

**A DISCUSSION ON THE WAYS OF DEALING WITH  
RISKS EMBEDDED IN PROJECT**

مناقشة طرق التعامل مع المخاطر المتكبدة في المشروع

by

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**A dissertation submitted in fulfilment  
of the requirements for the degree of  
MSc PROJECT MANAGEMENT**

at

**The British University in Dubai**

**June 2018**

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## **ABSTRACT**

The current research dissertation is on the topic – A discussion on the ways of dealing with risks embedded in project. It aims to analyse the strategies for reducing risks in the embedded project. The research mainly concentrates on concept and technique of risk management strategy to reduce the risks related with the project. In this entire process of research, the researcher evaluates the company's current condition, the issues it is facing and the loopholes present in its risk reducing strategy. For this purpose, the researcher also delves deep into the existing literature upon the current and related topics, so that the researcher gains a clear insight of the study area. As the company is facing problem due to the project risks, this research also supplies the company with some useful recommendations to mitigate issues.

To carry out a disciplined research work, the researcher applies positive research paradigm, deductive approach of research and explanatory design of investigation. The researcher carries out primary research for this topic and through the primary investigation, yields a combination of quantitative as well as qualitative data. For collecting data, 3 operational managers and 2 Risk Management Officers were interviewed and asked about their point of view in having risk management team within the company and what kind of progression does it make in development of the companies.

The researcher found that risks in project management may create big issues for both the company and its customers in future. The learner has recommended development of risk quotient designs so that risks can be measured and mitigated.

## Abstract in Arabic

اطروحه البحث الحالية حول هذا الموضوع-مناقشه حول طرق التعامل مع المخاطر الكامنة في المشروع. وهو يهدف إلى تحليل استراتيجيات الحد من المخاطر في المشروع المضمن. ويركز البحث أساسا علي مفهوم وأسلوب استراتيجية إداره المخاطر للحد من المخاطر المرتبطة بالمشروع. وفي هذه العملية البحثية برمتها ، يقوم الباحث بتقييم الحالة الراهنة للشركة ، والقضايا التي تواجهها ، والثغرات الموجودة في استراتيجيتها للحد من المخاطر. ولهذا الغرض ، تتعمق الباحثة أيضا في الأدبيات الموجودة على المواضيع الحالية والموضوعات ذات الصلة ، بحيث يكتسب الباحث رؤية واضحة لمجال الدراسة. كما تواجه الشركة مشكله بسبب مخاطر المشروع ، وهذا البحث أيضا يزويد الشركة ببعض التوصيات المفيدة للتخفيف من المشكلات.

وللقيام بعمل بحثي منضبط ، يطبق الباحث نموذجا بحثيا إيجابيا ، ونهجا استنتاجيا للبحوث ، وتصميما إيضاحيا للتحقيقات. ويقوم الباحث بإجراء البحوث الأولية لهذا الموضوع ومن خلال التحقيقات الأولية ، ويعطي مزيجا من البيانات الكمية وكذلك النوعية. ولجمع البيانات ، أجريت مقابلات مع 3 مديرين تنفيذيين وموظفين اثنين لإداره المخاطر واسالو عن وجهه نظرهم في وجود فريق لإداره المخاطر داخل الشركة وما هو نوع التقدم الذي يحرزه في تطوير الشركات.

وقد وجد الباحث ان المخاطر في إداره المشاريع قد تخلق قضايا كبيره لكل من الشركة وعملاءها في المستقبل. وقد اوصي المتعلم بتطوير تصاميم حاصل المخاطر بحيث يمكن قياس المخاطر والتخفيف من حدتها.

## **ACKNOWLEDGEMENT**

It gives me immense pleasure in completing my research dissertation, titled as “A discussion on the ways of dealing with risks embedded in project”. This topic has helped me gain ample knowledge on the concepts and importance of risk management in project.

I want to acknowledge the assistance of all the people who had helped me complete this research successfully. I would wish to show my gratitude towards my supervisor who had helped me extensively in this study and without whose support; I would not have been able to finish this research. I would also like thank all the participants of the survey and the managers of various companies, who had sportingly participated and cooperated with me in my investigation. Without their support and response, this study would not have been possible. Lastly, I would also my thankfulness to my friends and classmates who have assisted me during my research.

Thanking you all,

## Table of Contents

Chapter 1: INTRODUCTION .....	1
1.1 Introduction .....	1
1.2 Problem statement .....	1
1.3 Research background.....	2
1.4. Research rationale .....	3
1.5. Research aim .....	4
1.6. Research objectives .....	4
1.7. Research question.....	4
1.8. Significance of research .....	4
1.9. Structures for dissertation .....	5
1.10. Summary .....	6
Chapter 2: LITERATURE REVIEW .....	7
2.0 Introduction .....	7
2.1 Concept of Risk Management.....	7
2.2 History of Risk management.....	8
2.3 Theories and model of project risk management.....	9
2.5 Risk management methodologies .....	12
2.5.1 PRINCE2 METHODOLOGY .....	12
2.5.2 M_o_R method .....	15
2.6 Decision theory .....	17
2.7 Discuss the PMI Risk Management Framework.....	17
2.7.1 Overview .....	17
2.7.2 PMBOK® Guide.....	18
2.6.3 Project Risk Management standards .....	19
2.6.4 Risk Management Procedures .....	21
2.6.5 Risk Breakdown Structure.....	22
2.7 Contemporary industry standards employed in project risk management .....	23
2.8 Gap analysis .....	25
2.9 Summary .....	25
Chapter 3: METHODOLOGY .....	27
3.1 Introduction .....	27
3.2 Research Onion.....	28
3.3 Research Philosophy (Positivism) .....	29
3.4 Research Design (Explanatory) .....	30
3.5 Research Approach (Deductive) .....	32
3.6 Data Collection Methods .....	33
3.6.1 Data Sources (Primary and Secondary).....	33
3.6.2 Data Analysis Techniques (qualitative) .....	34
3.7 Population and Sample .....	35
3.7.1 Sampling Techniques .....	35

3.7.2 Sample Size .....	36
3.8 Ethical Considerations.....	37
3.9 Research Limitations .....	37
3.10 Research Timeline .....	38
3.11 Summary .....	39
Chapter 4: DATA ANALYSIS AND FINDINGS .....	40
4.1 Introduction .....	40
4.2 Primary Qualitative Data Analysis.....	40
4.3 Secondary Thematic Analysis against the Literature Review .....	47
4.4 Summary .....	51
Chapter 5: CONCLUSION AND RECOMMENDATIONS.....	53
5.0 Conclusion.....	53
5.1 Linking with objectives.....	54
5.1.1 Linking with first objectives .....	54
5.1.2 Linking with second objectives .....	55
5.1.3 Linking with third objectives .....	55
5.1.4 Linking with fourth objectives.....	55
5.2 Recommendations .....	56
5.2.1 Recommendation 1.....	56
5.2.2 Recommendation 2.....	57
5.2.3 Recommendation 3.....	58
5.3 Limitations of the research .....	58
5.4 Future scope of the research .....	59
Reference list .....	60



## **List of Figures**

Figure 2.1: Categories of risk.....	8
Figure 2.2: Cycle of risk management process .....	20
Figure 2.3: PRINCE2.....	14
Figure 2.4: M_o_R method.....	17
Figure 2.5: PMBOK® Guide .....	19
Figure 2.6: Structure of risk breakdown .....	23
Figure 3.1: Research onion .....	28
Figure 3.2: Research Philosophy .....	30
Figure 3.3: Research Design .....	31
Figure 3.4: Research Approach.....	33
Figure 3.5: Data Sources.....	34
Figure 3.6: Data Analysis technique .....	35
Figure 3.7: Data sampling technique .....	36

## **List of Tables**

Table 5.1 Recommendation 1 .....	56
Table 5.2 Recommendation 2 .....	57
Table 5.3 Recommendation 3 .....	58

## **Chapter 1: INTRODUCTION**

### **1.1 Introduction**

Before starting any project, it is important to understand that projects are always prone to risks. The key risks of any projects in the organisation needs to be managed effectively by having risk mitigation strategies in advance. A risk is that level of uncertainty that a business company must understand and fixes issues that arise within an organisation that resist it from achieving its goal and objectives. In the opinion of Hopkin (2017), risk management is a discipline that arose as an integral part of any project. Honesty is one of the most important parts of managing risk in an organisation.

The project risk management is adopted in an organisation in order to identify and manage risk and understand the factors that are responsible for creating risk. The first point that an organisation needs to understand is to prioritise risks that are more likely to arise. After a risk determined, the next step is to decide and plan about the various ways that help is managing risks for the organization. As suggested by Parihar *et al.* (2015), the usual options that could help in minimising risk are by accepting it, avoiding, transferring and reducing the risk of a business organisation. All organisations, either governmental or non-governmental, are planning to gain a huge amount of profit but sometimes risk does not make it possible.

### **1.2 Problem statement**

In the contemporary world, risk is a common issue for all types of organisations. Cost saving and performance of time are essential for all kind of organisations such as contractors, owners and so on. The main reason that risks are adopted by an organisation is profit. For a large organisation, project risk management is easier due to the available resources cushion that helps in not only managing the risk but also let the organization came out of the consequences of the risk in case they got occurred. In case of small businesses, the resources of the organisation are limited and therefore they could not take big risks to compete with bigger organizations. The factors that affect the cost overrun of the organisations are categories into four major parts. These depend upon the site conditions, resources, project parties and the features that are related to the projects. Schedule analysis is the process that identifies contingency factors and determines the impact of those factors (Parihar *et al.* 2015).

### **1.3 Research background**

Most of the companies plan to run smoothly with forecasts and projection and make the business organisation firm and strong, but it is not possible to run the business without any risk. A risk is one of the factors that arise from uncertainty in an organisation. As commented by Acebes *et al.* (2014), the process of managing risk by a company will make it more confident for the future risks. An organisation faces risk based on internal and external factors. The internal sources of risk involve the conflict on information provided a non-agreement is also a factor for the internal source of risk in an organisation. The external source of risk in a company is the indirect form of controlling a management. Political issues, inflation, a rate of interest, the rate of exchange are the few factors that are also responsible for rising risk in the business management.

At recent times, many companies have started the department of risk management in order to identify risk easily and manage them as fast as possible. A newly developed organisation faces fewer problems as compared to an organisation that is large in size. The main aim of this department is to recognise the risk that is more critical and can hinder the business. According to Hong *et al.* (2015), risk management has goal in making sure that the company only adopts risks that will help in achieving objectives of the organisations. The department of risk management makes an action plan that leads to the success of the project and also finds various ways to remove and reduces risks. The job of a risk manager is critical and is mainly responsible for playing the crucial function of an organisation. A company must always plan for risk management because it is an important part of project management. As commented by Pritchard & PMP (2014), risk can be referred as a good sign for an organisation as it helps in improving the low power parts of the organisation.

