. As stated by the managers rightly, project planning and project cost estimation are the two most important factors which can determine the success or the failure of any project. According to Creswell (2013) in majority of the cases initial cost structure and schedule planning are not revised when more information becomes available as the project progresses. Further, Caniëls and Bakens (2012) added that even with the progress of the project the project team members are not guided in order to successfully execute the project. Thus lack of guidance is also a factor that contributes to the failure of the project. Implementation factor is also an essential factor that was not highlighted by the respondents. This is caused by changes done in the project scope at later stages, incorrect use of project methodology, major changes made in the requirements and prototype testing, and in case of poor project inspections. Although the managers have not highlighted the issue of human resource as a contributing factor the failure of project, however as per (Farrington, Ohlin and Wilson 2012) inefficient team members is a big loss for a project. In many case it can be seen that the project managers are not trained. Some of the managers are not able to apply and put the theory of project management into practice. Further poor communications between the project manager and the team members also contributes to the failure of the project. However apart from the responses that have been received from the project managers, there are other factors, which can be identified from the secondary sources that will contribute to the project failure. According to 2002 Standish Report, some of the major factors that affects project management includes, lack of sufficient user input, incomplete requirements from the project owner, continuous changes in the project requirements and project scope. Similarly, lack of executive
support, lack of proper technology, long-term objectives and long term goals, lack of quality resources, unrealistic timeline proposed by the project manager and use of new technology that was not used previously in construction of any project (Hesse-Biber and Leavy 2013).

5.2.7 Assessment of project failure effects on organizational operations

A study of PricewaterhouseCoopers where around 10600 construction projects from around 25 companies of UK were reviewed, it showed that only 2.5% of the UK companies were successful in completion of their projects, rest of the companies were either having challenged projects or the companies were having impaired projects. The Harvard report shows that majority of the organizations have faced cost overrun in case of project delivery. Thus, the major negative effect that the projects generally have on the organizations includes the financial loss that the organizations need to incur.

As per the response of the managers, the effect of financial loss has been highlighted majorly within the research project. Although the managers have not highlighted the loss of human resources in case of failed projects, however in majority of the cases apart from the financial loss, human lives loss are also a significant part of project failure. For instance, during the Colombia Shuttle disaster around seven construction workers were killed due lack of effective project management procedures (Heldman 2013).

As per the data obtained from the responses of the managers it is also significant that project failure also adversely affects the client base of any organization. Kaur and Sengupta (2013) stated that each project failure results in each missed business opportunity. Further in case of construction projects since the involvement of external stakeholders like the contractor, customers, media and government is high, thus the failure of the project results in loss of
reputation of the company as well as loss of trust of the company. Further Kononenko and Kharazii (2014) enumerated that project failure has direct effect on the project team and the project manager. The higher authority of any organization generally questions the planning ability of the project manager and working ability of the project groups. Thus as per the data of UK employment survey around 57% of the project managers tend to change their jobs within a duration of 1 year.

5.2.8 Assessment of major techniques that can be used in order to avoid project failures

The role of methodologies in delivering a successful project is frequently disregarded. According to Lewis, (2015) different types of project management techniques are available. Some of the famously used project management techniques include CPM, PRINCE2, PMBOK, waterfall, agile and others. In the responses obtained from the project managers it can be assessed that they are of the opinion that CPM, agile, waterfall, PERT and others can be used successfully in order to manage a project effectively. One of the managers has commented that use of Gantt chart will be successful for completion of the project. However Meredith and Mantel (2011) is of the opinion that Gantt chart is the easiest method, which will not be feasible for the completion of the project. However Mahadevan, Kettinger and Meservy (2015) opined that use of CPA is the most favorable option for making a project successful. CPA was developed in the year 1950 in order to control the large-scale defense projects and the high success of this method has helped the method to become popular. CPA will help the construction project managers to plan the tasks that are a part of the project. They act as the basis both for preparation of a schedule, and of resource planning. During management of a project, they allow project managers to monitor achievement of project goals. They help the managers to check the stage where the remedial measures can be taken by the project managers in order to solve the
incoming problems within the project (Merriam and Tisdell 2015). As stated by one of the managers Gantt chart will help in showing the project timeline within the project. However the benefit of using CPA within the planning process is to help the managers develop and test the plan to ensure that it is robust and it will lead to a successful project. The use of CPA will also help the managers to identify the project phases that should be completed on time. This process also identified the resources that are required for each phase and the resources that are missed by the project managers for the completion of the project phases. Further Mir and Pinnington (2014) stated that the benefit of the CPA process is to identify the minimum length of time needed to complete a project. Apart from this the use of PERT is also useful for making the project plans successful. PERT is a variation on Critical Path Analysis that takes a slightly more skeptical view of time estimates made for each project stage. Unlike CPA, PERT estimates the shortest possible time each activity will take, the most likely length of time, and the longest time that might be taken if the activity takes longer than expected. Thus, Pajares and Lopez-Paredes (2011) commented that a successful CPA will determine the difference between success and failure of a complex project and the project managers of vital importance for assessing the problems face it during the implementation of the project. PERT on the other hand is a variant of Critical Path Analysis that adopts more skeptical view of the time needed for completing each project stage.