Risk management of a project is a concept based on the researches done extensively on the topic. This is an innovative idea of managing risks and planning and controlling uncertainty. Risk management is considered to be one of the ten areas of knowledge that a project manager competent. The process of managing risk depends upon five factors. Firstly, it is the identification of the risk in the organisation. Secondly, it is the analysing the risk that arises in the project management. Thirdly, it is the evaluation or the rank of the organisation in which risk arises due to the management of the project. Fourthly, the project risk management treats the risk of the organisation that helps in elaborating the details of the risk in an organisation. Finally, it is reviewing and monitoring the risk and trying to reduce the risk management. The overall process

of reducing risk in an organisation is by developing the high level of mitigation and increasing staffing.

#### **1.4. Research rationale**

This paper is based on the project risk factors that affect an organisation. Project risk is an opportunity because the situation may affect the project in both the positive and negative way depending upon the ways we handle it. The risk is an integral part of a project because it can hamper the functions of an organisation and effectively identifies the evidence or proof that shows sufficient utilisation of risk management. The risk management identifies the various factors that have an impact on an organisation. There are various strategies that are responsible for overcoming several risk factors. Recently, every organisation is facing risks in managing and running organisational projects (Espinoza, 2014).

The risk is an opportunity and a problem at the same time because it is based on the probability and the impacts of the risk management that are able to be delivered. As a risk is an uncertain condition that arises for the weak part of the organisation, it throws either a positive or a negative impact on the objective and achievement of the organisation. Project teams are responsible to manage and look after the issue and thus are able to identify the risk and avoid them or help in reducing its impact. A proper form of risk management controls possible future events and are proactive.

At recent times, organisations implement projects to run a business, thus risk in a business is a common issue. In order to maintain risks in an organisation, risk management departments are responsible. The specialists in this department use specific training and skills and have experience of identifying risks and lower cash flow of the organisation. This kind of management in the organisations helps in developing an organisation and managing the overall cash run in the organisation. The structural risk, component risk and overall management risks are managed through the department and thus aims at reducing future project failures (Haimes, 2015).

This concept of risk management shed light on the organization by making a relationship with the corporate government in order to contribute identification, testing and measurement. It is one of the important tasks to understand the exposure of risk in an organisation and the time a risk takes place. In the opinion of McNeil *et al.* (2015), the flowchart can help in identifying risk management process and finds possible ways in recovering the arise risk. Members within an organisation have

every possible chance of being aware of the risks that are to be raised and questionnaire may identify the risk of a specific event and thus encourage people to give opinions in risks in an organisation.

### **1.5. Research aim**

The aim of this dissertation is to identify and demonstrate the factors of risk that rises at the time of building a project. Risk management is responsible for providing the strategies that help in managing and/or reducing the impact of risks associated with projects.

### **1.6. Research objectives**

- To identify an appropriate proof that shows the sufficient utilisation of risk management.
- To evaluate a judgement on the cost issue that overruns and for delaying schedules of an organisation.
- To identify the factors that is responsible for the impact of risk.
- To suggest and recommend suitable strategies that is taken to overcoming several risk factors in an organisation.

### **1.7. Research question**

1. What are the suitable shreds of evidence that shows sufficient utilization of risk management?
2. What are the actual issues of cost overruns and the reason for delay schedule?
3. What are the factors of various risks that affect an organisation?
4. How to recommend strategies that are adopted while recovering the factors of risk in an organisation?

### **1.8. Significance of research**

The research is based on the discussion of dealing with risks that can be embedded in projects in different ways. Strength, weaknesses, threats and opportunities of a project are identified by the strategy of an effective risk management. In order to make sure about the project success, it is necessary to define the potential risks for a project. As commented by Espinoza (2014), plans in risks management contribute project success by identifying the internal and external risks. The high rate of risk events causes an increase in budget, cost, schedule and damage performances

regarding problems. A risk is important as per the project managers; this is because achieving goals of an organisation depends mainly on planning, construction and outcomes in order to achieve a strategic goal. In the opinion of Haimen (2015), communication is important in every departmental organisation, thus for running a business smoothly, project managers need to communicate to the stakeholders, sponsors and the other team members about the project plan. This process of communication ensures that the project runs smoothly and put forward steps without any disruptions. As risks are identified earlier, employees in a business organization respond effectively to challenges that arise.

Project risks can be mitigated by evaluating best practices on the projects, identifying the problems and utilize opportunities on the strength that the company or organisation has. According to Marcelino-Sádaba *et al.* (2014), delivering and providing more and more training programs to the employees gives more and more confident and help in reducing faults that the employees could make in a project and thus it directly links to the organisational objectives. In the opinion of Hartono *et al.* (2014), risk management strategies allow the company to maximise profit and minimise expenses on the overall activities in order to produce return and expenses.

### **1.9. Structures for dissertation**

In the first chapter of the paper, it introduces the project. The research background, research rationale, aim of the research, objectives of the research and the question that arises in the organisation are discussed.

In the second chapter, a literature review is described that relates the causes of the project risk, qualitative assignment and quantitative assignment are introduced with the conceptual framework. The main interpretations and findings are also discussed in this chapter.

In the third chapter, the entire methodology of the project is described that is based on the research outline, philosophy, design and methods. Limitations and the ethical consideration are also explained.

In the fourth chapter, the discussion finds results based on data analysis and interpretations.

In the fifth chapter, the entire dissertation is concluded linking it with the objectives. Recommendations and limitations are discussed in the last chapter and future scope is written.

### **1.10. Summary**

This dissertation is premised on the project risk management. It demonstrates the risk factors that arise in the organisations. To summarise it critically evaluate the cost of the organisations that overruns. Risk management is a process of identifying and reducing the risk that arises in an organisation and the various factors are discussed that affects the goals and objectives of the organisation. It is hard to find an organisation that is free of risk because every small organisation has to face risk and larger the organisation larger is the risk. The project is based on the ideas that could help in dealing the project risk effectively and run an organisation efficiently.

## **Chapter 2: LITERATURE REVIEW**

### **2.0 Introduction**

The dissertation is based on the detailed discussion of the various ways of dealing with project risks that arises within an organisation. In order to start a business, it is important to understand the requirement of the project and the responsibility of the organisation towards the employees. Risk is a level of uncertainty that a business company faces and fixes issues that are raised for the project failures. Governmental as well as non-governmental organisations plans for high profit without disruption, but project risk does not make it available.

### **2.1 Concept of Risk Management**

Risk management is the process of identifying all relevant risks that can be raised in an organisation. It is the process in which risks are assessed and ranked accordingly to the management. Managing risk helps in promoting a good management. Sometimes, this type of management is legal requirements and depends upon the industry or sectors that it depends upon. One of the causes of arising risk is limited resources that are available, which allows a focused response to risk management. Risk may sometimes delay programs or achievement of an organisation. As risk is not a specific item, it is estimated to be likelihood. Some level of risk is also considered as improvement or progress of an organisational objective (Moran, 2014).

**Categories of risk:** There are various processes in which risks are categorised. Among all type of risks, the last category depends upon the circumstances of the organisation. An organisational goal is to cluster risk into meaningful and standard grouping. The categories are as follows:

**Financial:** The financial risk prospect of an organisation helps in reducing funding in the overall organizational monetary management. Failure in asset safeguards is one of the risks that arise as a financial category. Few more financial risks are frauds or thefts, lack of value for money, bad cash flow management, and poor budgeting and so on.

**Operational:** the operational risk in an organisation leads to inappropriate policies, systems and activities. Operational risk management leads to low quality of services that are delivered, healthy and safety risks, skill levels for staffs, failure in IT system, no contractual commitments and many more risks (Freund & Jones, 2014).



**Reputational:** Reputational risk has a high level risk of losing an organisational good name. Staffs and members of the organisation performing criminal and unethical activities are the main cause reputational risk. This mainly rises because of poor relationship between stakeholders.

**Governmental:** Some of the governmental and agree mental risk are lack of oversights by the governmental board, taxation laws, health and safety law, data protection laws and so on. It is very essential to ensure the compliance with the terms and condition of the funders. Separation of duties which are not defined formally is another reason of risk.

**Strategic:** Organisational strategy engages in various activities at variances for stated objectives. Failing in activity engagement supports the objective of an organisation thus creating strategic risk management.

In order to reduce risk, organisations need to acquire staffs and members of all levels (Moran, 2014).



**Figure 2.1: Categories of risk**

(Source: Created by author)

## **2.2 History of Risk management**

Risk management was introduced after the World War II. Risk management was associated with the use of market insurance for protecting individuals and organisations from various losses that are created from accidents. In the opinion of Paustenbach (2015), Alternative of risk management is market insurance that was started from 1950s and was incomplete and very costly. Uncertainty and probability are always seen arising in organisations and are one of the cause of the risk management. Some of the historical beliefs of risk management arose for gaming.

Corporate risk management has made a career that is known as risk managers. As Peter L. Bernstein published 'The Remarkable story of risk', it contended that people understands and predicts to manage risks and also recognises the future goal of the risk that are aroused in the organisational achievement. From the concept of Bernstein, the quantitative risk theory is now introduced that includes uncertainty and probability.

Rational model of decision making remained permanent till the 20th century. This model questioned the ability of an approach that ha light irrationality. Concerned with the degree from which reality differs are decision making model, psychologists and so on. The use of risk management instrument was established in the year 1970 and was expanded by 1980 rapidly by intensified the company's financial risk management (Moran, 2014). The study of risk was first started when people realised that the sacred belief challenged openly from the constraints of past. Daniel Bernoulli explained for the first time about the systematic process in which most of the people make choices and directly links to conclusion. The idea that Daniel introduced was that satisfaction comes from increase in richness and is inversely proportional to the amount of goods that are possessed before.

## **2.3 Theories and model of project risk management**

### **Concept of risk management**

Risk management are mainly concerned with decision making that manages uncertainties, consequences, and theories and also on the decision of the employees present in the organisation. It is a process that tries to manage uncertainty and influences the objectives of the organisational achievement. An organisation plans to reach a goal with the creative value of the organisation. In order to fulfil the goal of a company, risk management is thoroughly required.

### **Process of managing risk:**

The entire risk management process is represented by a cycle containing six portions. These are setting objectives, identifying risks, accessing impacts of risk, prioritising risks, responding to risk and lastly monitoring risks. All the six parts of the risk management cycle have different approaches while managing risks.

The general risk management process follows the layout diagram:

- Firstly, it is setting objective or goals that are necessarily to be achieved. Through this step, it derives the objective of the risk that is to be exposed. In the opinion of Moran (2014), an

organisational objective includes reviews of the customers, internal procedure of the organisation, factors of critical success, finance and also balanced approach of scorecard.

- Identifying risk and dealing with the type of its objects are exposed to risk and make it possible to identify threats of the objectives of organisations. The ultimate outcome of the identified factors refers to register risk by forming a list that contains internal and external factors of risk within the organisation. According to Freund & Jones (2014), identification of risk is a process of managing risk process.
- The third step is assessing impacts of risks and assessment of likelihood of the identified events. This process is done both by qualitative and quantitative process. Impact of assessment is mostly done by relative quantities and is mostly based on financial approaches. As suggested by Pheng (2018), it is usual to view upon the impacts of reputational injuries and damages caused by the organisation.
- Prioritisations of risk are compared by the risk of individuals. This are done by several ways like frequent use of prioritisation are methods of expected values. The impact and probability of the product's risk are ranked accordingly, placing it into the risk matrices and offering a visual aid to the compared risk. According to Rodrigues-da-Silva *et al.* (2014), a risk matrix is divided in categories that are ranging from low to high.
- The fifth step of the cycle is responding to the risk after it has gone through prioritising step. This is done by providing appropriate response to deal with risk. As suggested by Peixoto *et al.* (2014), the possible risk response includes tolerance, treat, transfer and termination.
- The final step of the risk management process cycle is monitoring risks in the organisations. After appropriate response of risk, it is observed and made sure that it does not become threat. In order to keep risk severity, reassessments are done based on daily basis to yearly basis. According to Knowles *et al.* (2015), risk management process serves as monitoring moment and goes on continuously with the first step.

## 2.4 ISO Standards

International organisation of standardization (ISO) is a worldwide federation for national standard bodies. This provides required documents, guidelines and specifications and characteristics that

consistently makes sure that the materials, products and services are perfect for the purpose of the industries that make use of it. According to Prince *et al.* (2014), for a sustainable growth of an organisation, ISO standards are promoted. It brings clear point of view when an organisation talks about sustainable and maintained organization. In an organisation, both the consumers and manufacturers recognise the impacts of choices and actions. ISO enabled the cost of the products which were hidden before making businesses more responsible and active. It also enabled standard business plan for future growth and meeting expectations of consumers. The main activity of a committee is to prepare for international standards.

### **ISO standards on project management:**

ISO standard in project management increases efficiency in the company maximises investments effects. All organisations face internal and external factors making it uncertain about the organisational objectives. An uncertain effect known as risk, affects the organisational objectives. In the opinion of McNeil *et al.* (2014), risk management are applied to the entire organisation, including projects, activities and functions.

#### **2.3.1 Comparing ISO 31000 with PMI Risk Management Processes**

Despite these two frameworks are dedicated to project risk management, yet they have conceptual distinction between them. As pointed out by Sahai *et al.* (2014), ISO Standards are designed to address risks in general, while the PMI is formulated to specifically address project management risks. However, these two frameworks have several common areas. For example, both these two frameworks help to identify projects risks and help an organization to plan identified risks and plan for those responses. Nevertheless, ISO 31000 standards is designed to analyse and evaluate risks while PMI helps to analyse the risks both qualitatively and quantitatively.

ISO 31000:2009 is an international standardise organisation that supply principle and guidelines on the risk management. This principle is used for public and private sector enterprises, organisation, groups or any individual. This is not a specific principle for any industry or company. ISO 31000:2009 can be applied to any organisation for a wide range of actions such as operations, decisions, projects, functions, services and assets and on any type of risk depending upon the nature, may be positive or negative result. This principle does not promote consistency of risk management in any organisations. This principle helps in avoiding risk by not starting and continuing with activities that gives rise of risk and removes the source of risk. As commented by Cook *et al.* (2016), an organisation uses the ISO principle in order to accept and increase risk for

pursuing an opportunity. According to ISO 31000, the effect of uncertain risk is either positive or negative.

The plans and framework that are designed for implementation on risk need to take actions on the varying changes of an organisation, that is its objectives, products, services, functions, projects, operations, assets and other practices that are employed in the organisation. As commented by Nicholas & Steyn (2017) ISO 31000:2009 is used to coordinate with risk management procedure for now and future standards. It supplies a common approach in order to carry standards to deal with risks, sectors and so on without replacing the standard. This principle is conscious for stakeholder group executive stakeholders, independent practitioners, risk analysis officer and risk management officers and independent practitioners. According to Verna *et al.* (2016), ISO 31000 is mainly applied for improvement of risk management and formulate the existing management system. The main focus is on transferring gap of accountability in risk management organisation, creating risk criteria and evaluates metrics.

## **2.5 Risk management methodologies**

### **2.5.1 PRINCE2 METHODOLOGY**

Projects in controlled environments, also known as PRINCE2 is a procedure that is based on the methods for an effective management into projects. PRINCE2 takes responsibility of controlling an organisation. Project management roles are based on the project managers, customers and project board.

- Project manager of a company selects people for doing project works and makes sure that it is done properly and actively on time. A project manager is responsible in drawing a project plans and describes the team about the project details.
- Customers, suppliers and users are the one who pays for projects. They are the one who will be using the outcomes of a project and will be impacted by its outcome. For few projects, consumers and users fall under the same categories. Specialists and suppliers provide skills that are needed for completing project work. In order to achieve the required outcome on time, organisation and coordination are necessary.

- Project board is the important part for projects on an organisation. This category is made up of customers, users, suppliers, specialists and executives who are responsible for projects according to PRINCE2. In the opinion of Paustenbach (2015), project manager's reports on regular basis about problems and progress to the project board.

#### **PRINCE2 management technique:**

- In project management, assurance is the most important part. It provides an independent view on the progress of the project. Specialist, users and business are the three views of project assurance. Each of the view of project assurance reflects interest on the project board members. As suggested by Boateng *et al.* (2015), the costs and benefit of the project are checked by the business view of project assurance. Users are checking about the requirements of users and specialists makes sure about the solution of delivering projects. For some projects, assurance is done by project assurance team.
- Another technique of project management is supporting projects through various administrative works. The administrative work is done by informing everyone, arranging meetings to keep good communications, keeping plans up to date, keeping files ready and pursuing things as needed.



### **Figure 2.3: PRINCE2**

(Source: Created by Author)

#### **Scope of PRINCE2**

Recently, every organisation has different projects and different member's group based on the work pressure. The various work groups includes suppliers, customers and users. Scopes in project management means giving ideas on the project work and identifying how to do the project. A project cannot be easily done by the different working group. PRINCE2 provides a common language for all the parties whoever is interested. Contract managements and contracts are generally accomplished through customers and suppliers of the business environment. As commented by Consiglio & Zenios (2015), PRINCE2 is the method that recognises the need of controlling of projects.

#### **Controlling changes by PRINCE2:**

PRINCE2 is a method that describes the different people that are involved into a project. Through this method, a project risk can be managed keeping its quality and controlling changes on the projects. Risk management in an organisation is about planning about the next step of the project. In a project, quality management is also a great factor that allows checking the quality of the work either by testing it or by reviewing it in some or different ways. There are various changes that arise in a project management. Members change their mind while doing project and thus affects in making projects. This technique helps in controlling the changes and the impact of the changes that arises. PRINCE2 technique helps in preventing the project to go in wrong directions and thus takes it further higher. It involves methodologies that make projects more easy and flexible.

The main task of this project in controlled environment is to manage people and help to work with members with great responsibility. This provides a set of work process that is required to be implemented for a organisational project and to explains for gathering information. This technique do not provide guarantee for any project to be successful.

PRINCE2 methodology is widely identifies and understood for providing a common vocabulary presented in a project that helps in forming an effective communication between peers and the other organisations. This method also gives a clear identification of the responsibility of projects so that the members understand the role and need of each others. In the opinion of Wand *et al.* (2015), the structure of accountability, authority and communication is defined in this methodology. PRINCE2 methodology is a compatible as compared to other qualification of project

management and provides technical structure of the framework. This has given result on practices that are flexible to the specific need of projects arranged in different organisations.

### **2.5.2 M\_o\_R method**

M\_o\_R method is a route map that is required for risk management as it is a set of irrelevant processes that keeps detailed sources of information on the technique of risk management. This model provides information and advices on the principles, processors and approaches that are applied and embedded on the nature of the objectives. M\_o\_R is essential for developing practices of good risk management. The process is derived from the principles of corporate governance and recognises the internal control of organisational risk management. The principle of this theory is to adapt each individual organisation. An approach of a company to the principle of the theory is required to be agreed and the entire process is defined by the policy of risk management. The process also includes guides, strategies and supports the risk registers and issues of the organisation.

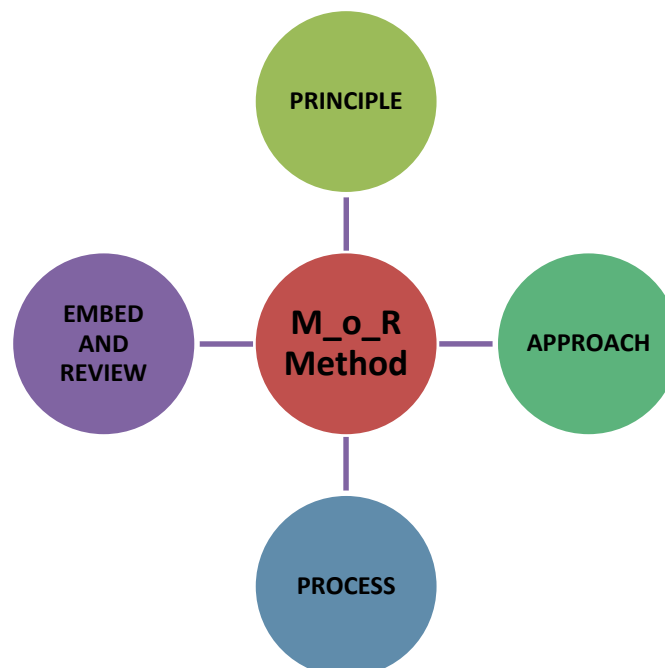
Risk management are applied with extremely careful process in which critical values and decisions are made. Decisions about risk in an organisation vary according to the risk that is related to it. Firstly, it is risk in long term goals; the risk that is associated with the decisions becomes apparent for future. Secondly, it is risk in medium term goals, these types of goals are usually addressed by programmes and projects for bringing changes in business. Thirdly, it is risk on short term goals, at this level, the emphasis is made to make sure about the ongoing continuity of the services in a business and making decisions on risks at this level supports achievement of low and medium term goals. M\_o\_R guides organisations through the various principles of systematic applications and the process of identifying, evaluating and estimating risks by implementing and planning risk responses. The entire procedure provides a disciplines environment for making decision actively. The key capability of Management of risk or M\_o\_R methodology is that it supports the outcome in a business, enables changes in a business, it manages risk in a level with the need of business organisation, optimises customers and clients experience, explains value for money and continue to improve through the method. In order to use the M\_o\_R method in an organisation, Goerlandt & Montewka (2015) commented that the situation almost make every decision that involve some level of risks. This method aimed at all that organisation that has an important business decision, as M\_o\_R is a strong and flexible framework and allows exact risk assessment. This method



considers risk from different view like programme, project, operation and strategy within an organisation.