In a different approach, another manager has focused on the selection of the waterfall and agile Project Management techniques. However Schwalbe (2015) stated that in case of adoption of waterfall technique the construction projects are not the favorable option. Waterfall process is majorly used for the IT projects. Some of the major faults of the waterfall project are as follows namely, poor visibility, poor quality, highly risky and unsuitable for change management of the
project phases. Thus in this regard it can be concluded that in case of construction projects changes are an integral part of the project and the project managers has to accommodate many strategies in between the project delivery. Thus it is advisable to avoid usage of waterfall in case of construction projects. However, Shaw and Sellers (2015) agile method can be used for the construction projects because in this case agile strategies are used for continuous development of the projects. If a manager adopts agile strategy then the manager will be able to improve the stages of the project since the testing of the project quality can be started from the very first day of the project. The project visibility is also high in case of agile strategy. The project risk is very low if the project manager is using agile strategy because the use of agile strategy will help the project manager to remove the defect at every stage (Rao, Krishna and Rao 2013). Moreover the agile strategy helps to develop the customer satisfaction level because the customers are not bothered to make any payment for additional improvements and changes since they are done in between the project course. Thus selection of agile technique is favorable for the development of any project.

5.3 Summary

The overall linkage within the discussion section of the primary evidences with the secondary data shows the relevancy and the accuracy of the obtained data. Thus it can be confirmed that from the analysis of the data the managers are facing huge difficulties in making a project successful.
Chapter 6: Conclusion and Recommendations

6.1 Conclusion

Construction industry is the major contributor of GDP for the UK economy. Thus, construction industry is the center of other business operations. Every other business operations would need shelter in order to run their business, thus projects within the construction industry are of the utmost importance. However in the present situation it can be seen that the industry is facing different constraints in terms of project delivery and quality project management. The researcher in the project has successfully identified the different factors that are highly responsible for the failure of the construction projects. With the help of the responses obtained from the managers the researcher has been able to highlight that ineffective planning, high cost and untimely delivery are the major factors for the failure of the project. Thus as per the manager’s response it can be stated that the managers feel that if these three factors can be altered and controlled then the rate of project failure could be reduced. However from the secondary sources the researcher is able to ascertain that apart from controlling these factors it is highly essential for the project managers to learn from the past mistakes so that the same mistakes should not be repeated in future projects. In this case it can also be concluded that in construction industry the nature of majority of the projects are similar thus it is advisable for the project managers to learn from the past failures and avoid the project techniques and the planning process which have been used in the past projects.

From the overall research that has been conducted it can be concluded that determining these factors or identifying the project management techniques have not decreased the rate of project failure. Rather it is advisable to update the relation between the employees and the
stakeholders so that parity within the project quality can be maintained. Thus the study shows that in future behavior–based project management is required rather than identifying different project management techniques.

6.2 Linking with objectives

In this research I have tried to link the objectives which were mentioned in chapter 1 with the questionnaire thus made and the survey thus done. Linking with the objectives will help the readers to understand the purpose of the report and also help to evaluate the overall success of the research report.

Objective 1: To provide appropriate assessment of the Project Management

While determining this objective the motive of the researcher was to study the scope, concept and definition of project management and to understand the meaning of the term project management from the viewpoint of the project managers. The researcher here has linked this objective with the qualitative questions number 2, 3 and 4. In question 1 the researcher asked the managers about the definition of the project management. This was necessary because the researcher wanted to evaluate the knowledge and the understanding of the project managers so that the contribution of the managers in managing the projects can be ascertained. The second questions asked to the managers were about the major areas that are essential for management of the project. By asking this question the researcher has tried to gain insight knowledge into the major factors, which according to the project managers are essential for the management of project. Since the rate of construction project failures is high thus it is highly important for the researcher to initially understand the point of view of the project managers and identify the defects in their management procedure. The project manager has framed the fourth question
where the manager has asked about the different classifications of the project. The classifications of the project have helped the researcher to understand the status of the projects. In this case the analysis shows that in many case the project has fulfilled all requirements and is delivered on time, however due to poor client reviews the project status is changed from completed to challenge. Thus, in such case when the company blames the project manager and the team for the failure, it is completely unethical on the part of the organizations.