The M\_o\_R method is framework by four elements. These are as follows:

1. Principle: This stage of the method makes sure that the members within an organisation know facts, concepts, and other form of foundations of the M\_o\_R. This stage of the methodology incorporates the meaning of the principles and the process of using the fundamental mechanisms that supports them.
2. Approach: In this stage, it documents the process how the principle is linked with approach stage and also the process of applying the approach to the organisational management. As suggested by Mandrak & Cudmore (2015), candidates are allowed to discover the documents of the M\_o\_R approach and the importance of this method for reduction of risk management in an organisation.
3. Processes: this stage of the method helps in identifying risk, assessment and controls them in order to achieve goals for an organisation. This stage informs that the users to complete an entire task for discovering and controlling risk.
4. Embedding and reviewing: the final stage of the model targets in implementing the framework into an organisation. It also aims to outline the need of the risk management into the existing process and identifies specifically the process in which an individual apply this to the business.



## **Figure 2.4: M\_o\_R method**

(Source: Created by author)

Information Technology Infrastructure Library (ITIL) is considered as framework for risk management although having gaps in between its specifications. In the opinion of Steinfort (2017), ITIL introduced the M\_o\_R cycle process and guaranteed that this model fully embed in the framework of ITIL. The goal of the risk management methodologies is to reduce the risk that is raised in an organisation by identifying it. This model has detailed integrations that are to be presented and communicated through all processes by embedding its principle, changing culture for managing risk, overcoming the common barriers for success and measuring the values. As commented by Hordyk *et al.* (2015), the potential risk of this model is of creation of services that is not added to the strategy of organisation and the customers that the organisation holds. This strategic response of this risk might analyse the impacts on the existing services and determine the assets that are required to offer services to any organisation.

### **2.6 Decision theory**

Decision theory is a part of risk management probability theory that is concerned with uncertain decisions. As risk management is concerned in making decisions, this theory helps to manage the uncertain consequences and evaluates choices of people. Decision theory helps in describing the various process of making decision in different fields, such as economics, psychology and mathematics. In risk management, the only part of decision theory that is applied is calculated by the value of risk and the other different aspects of value are rarely used.

### **2.7 Discuss the PMI Risk Management Framework**

#### **2.7.1 Overview**

Risk management is an essential tool that tackles uncertain associations along with business and projects at every level. As commented by Fealy *et al.* (2014), most of the business management fails to meet expectations, late run and under and over performance.

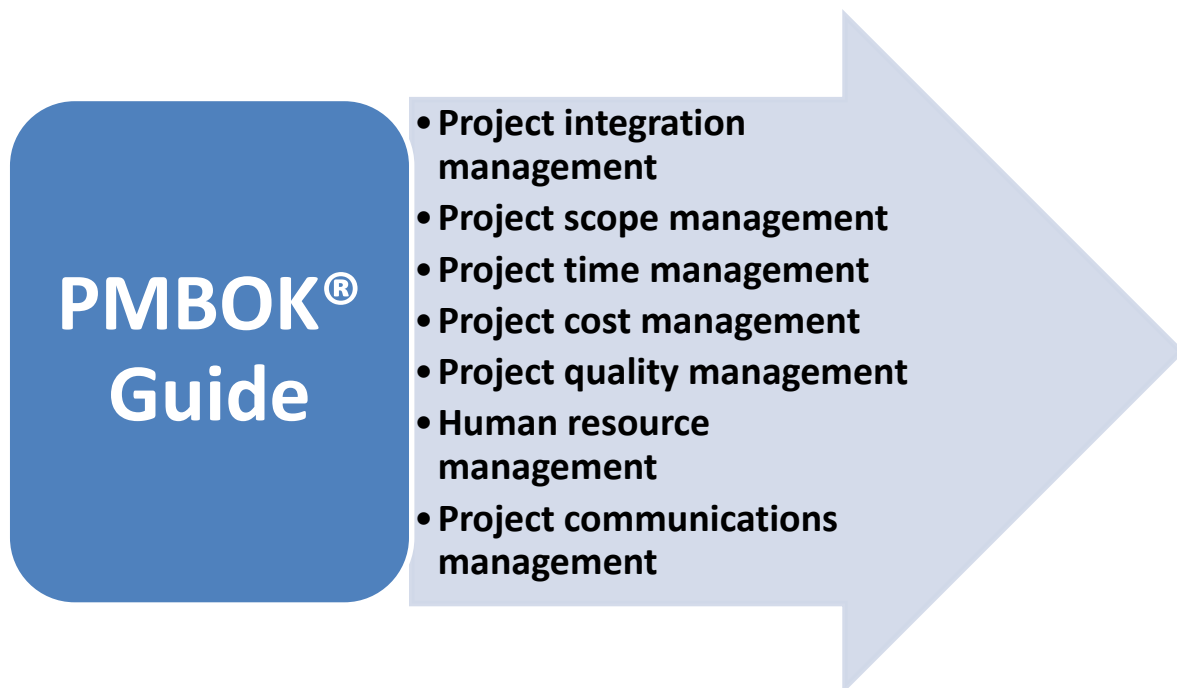
### 2.7.2 PMBOK® Guide

Project management body of knowledge is a standard terminology that guidelines project management and a term that describes the knowledge summation. The purpose of this guide is to emerge professionals. The primary purpose of PMBOK® is to identify and describe the guidelines that are generally accepted for an organisation. These projects are often accepted as a source of achieving strategic plans for the organisations. Within this guideline, operations and projects often differ in operations. For most of the organisations, project refers to respond on request that is not be able to addressed for the normal operational limit of an organisation.

Project management is the system that has applications for skills, tools, knowledge and techniques for project activity and meets the requirement of the project. This is used to describe approaches of an organisation to the management of ongoing operations. Knowledge about project management are organised in various ways. These are as follows:

- **Project integration management:** The project management knowledge area describes process that is required in order to make sure the various elements of the project and is properly coordinated and consists of project plan development, execution and united change control.
- **Project scope management:** This management refer to the process in which it is required to ensure a project involves all necessary work that is required to complete a project successfully. Initiation, scope planning, verification, definition and change control are some of the elements that are included project scope management.
- **Project time management:** this type of management are used to make sure that the projects are completed on time through the elements that are included in exact activity definition, estimating duration, developing schedule and controlling schedule.
- **Project cost management:** this project cost management is arranged to define the requirement of a project that is completed by approved proper budget. This management consists of cost estimation, cost control, resource planning and budgeting of the project.
- **Project quality management:** This management describes the process that is necessary to make sure if the project is satisfy the need of the clients and undertakes it. This includes control, planning and assurance of the quality of products.

- **Human resource management:** this project management is used to describe the most effective use of people those are involved into a project. Organisational planning, developing team and staffs involvement are few important parts of this section.
- **Project communications management:** This management describes processes that are required to make sure the project is on time, with appropriate collection, generation and storage of the project information. According to Burza *et al.* (2015), communication planning, reporting and information distribution are the few elements involved in this management.



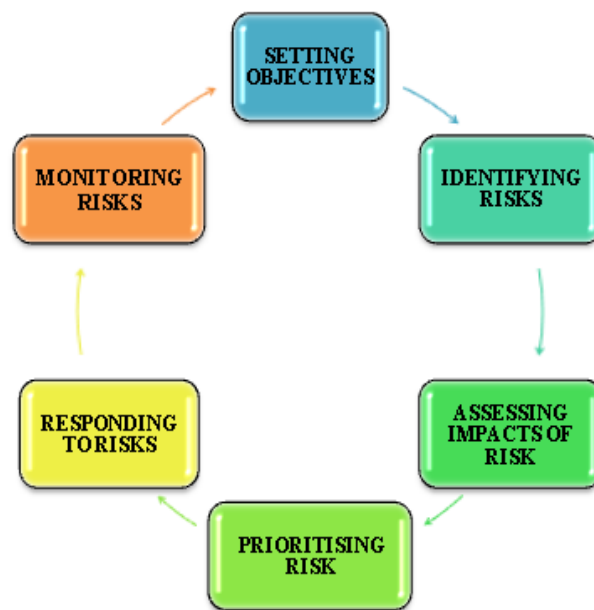
**Figure 2.5: PMBOK® Guide**

(Source: created by author)

### **2.6.3 Project Risk Management standards**

Project risk management are basically used to minimise the negative impact of threats in a project and maximise the positive impacts of opportunities. The practice of standard project risk management involves planning, identifying and give prioritisation to risk before it arises. This process conducts a quantitative risk in order to estimate and analyse the overall project risk and responses in order to identify the high priority risks. The practice of standard project risk management gives a target of engaging the project management professions and defines the aspect

of this management as a good practice on most projects on most of the time. It covers risk management as applied to the single projects only and is applied to only one project but not in programs and portfolios. In the opinion of Lewis *et al.* (2015), a huge number of standards are developed in the world to help organisations and these standard help in implementing in risks management effectively and efficiently. The different standard reflects the different motivations and focuses on technical developers. The project risk management are comprised of the many models such as PMI, M\_o\_R model, PRINCE2, ISO 31000:2009 and so on.



**Figure 2.2: Cycle of risk management process**

(Sources: Created by Author)

ISO 31000 is a framework that dedicates project risk management. Every governmental and non-governmental organisation faces problems and risk about organisational objectives that are to be achieved. ISO standards are designed to address risk in general conditions. Prince in controlled environment (PRINCE2) is a procedure that is based upon the methods of the project management. This methodology takes responsibility in order to control an organisation. Project managers of a company, using PRINCE2 method select appropriate people to work for project and make sure it is done on time actively. As suggested by Sahai *et al.* (2014), Prince2 project management is considered as an important part of the organisation which provides independent view while functioning project. A project is not easily done by any every project groups as it provides a

common language for all parties that are interested in it. M\_o\_R methodology is a route map framework that required for project risk management. This method includes guidelines, supports and strategies for issuing and registering risk.

#### **2.6.4 Risk Management Procedures**

The policy and procedure of reducing risk management is to provide information and supply guidance on risk management. The policies are applied to all type of organisations, employees, workers and customers in order to extend the present and future activities and adopt new opportunities. The policy statements are considered to be:

- Need of risk management: all organisation need to recognise the need in order to manage risk and feature the strategic and operational planning by considering day-to-day management and decision making at any level of the organisation.
- Implement risk management: An organisation must be committed to manage and minimise risk by implementing the risk management efficiently and effectively. Analysing, evaluating are some exposure that have impact on the objectives of organisation and the effectiveness and efficiency of the organisation continues. In the opinion of Prince *et al.* (2014), risk management are also included in operational planning and sectional planning as delegated responsibility of the management. Staffs of organisations must implement risk management to the requirement of legislative risk and appropriate risk management standard.
- Training and knowledge development: every organisation could arrange training and knowledge development classes for reducing risk in an organisation. This is done to ensure that the staffs who are mostly involved in management sections obtains sound for understanding the principle and skills of risk management and implement risk management effectively.
- Commitment to monitor performance: organisations could regularly monitor the performances of the employees and review on the risk management for the progress and development of the organisation. An appropriate culture is adopted within organisation to identify the culture of risk management. For continuous improvement, an effective implementation is adopted as strategy of risk management.

Responsibility of risk management: Risk must always be managed at the corporate level as the benefit of the organisational governance. Risk is considered as integral part of management and a function of the decision making for organisations. The responsibility for identifying risk and implementing control strategies remains at the same line of the management. Every employee in organization has some role in the risk management. These roles ranges from identification to report risk associations.

### **2.6.5 Risk Breakdown Structure**

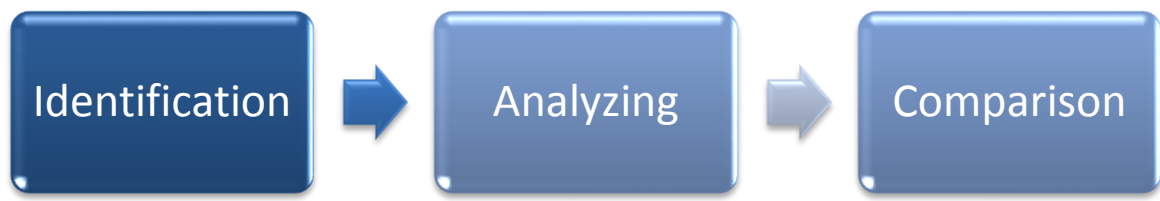
Structure of risk breakdown (RBS) is a project management language that includes unplanned risk and unseen negative impact of project risk based on its cost, quality and schedule. RBS is a hierarchical representation of risks that is starting from higher level and is going down to the lower level risk. Good project managers are the one who are able to manage risks efficiently and effectively by bringing project on the same track as before. RBS is one of the important tools for project risk management. This structure is similar to that of structure of work breakdown (WBS). RBS is considered as a checklist.

RBS works as a checklist as it typically chooses the overall organisation and make sure that it helps in covering all the relevant points of the organisational risk. As risks are identified, project managers works through each of the items and starts scoring each of the risk items could have. Project management institute (PMI) proposes a P-I score chart as a method of scoring in order to multiply probability (P) with its impact (I). RBS helps in identifying concentration of risk in a certain category of risk and dependencies of risk.

Some uses of risk breakdown structures are:

- Identification: after creating structure of risk breakdown, team identifies risks by using identification technique such as SWOT analysis workshop and so on. Sometime, it happens that a risk falls under several topics of risk management.
- Analyzing: Structure of the risk breakdown supplies the risk exposure and makes use of the several types of dependencies of the developed risks. Sometimes RBS mislead the categories and a certain category is most risky. In some of the projects in organisations, Technology has more risk as compared to communication. So this lead to believe that technology is more risky but this is not certain for all cases. In order to address these uncertainties, PI analysis is conducted that includes Probability-Impact (PI) analysis.

- Comparison: through the process of RBS, two projects can be compared that contains SWOT analysis and an organisation need to carry any one project of the same analysis and helps in understanding the overall risk that are associated with the project



**Figure 2.6: Structure of risk breakdown**

(Source: Hilson, 2002)

## **2.7 Contemporary industry standards employed in project risk management**

Managing risks are undoubtedly vital aspect for assuring timely and successful completion of any business and hence different industries have developed their own set of project risk management standards that could help to address their customary needs. As mentioned by McBride *et al.* (2014), major aspects of risk management include risk management planning, identification of risk, qualitative and quantitative analysis, planning and formulation risk treatment framework, and effective system for risk management and control. Amongst the vast array of project risk management standards developed, most prominently used six regulatory frameworks are mentioned below-

1. The Project management Body of Knowledge (PMBOK) standard developed by Project Management Institute



2. The Joint Australian and New Zealand Standard for Risk Management (AS/NZS 4360:2004)
3. The Project Risk Analysis and Management (PRAM) Guide developed by Association for Project Management (APM) in 2004
4. The Risk Analysis and Management for Projects Framework (RAMP) developed by C

Identifications of risk results in risk register as it is a living document that updates throughout the project lifecycle. Risk register becomes part of the documentation of a project. The risk register involves risk list, potential response list, main causes of risk and risk categories updated. Some of the techniques of qualitative risk analysis consist of the following parts. These are as follows:

**DATA QUALITY ASSESSMENT OF RISK:** Data is collected in order to identify risk and the purpose of a project manager is to identify the accuracy of the data that are to be examined for completing the qualitative analysis of risk.

**IMPACT AND PROBABILITY MATRIX:** this type of matrix is used to identify risks that needs an immediate response and are mostly customized according to the need of the project. Most of the companies do not have template for analysing risk and the project managers purchase the template for making risk matrix repeatable between projects.

### **The Joint Australian and New Zealand Standard for Risk Management**

According to risk management standards, AS/NZS ISO 31000:2009 for risk management is a joint guideline that was first established in 1995. This ISO standard was assisted for organisations for increasing the probability for the organisational achievement of objectives and goals. It also allows to be aware of identifying the need and treat risk in the organisation for improving threats and opportunities. Australian and New Zealand standard of risk management also helps in minimizing losses of the organisation, improves organisational learning and resilience and operates effectively and efficiently. Trust and confidence of the stakeholders are improved, by allocating risk effectively and make use of resources for treating risk and improves health performance for protecting environmental performances. In order to (), the standard provides guiding principle and

an exact process for risk management. A generic framework gives an effective implementation and integration for the management system of the organisation.

## **2.8 Gap analysis**

Gap analysis is the process by which a company compares its performance in order to determine the expectation and use the resources effectively. The current state and target of the market by the company is defined through this analysis. Business management team creates action plan through this gap analysis for moving an organisation forward and fill its gap performance. Risk assessment is the process of identifying, analysing risk and evaluates the objective of the organisational objectives. An ideal gap reveals the lack of interest in components of the company and acute the following:

First of all, there was no proper standardization given for implementing and identifying risk. On other paper, the part of literature review did not described about the various models and theories for explaining the main cause of arising risk. Secondly, most of the IT companies have are not working with risk management process and this chapter explains it better, the ways of managing risk and identifying the risk within an organisation and minimizing it. The standard risk management process is applied to determine the parts of an organisation and apply the standard model and theories and reduce risk in an organisation.

## **2.9 Summary**

The literature review explains the responsibility of risk management and the ways to manage risk through various models and theories. An organisation needs to understand the requirement of the project so that it can minimize the rise of risk. Different levels of risks are considered to improve the organisational goal and the progress of the company. Financial, strategic, governmental, reputational and financial organisations are the few categories that give rise to risk. An organisation needs to acquire more staffs and members for reducing risk in the organisation. The overall risk management process is put into six portions forming a cycle. Objective settlement, risk identification, impacts of risk, prioritizing risk, respond to risk and monitoring risk are the six part of the cycle of risk management.

ISO standard is a worldwide federation that works for the national standard body. The main activity of the companies through these standards is to prepare the international standard. The overall chapter provides complete details on the risk management process and the ways of improving its process for progress of an organisation.

## CONCEPTUAL FRAMEWORK



## Chapter 3: METHODOLOGY

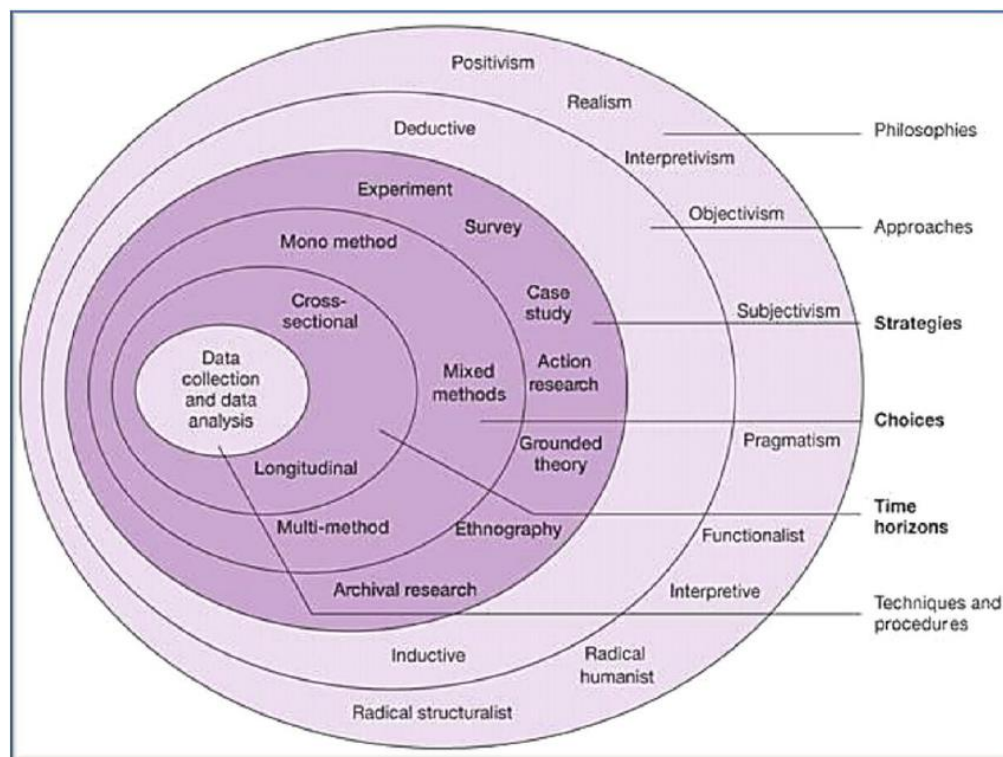
### 3.1 Introduction

In this portion of Methodology chapter, a brief discussion is provided to give an idea of various tools and procedures that are used in conducting this research work. Formulating a proper methodology is very important because it helps in to create a path for conducting research in better manner. Without having a proper framework of methodology, researcher could not proceed with further implications in work and there always remain a risk of getting distracted from primary objectives. Hence, in order to conduct research flawlessly, it is important that researcher follow a

proper methodology by using appropriate methodological tools. In latter portion, selected philosophy, approach, design and data collection procedure of the research have been discussed.