Objective 2: To identify the success criteria while conducting a project

The research with respect to this objective has projected question number 5. In this qualitative question the researcher has directly asked the manager the factors that they feel are important for the success of the project. The direct question has helped the researcher to fulfill the objective of identifying the success factors for conducting of a particular construction project. The question has brought forward the different factors that the five managers think are important for the success of the projects. Thus, it can be concluded that if the project managers set realistic and planned goals, if high quality resources can be used and if the project manager is able to create unique, easy and cost friendly design for the project then the success rate of the project is increased three fold. However one of the managers has also pointed that leadership strategy of the project manager is also an important contributor to the success of a particular project. The researcher from the analysis of the previous successful construction projects are able to ascertain the fact that leadership plays a vital role in making the projects successful since it the duty of the project leader to make changes during the project delivery period and also communicate and guide the team members.

Objective 3: To identify the reasons or the factors behind project failure
This is the most important objective of the research project. As per the selected issue, the researchers aim in this objective was to obtain opinions of the project managers about the major reasons behind the failure of the projects. Since the research problem is focused on avoiding the project failures. Thus the researcher has framed 2 questions, which can be linked to this particular objective. The researcher has linked question number 6 and 7 with this particular objective. The question asking the managers about the different factors responsible for the failure of the projects has helped the researcher to conclude that the major factors include poor designs, lack of resources and lack of effective project management techniques. Thus, the researcher is able to ascertain the factors that can be avoided in future in order to help the project managers to deliver high quality projects.

Objective 4: To find out essential techniques and tools in order to avoid project failure

In this objective the research has focused on identifying the techniques that are necessary for the avoidance of the project failures. The main motive behind the selection of this objective is to ascertain the major project management techniques that will help in avoidance of the project failure.

6.3 Recommendation

The research with the help of the different qualitative responses and secondary research on different articles and journals of project management has been able to conclude the above parts. However based on the above conclusions the following recommendations can be framed for the research project. Although there is no permanent solution to the problem of project failure, however the below listed recommendations will help the organizations to reduce the rate of project failures to a great extent.
Project Management in construction companies should be developed at the senior level by initializing the project goals which should be short and realistic. Further the owner and the contractor of the project should also be involved in the vital decision making process. Since the quality of the project depends on the resources supplied by the contractors and the satisfaction level of the project owner, thus the project manager should consult about the design, use of materials, cost and time with the owner and contractor to ensure their satisfaction level is maintained.

Although the managers have pointed different factors which should be mitigated to reduce the project failure rates, however overall discussion shows that all project managers irrespective of their experience level should learn from the past mistakes committed by them within the project delivery. Thus all project managers should be failure literate which means the project managers instead of changing the factors and blaming the facts on the external factors, should rather focus on avoiding the mistakes that were committed previously.

Further it may be recommended that aligned supply chain process is highly essential for management of projects and quality project delivery. The secondary sources suggest that use of knowledgeable and well equipped suppliers will help an organization to secure good quality resources at reasonable price and within the given deadline. In case of knowledgeable and trusted suppliers or contractors, the organizations will have the flexibility of getting resources as per their requirements. This will also help to reduce the cost of the project and on time delivery of the project will also be possible.

Although it was concluded that the tools are not the only factors that are responsible for making the projects successful, however the selection of the correct tool is essential for the
success of the project. Thus selections of the correct project management tool like CPM and PERT is highly advisable for the success of the project management. Moreover it can be noted that in UK construction industry the standard contract that are used for the project constructions are very simple and thus the complexities of the construction project are not incorporate within the contracts. Thus the structure of the construction contracts should also be revised.

6.4 Future scope of research

Every research project has a lot of future research scope. The researcher in this project has focused on identifying the techniques that will help in avoiding project failure with the help of qualitative research. However the topic of project management is wide. For future purposes the researchers will be able to focus on one particular project management technique and identify its potentiality in making a particular project successful. The future research work can also be focused on any particular failed construction project and using the case study as the example the different factors and procedures for the failure can be evaluated. This will help the future researchers to focus on more accurate parts of project management and project failures.
7. Reflection

Dissertations have become a highly important part of the higher education system and masters education degree that gives us the opportunity to work independently on a particular topic of our interest for a long duration and produce an effective and analytic piece. Since dissertation contains a detailed exploration of the selected topic thus it is highly necessary for students to select the most suitable topic for completion of the dissertation. I faced problems at the initial stage when I had to select the suitable topic for my dissertation. After research I finalized on the topic of project management since I understood the increasing rate of problems that the project managers are facing currently while completion of the project.