### 3.2 Research Onion

The research onion helps in identifying the different stages through which researches are done. The first part is research philosophy that creates a point to start an appropriate research approach that is the second part of the research onion. Research strategies and time horizon works together as one is adopted and the other helps in identifying risks. The final part of the research onion creates a series of stage that explains the different methods of data collected and the steps are illustrated through the study.



**Figure 3.1: Research onion**

(Source: Saunders *et al.* 2014)

### **3.3 Research Philosophy (Positivism)**

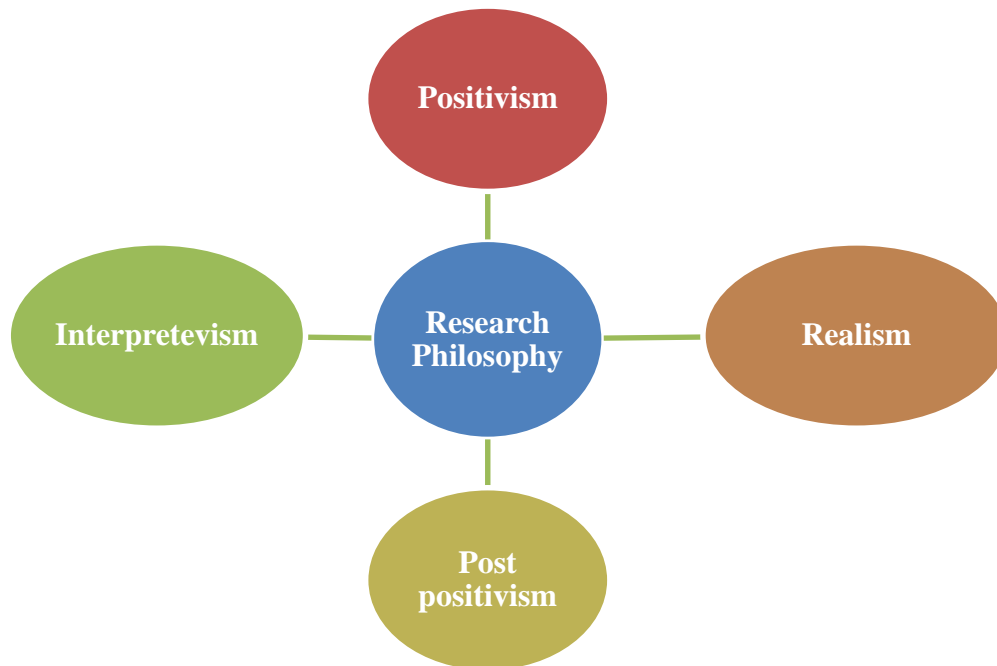
Determination of philosophy of research is important as it is responsible for dealing with progression and organisation of researcher's knowledge and its nature regarding understanding of the concerned topic. It is the belief of researcher of the ways data would be collected and how this would be analysed for desired outcome. Proper research philosophy is the determinant of researcher's assumptions regarding data sources and strategies to conduct research work. In broader sense, there is vast range of disciplines in this philosophy. These are pragmatism, realism, philosophy of positivism and interpretivism (O'Gorman, Lochrie, & Watson, 2014). Research might take any of this discipline according to their reasoning capability and situational demand. In this current research work, positivism philosophy has been used.

#### **Justification:**

According to Chen, Sohal & Prajogo (2013), Positivism philosophy primarily is aimed at seeking factual knowledge based on rough observations using human sensory. As in this process, researcher has this opportunity to conduct data collection procedure and interpret data through different measurement techniques to reach desired outcome regarding risk management in project, research procedure becomes more scientific and trustworthy (libguides.wits.ac.za, 2013). Through graphical representation of collected data from fieldwork, analysis and interpretation becomes more appealing to readers and it becomes easy for researcher to explain findings of research to others.

Other philosophies, for example, realism or pragmatism are rejected because outcome becomes biased and value free and aimed at formulating new theories. On contrary, positivism philosophy is rooted to human experience, it comprises of observational components, research outcome becomes independent and regarded outer world as external objective. Hence, in this research method, researcher could only predict outcome and sometimes, this prediction becomes biased. Therefore, it becomes very important for researcher to keep aside personal beliefs aside while analysing data regarding different kinds of risk factors faced during initiation of project and their impacts and judge circumstances only by logic (Zyl, 2015). In this process, research formulates few hypotheses in the very beginning of conducting research and in latter portion tried to justify their validity. Valid hypotheses are kept and invalid hypotheses are rejected. Therefore, relying on positivism philosophy would be beneficial because it would help researcher to observe situations,

collect data from first-hand experience regarding different issues of risk management while initiating any project and interpret them in statistical manner for better understanding.



**Figure 3.2: Research Philosophy**

(Source: Magilvy and Thomas, 2009, pp – 299)

### **3.4 Research Design (Explanatory)**

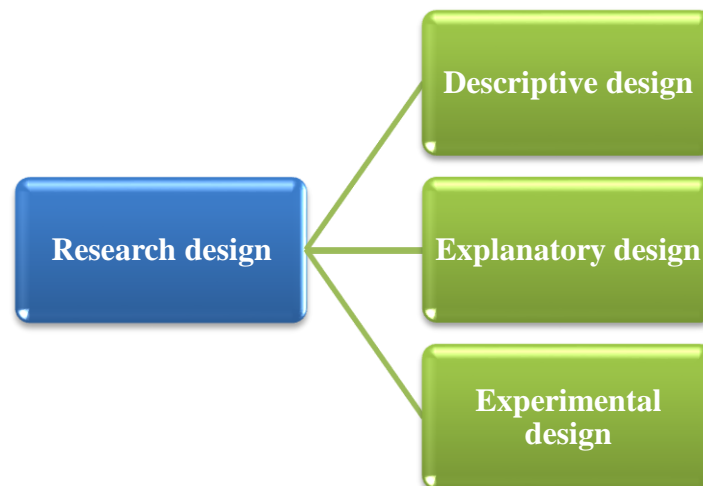
Design of research is important as it provides brief idea on in what ways research objectives are going to be met. In other word, it refers to lay-outing of representation in which the whole study is going to be conducted and finally be concluded. Relevance of constructing a proper research design is that it is the framework that mentions procedure data collection and statistical analysis of collected data for better answering research hypotheses (Yusuf, Adams & Dingley, 2014). There three kinds of research designs. These are exploratory, explanatory and descriptive. In this research work, explanatory research design has been selected.

#### **Justification:**

Explanatory approach has been selected because it would help researchers to explain issues related to risk management in any industry and ways to mitigate them in better and elaborate manner. It has three primary purposes. These are to satisfy researcher's curiosity and provide better understanding of the concept of risk management and risk mitigation in project. It also helps to

increase reliability of the research work by providing a top-to-bottom review and also formulates strategies for conducting it (Da Veiga, 2016). Moreover, no other research works have not been initiated regarding this topic, hence, it exploratory design would help researcher to gain an in-depth knowledge of this issue. In addition, explanatory research design also beneficial for a fieldworker as data collection tool designed through this method helps to explain research questions through a wide array of information.

On contrary, explanatory design explanatory research design helps researcher to explain implications of different risk management standards in this paper in accordance with theories and concepts (Ioannidis *et al.* 2014). Moreover, using positivism philosophy and explanatory design never aims that providing conclusive answers to research hypothesis, it allows researcher to explore the topic in deeper levels, to remain focused and to avoid biased nature in research outcome. Needless to say that, for better explanation, research might take help of different secondary data sources to explore the topic and get better comprehension, which would eventually would help in reaching valuable outcome and meet research objectives. Hence selection of this explanatory design in this research could be termed as appropriate.



**Figure 3.3: Research Design**

(Source: Project Management Institute, 2001)



### 3.5 Research Approach (Deductive)

The deductive approaches that are developed for hypothesis upon the theories are included in this paper. Hence, from this point of view, research approach is fully based on nature of research problem stated earlier in previous portion. There are two different approaches that a researcher might opt for, namely, deductive and inductive (Lewis, 2015). Inductive approach allows researcher to develop new theories and concepts based on own understanding. On contrary, deductive approach allows researcher to use pre-existed research works for better understanding of the topic and use that knowledge in analysing collected data. In this current research work, deductive approach has been selected.

**Justification:** deductive approach helps to move from generalised reasoning to specific point of view. In the current research work in order to analyse ways to deal with risks issues while initiating project, it is important to get an idea of what kind of risk companies or different industries are facing and in what ways these risk factors are impacting on progression of the organisation or industry. All these information could only be achieved by going through pre-existing research works done by other researchers. After getting vivid idea of different risk factors faced by different industries or companies, it would be beneficial to predict possible ways to mitigate certain patterns of risks (Sultan & Yin Wong, 2013). Reason behind rejecting inductive approach is that it aims at generating new theories at the end of research outcome. However, in this current research, researcher has not any intention to generate new theories.

This process is a systematic way in which, researcher sets certain hypotheses based on the existing information on impact of risk factors in project, impact of schedule delays and identification of reasons for requirement of risk management in project initiation, based on theories and concepts. After that researcher examines validity of these hypotheses and reject and retain accordingly. Finally, research outcome is validated. Moreover, this approach helps researcher to develop certain hypotheses in the very beginning of initiating the research work based on pre-existing theory (archive.org, 2015). Advantages of using this deductive approach is that it maintains a link with primary concepts and theories to outcome of the research work and generalised research outcome in mitigating risk factors in project.



**Figure 3.4: Research Approach**

(Source: Tummala *et al.*, 1999))

### **3.6 Data Collection Methods**

In order to conduct any research work accurately, structuring data collection procedure is important to mention what kind of data would be used and that information would be collected for further analysis.

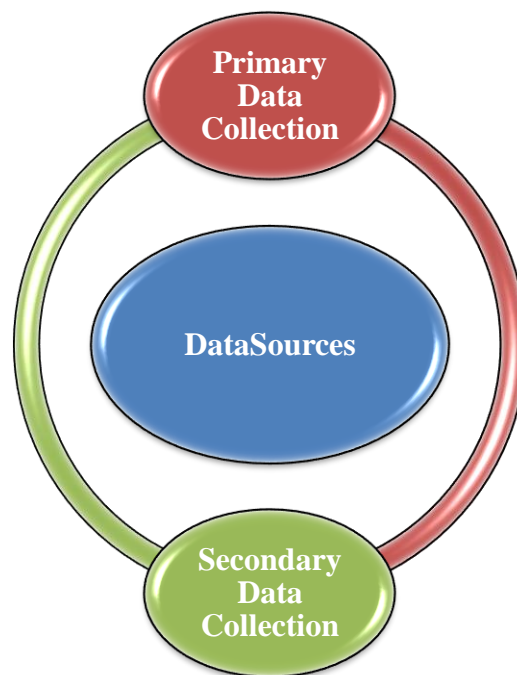
#### **3.6.1 Data Sources (Primary and Secondary)**

Mentioning sources of data is very essential while penetrating information regarding risk management and its importance in development of any organisation. Primarily there are two different sources, namely, primary and secondary sources, from where researcher is capable of attaining detailed information of subject matter. In one hand, primary data are useful when researcher is intended to collect raw data from field works through interactions. In such scenario, raw data collected from first-hand experience require reliability (Teherani *et al.* 2015). On contrary, in case of secondary information, data is collected from going through different pre-existed research works of other authors, for example, journals, articles and textbooks.

In the recent research work, both primary and secondary data sources have been used as, deductive approach has been initiated. Secondary sources would be beneficial in researching on relevant theories and concepts on risk analysis, different mitigation procedure and their validity and accessing potential impact of risk factors on project. This information would be helpful better

understanding of the topic of risk management in project and thus, helps researcher to formulate hypotheses and justify them (Dong *et al.* 2013).

Primary sources also help the researcher to get real life experience from the respondents which further provide pertinent information. By using primary data sources, researcher would be able to collect raw data from fieldworks via interacting with participants and use that secondary knowledge to analyse primary data. Thus, research outcome would be strong, trustworthy and more reliable regarding risk analysis and mitigating and would maintain a link with theories thoroughly. By using inclusive procedure relevant reading materials are kept and through exclusion, irrelevant study materials in secondary data have been rejected.



**Figure 3.5: Data Sources**

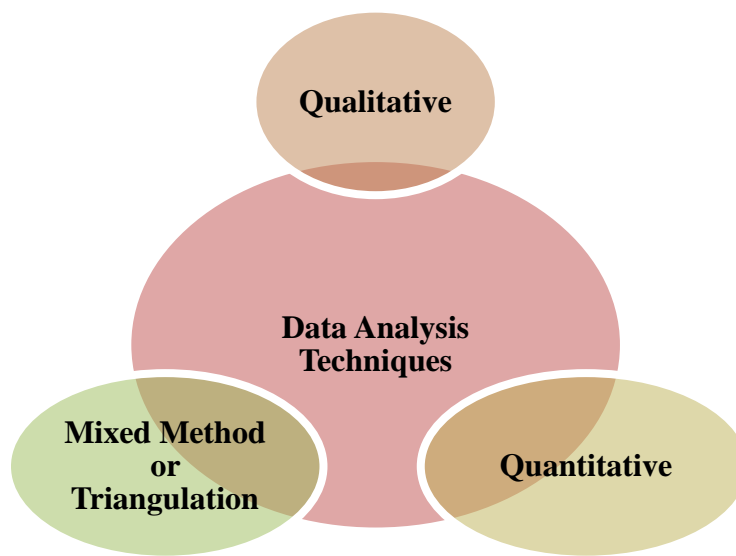
(Source: Akintoye and MacLeod, 1997)

### **3.6.2 Data Analysis Techniques (qualitative)**

Having proper analysis technique is important as data analysis techniques determine possible research outcome. There are two different data analysis techniques- qualitative and quantitative. Qualitative data are beneficial in keeping record in narrative form. This narrative form is comparatively is easy to understand. Qualitative data also allows researcher to incorporate theoretical concepts and pre-existed knowledge in real-life scenario so that concerned issue could

be understood clearly (Grimmer & Stewart, 2013). On contrary, quantitative data gives importance to participant's responses, which makes data less reliable. This is the reason that in this current research work, quantitative data analysis technique has been rejected and qualitative technique is embraced.

**Justification:** Qualitative data analysis allows researcher to explain and explore pre-existed research works on different kinds of risks faced by different industries and provides an in depth knowledge on concerned topic. After that, it also helps to align that knowledge in data analysis. Moreover, qualitative data provides more importance to real life experience of participants and explore participants' point of view. As sample size remains limited, hence, researcher is able to concentrate on each participant's viewpoint and observe.



**Figure 3.6: Data Analysis technique**

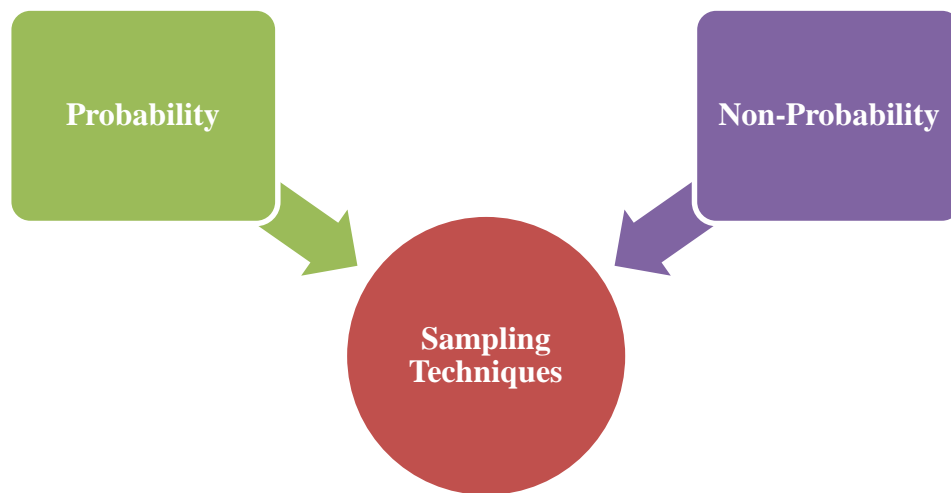
(Source: Akintoye and MacLeod, 1997)

### **3.7 Population and Sample**

#### **3.7.1 Sampling Techniques**

As the current research work aims at primary qualitative data analysis and thematic analysis, thematic analysis could be done by going through various, pre-existed works of various authors. There are libraries, online reading forums and other vast sources from where relevant journals,

textbooks, articles of renowned researchers could be accessed (Chen, Sohal & Prajogo, 2013). Primary qualitative data could be collected by using various relevant tools, for example, interviews, observations, close ended questionnaires, open ended questionnaires, methods of correlation and regression. However, in this research work, interview technique has been used. In these interviews, both open ended and close ended questionnaire have been used. Non-probability sampling has been used for collecting primary data from interviews (Creswell & Creswell, 2017). In this systematic approach, all previous information are explored, interviews are conducted to gather raw data, detailed observations are made during interaction and finally interview is concluded and primary raw data has been collected.



**Figure 3.7: Data sampling technique**

(Source: Akintoye and MacLeod)

### **3.7.2 Sample Size**

In this research, qualitative data have been collected through conducting a formal interview session with Accenture, IBM and Dimension Data. The interviews were structured in semi-opened formed where some questions were open-ended while others were semi-structured. From each company, 3 operational managers and 2 Risk Management Officers were interviewed and asked about their point of view in having risk management team within the company and what kind of progression does it make in development of the companies.

### **3.8 Ethical Considerations**

While conducting a research work, researcher is bound to follow certain codes and regulation of conducting research work so that he or she could avoid issues and identify set of right and wrong behaviours that need to know. This is an essential part of any dissertation and if this part is found to be missing, dissertation even might get cancelled. There are few principles that need to be abiding by to maintain authenticity of work.

**Principles:** For example, research participants are required to be provided with safety and should not be harmed irrespective of any situation. Researcher should keep standard dignity of participants and full consent from participants needs to be collected before conducting data collection procedure (Flick, 2015). Researcher needs to provide assurance of confidentiality to participants and pledged to maintain privacy of participants so that they could be free from fear of consequences. Participants should be provided with right to anonymity and value their opinion without judging or being biased. Any sort of exaggeration in research objectives would not be entertained during conducting work. Data should be protected under Act of Data Protection 2009 and maintained privacy. If researcher faces any sort of conflicts in funding or any other interests, this has to be mentioned. In order to take the whole process of conducting research, researcher is required to be honest and keep compliance with research regulations to keep the procedure transparent. In order to avoid contradiction in research outcome, confusing or misleading data should be avoided and sources need to be cited to acknowledge root of information (Taylor, Bogdan & DeVault, 2015).

In few words, in order to maintain authenticity, researcher should highlight especially on checking of participants are taking part in interview with full consent and have knowledge of the purposes of research (Kumar, 2014). During interviews, researcher is required to follow formal pattern of interview and avoid using any unacceptable or discriminatory thought with officials. Any kind of money exchange is considered to be as highly unethical and should be avoided.

### **3.9 Research Limitations**

Research limitations are certain hindrances that researcher has to face while conducting research work. Therefore, it is important to minimise scope of limitations for better research outcome. Following are some fields where limitations could be faced:

**a. Formulating Research Objectives:** often lack of proper understanding of concerned topic, leads researcher to write aims and objectives in very illustrated manner, which is wrong. Aims and objectives of research should subtle and precise so that researcher remains focused only on concerned topic and avoid distraction. Hence, in order to reduce this limitation, researcher needs to gain prior knowledge of the concerned topic.

**b. Selecting proper research methodology:** lack of experience leads researcher to utter confusion while selecting proper research methodology. According to topics, research methodology keeps on changing (Panneerselvam, 2014). Hence, it is very essential to recognize perfect methodology by gaining knowledge on concerned topic. Otherwise while data collection or data analysis; researcher has to face hindrances and complications.

**c. Reliability:** in mixed research methodology, researcher at first goes through secondary sources for better understanding of the concerned topic. Hence, often researcher gets influenced by other author's point of view and rather than providing their own thought, echoed others' approaches. In fact while interviewing, operation managers and risk assessment officers often get biased while sharing their point of view regarding their own companies. This biased nature hampers authentic and reliable research outcome.

**d. Time limitation:** short span of time restricted researcher to study concerned topic in details. Moreover, lack of ample time and urgency to conclude research work, do not allow researcher to conduct interview in undisruptive elaborate manner.

**e. Budget limitation:** limited budget holds another hindrance in way of authentic research work and reliable research outcome. Limited arrangement of funds restricts researcher to get access to expensive books or journals that might prove to be influential in better understanding of the topic. Apart from that, there are few software that are very influential for better calculation and representation of collected data, for example, SPSS software, Excel sheet etc, however, financial crisis, restricted researcher's access to these analytical tools.