Effective Project Management skills are an integral necessity of every organization. While completing this particular academic dissertation, I realized the importance of possessing Project Management skills. The extensive research that I had to conduct for preparing the dissertation project helped me understand that if appropriate Project Management techniques like waterfall CPM, CCPM, Agile, PMI and other techniques can be used than an organization can successfully avoid project failures. Before completion of the dissertation I was not aware of these Project Management techniques. I was also not aware of the difficulties that an organization generally face if a particular project is not planned properly. Further the dissertation preparation gave the opportunity to also understand the value of extensive research. Academic dissertations are generally based on extensive research of secondary articles. Unlike assignments, for preparation of dissertation an individual is required to conduct extensive research about the topic. During the course of the dissertation I conducted thorough research of different articles and journals based on project management techniques and their contribution towards prevention of project failure. In this manner I also learnt the research process and became knowledgeable about
the exclusion-inclusion criteria, which I used for selection of different relevant journal articles. Furthermore the research project taught me that in future if I pursue my career as a project manager then I should concentrate on three major factors that would result in success of the project namely time of project completion, budget of the project and quality of the project as per the customer’s expectations. Academic dissertations generally requires huge amount of time. But since I had to adhere to the university deadline thus I decided to conduct this dissertation based on the responses from project managers of different companies whom I knew previously. This research helped me understand the value of primary research. It became easy for me to evaluate the research problem from the direct responses of the project managers. However initially I was afraid of the interview process since it was a completely new venture for me. I approached many project managers with whom I had acquaintance, however majority of the respondents refused to participate in the project. Finally I was able to convince some of the respondents and with the help of semi-structured and open-ended questions I was able to conduct the qualitative analysis of the primary responses. Research ethics and its maintenance is a completely new learning, which I gained while completion of the project. Previously I used to think that collection of data from the respondents is an easy task. However the practical experience taught me the difficulties and the complexities of the process. The Data protection act 1998 was a major learning that was acquired by me during the dissertation. I read about the act and I understood that I have no authority to force any individual to participate in the research. Further I also became knowledgeable of the fact that the identity of the respondents should not be disclosed without prior permission taken from the respondents. These were some of the new facts that were completely unknown to me before I started my dissertation project.
The evaluative research of the different secondary articles, journals and news websites has helped me realize the huge losses that the organizations face each year due to project failures. However the research made me realize that the best way to learn effective project management is to learn from the failures of the past projects. Even after discussing and taking the perspective of different project managers I could confirm that retrospection is the best method of evaluating a new project. In my future career situations I would analyze the mistakes of the past project failures and learn from the mistakes and the recommendations and avoid the same in my project executions. Apart from the learning on the project management techniques, I also gained extensive learning from the research methodology section.

Dissertation is a piece of work that is completely prepared by the students and since it requires detailed analysis of the topic thus dissertation completion makes a student strong with respect to the student’s academic background. My dissertation was of 20000 words, which helped me in understanding the value of time management. It was helped me to become organized. Dissertation completion helped me to develop my inter-personal skills like my writing skills, project making skills, interview skills, convincing skills, report writing and presentation skills, and data collection and data analysis tools using skills. The other significant part of dissertation is that it has helped me become independent. Apart from the inter-personal skills preparation of the dissertation has also helped me to develop my critical thinking skills, qualitative skills, IT skills, planning skills and also judgment skills. These are some of the most important skills that are demanded by majority of the organizations presently while employing an individual. Especially the judgment skills which I have developed during judging the responses of the project managers will help me in succeeding in my future career. Majority of the organizations generally look for two important attributes within an individual namely the critical
thinking skill and the correct judgment skills. This particular dissertation has given me the opportunity of developing both. Dissertation has also helped me to gain access to different project managers, which will help me in future to use the social contacts in my career growth. The interactions with the highly experienced managers will help me in future and these managers can also act as mentors for me in my future projects. When I selected the dissertation topic I was very careful about the degree of complexity that would be involved in the project since the completion of this project will add stars to my curriculum vitae and will help me get a good job in future. Thus selection of the topic of project management techniques and how to avoid project management failure will help me to showcase that I have solved a difficult project independently.

Dissertation not only gives a learning experience but it also provides personal development of an individual. A well-researched piece of qualitative research shows the dedication, commitment and analytical power of an individual student. During the dissertation there have been many instances where I have faced difficulties and rejections from the respondents. When I was conducting primary interviews with the respondents I had to face rejections from many managers. Further when I was searching for the secondary data in the useful project management techniques I had to face difficulties in selection of the correct article. However during these failures I developed the self motivation skill which helped me to motivate myself and proceed with the dissertation and finally complete the same.

Thus the overall experience that I gained during the dissertation completion has already helped me develop my interpersonal and employability skills as an individual student but I am sure that the newly acquired skills will also help me in my future career prospects.
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Appendices

Appendix 1: Qualitative Questions

Q1. Respondent’s profile

Q 2. What according to you is the definition of project management?

Q 3. What are the major areas of managing a project?

Q 4. What are the different classifications of any project?

Q 5. What according to you are the major factors responsible for success of any project?

Q 6. What are the major issues according to you that lead to the project failures?

Q 7. What are the effects of project failure on the organizational operations?

Q 8. What are the major techniques that can be used in order to avoid project failures?