### **3.10 Research Timeline**

*[Referred to Appendix 1]*

### **3.11 Summary**

The current chapter discusses different tools and techniques that have been included in research methodology. In this process, by using positivism research, researcher formulates few hypotheses in the very beginning of conducting research and in latter portion tried to justify their validity. . In addition, explanatory research design also beneficial for a fieldworker as data collection tool designed through this method helps to explain research questions through a wide array of information (Silverman, 2016). In this work, deductive approach is followed because it allows researcher to use pre-existed research works for better understanding of the topic and use that knowledge in analysing collected data. In order to make research outcome strong, trustworthy and more reliable regarding risk analysis and mitigating and would maintain a link with theories thoroughly, both primary and thematic analysis have been initiated. Primary qualitative data has been collected by using various relevant tools, for example, interviews, observations, close ended questionnaires, open ended questionnaires, methods of correlation and regression. This collected data was analysed through ConnectdText that is flexible and reliable to use. Later, it provides a brief idea of ethical considerations and its importance of conducting a research work.

Finally, it explains research limitations, for example, time-constraints, budget constraints, reliability issues and lack of skills and experience that are responsible to create hindrances in research conducting.



## **Chapter 4: DATA ANALYSIS AND FINDINGS**

### **4.1 Introduction**

In this chapter the researcher has conducted primary data analysis based on the qualitative data collection method. The researcher has conducted an interview process which includes 3 operational managers and 2 Risk Management Officers from Accenture, IBM and Dimension Data. In this process, the participants were asked to respond on various question related to risk management standard at their organization. This Chapter provides a clear view of the risk manager and operation manager about the importance of risk management in an organization.

### **4.2 Primary Qualitative Data Analysis**

Interview – (Interviewing 3 operational managers and 2 Risk Management Officers from Accenture, IBM and Dimension Data)

#### **Q1. In your opinion, operation management failure affects organisation profitability?**

##### **Findings:**

It has been found that most of the respondent has a positive attitude toward the operational management. It has been evaluated that risk management can help organisation in understand the major changes required to be made in the production process of the organisation. According to operational managers at Accenture, operational managers helps organisation in monitoring and evaluating the production process. It helps organization in analysing various stage of production critically. In such a situation, failure of operational manager can make it difficult for an organisation to evaluate their position with respect to the industry.

On the other hand, Operational managers at the IBM believe that operation manager helps organisation in achieving their targeted growth rate. According to the manager it helps in the identification of major issues within the organization. It has been concluded that failure operational manger can make it difficult for the organization to compete at the national and internal level. Similarly, the operational manager at Dimension Data believes that operational management helps organisation in reducing the level of risk related to business operation, according to the managers the organization, operational manager helps in building a correlation between various departments.

It helps organisation in various function such as in the project management and in determining the investment projects. In order to operate successfully in the market, it is required to evaluate their current market performance. It helps organization in designing their investment projects. However, it has been observed that the lack of proper technology and standard principles make it difficult for the manager to evaluate market situation. In such a case, further investment can result in market loss. In the words of the manager of the risk management team at Accenture, operations manager help organization in conducting their business strategically. In this process, the manager of the organization was required to analyse the cost and benefit regarding particular project.

Furthermore, the lack of project risk assessors in an organisation can make it difficult the organization meaning a balance between various segment including expenditure and revenue of organisation. Developing the business plan without considering its cost and revenue can result in uncertainty in the business. It has been stated by the manager of IBM, that uncertainty and risk related to business differ from industry to industry. According to the manager, finance industry is likely to have high risk compared to retail sector. It has been stated, that investment project are required to be make on the basis of current and past performance of the company. According to the operational manager of Dimension Data failure of operational manager can lead to several negative impacts over the company. It can result in reduced financial performance of the company. Moreover, improper operation manager can result in damage to the reputation. Besides, this it as well affect future growth opportunities of the company.

**Q2. Do you prefer investment in operational risk infrastructure for reducing operational risk at the organizational?**

Operational infrastructure can be regarded as the tools and technique of making the security system at the workplace. Advanced software's system and application helps organization in developing the level of operational infrastructure at the workplace. According to the managers of Accenture, effective investment in the operational infrastructure helps organization in monitoring and analysing the performance of each department. Operations manager consider various function understanding within an organization. It focuses on recruiting the employee and transforming the factor of the production more accurately into the final product. In this scenario, lack of proper communication facility can result in the poor coordination between various departments.

It might seem difficult for the manager to evaluate the productivity of each employee. In such situation it becomes important to utilise modern tools and technique for improving operational management. In the words of the operational managers at IBM advanced infrastructure help in analysing the performance of organization on time basis. It helps in understanding the achievements the company. Moreover, it provided an idea regarding the necessary changes to be made within the production process. The manager of the organisation believes that investment in the infrastructure of operational management is likely to reduce risk related to data hacking and cyber bullying.

It has been stated by the manager of Dimension Data, that advanced software's and application can help organization in conducting the financial transaction smoothly. It has been stated by the manager, that financial transaction and communication with client has been the major priority of very organization. Initially, organization is required to conduct the financial transaction with the help of third party, which was required to make additional payment. In addition to this, there was high risk related to data capturing exists. However, advanced management system can help in reduction the intervention of the third party. According to the manager system such as Cloud facility helps organization in storing and transporting the data. This kind of tot, are regarded as the world wide stage platform, it helps organization in conducting their daily activity related with the business.

The risk manager at the IBM had concluded that advanced infrastructure of operational management can help in evaluation the productivity of each worker on the daily basis. It has been stated, that initially it was difficult to analysis the worker productivity manually. Moreover it becomes quite difficult to report the data in measuring terms. However, introduction of advanced technology has improved the system of analysis at the workplace. Strategic analysis can help organization in deciding their future course of action.

**Q3. What according to you is the biggest problem in maintaining ISO standards at your organisation?**

Findings: According to the manager of Accenture standard principles of ISO are quite general in nature. It has been stated by the manager that it fails to define the strategies clearly. According to the manager, ISO has helped organization in developing their risk management strategies and principles based on the international practices and standards. It has been possible for the

organization to identify their major risk and develop the solution accordingly. Effective risk manager has helped organization in reducing the uncertainty related to their market operation. However, it has been found that principles are not specific. It does not provide the guidelines of how to implement those standards; it had not been mentioned, of how to identify their major risk. Business organization face several risk related to finance and operation. In addition to this organisation as well faces risk related to political and social structure of the operating state. In such situation, it is required to analyse the risk related to uncertainty in the economy and political uncertainty. It has been observed sudden fluctuation in the market can result in poor performance of an organization. Therefore, it becomes necessary to identify the major risk and assign the degree of intensity. In the words of manager of IBM, an organization is required to analyse both the internal and external environment of identify the major risk.

However, the ISO has not mentioned any specific issue regarding the internal and external factor. It has just mentioned the standard principles to be followed in dealing with the risk. That principle has quite narrow scope. On the other hand, the manager of Dimension Data has concluded that principles of ISO are not applicable for all organisations. Most of the large scale organization maintains a record of their financial transaction and operation data.

Moreover, most of the companies gather and store the data of the industry in which they are operating. It help them in analysing trend in the industry and organization performance, it becomes easy for the organization to evaluate the risk related to particular investment project. However, it has been found that those, principle are not applicable for the small scale organization. Generally it becomes difficult for the small scale organisation to gather and store the industries data. Moreover, the lack of proper operating infrastructure restricts their ability to analyse the market data. Hence, it becomes a challenge for the organization to apply those principles successfully.

In addition to this, risk management team of Accenture, has concluded that solution provided by the ISO is restricted in nature. According to the manager, it mainly focuses on the financial risk and risk related to investment projects. However, it fails to identify the core factor results in those risks.

**Q4. According to you which method of risk management is most suitable for an organizational?**

Findings: It has been found that respondents has quite different view regarding the method if risk management. According to the manager of the Accenture MOR method is very specific in nature.

It primarily focuses on dealing with the major risk related to the business operation. According to the manager it helps in assessment of the risk and identify of their possible impact. It has been concluded that the MOR method considers the intensity of the risk and assessing a degree of the vulnerability. It becomes easy for the manager to draw an alternative program for dealing with the risk regarding certain projects. However, the managers of the IBM believe that PRINCE2 method is more accurate, it helps in dealing with the future risk of the business. According to the manager, MOR method is limited in nature.

This method helps in dealing with the risk for the current period of time. However, the PRINCE2 method deals with core issues. It identifies the more vulnerable section of business and it provides the solution for dealing with those issues. It evaluate current position of the company based on its past performance, it help organization in understanding their ability and make the change as per the analysis.

However, the manager at the Dimension Data has argued that PRINCE2 fails to identify the major risk related to the business. According to the manager it lacks is concentration and focus more on internal environment of organization. Since, the PRINCE2 method considers on various segments such as production units and employees relation, it lost its concentration. It makes the situation more complex and difficult to understand. On the other hand, the risk management team at Accenture has concluded that the MOR method help in dealing with risk in a systematic manner. It first identifies the core section and analyse the risk related to each segment. It helps manager in conducting the analysis in more strategically According to the manager of Dimension Data it focuses on the key issue related to investment project in the business. It helps organisation in making their investment in most profitable zone. It has been stated by the manager that the PRINCE2 method is time taking and costly to implement. Moreover, its intensity varies from industry to industry.

According to the manager this form of method is more suitable for the small scale organization. However, it has limited impact over large scale organization. The projects undertaken by the large scale organization required more specific analysis and evaluation which is not possible with PRINCE2 method in short period of time.

**Q5. Does your organisation depend on the external and internal data and scenario analysis?**

Findings: it has been found that most of organization has similar views related to external and internal scenarios. According to the manager of Accenture, an organization is required to consider

both the internal and external; scenario for understanding the available risk in the business. It has been started the risk related to investment project depends both on the internal factor and external factor. The global economic condition determines the profitability of a project. If the global economic condition is not stable, it can become difficult to estimate the possible future actions. Moreover, the global condition is determined by the summation of the internal situation of the organizations. Similarly, the manager of IBM has concluded that external scenario helps in predicting the future performance. If the past performance of the global economy remain stable for a long period of time, than future market situation is expected to be remain stable. In such situation investment projects high earning possibilities. It is expected that investment in a stable economy is likely give a positive result compared to fluctuating performance.

The manager of the IBM has concluded that risk related to business project has strong correlation with the political situation of the respective country. If the political condition of a nation remains stable, it shows high growth opportunities. On the other hand, an unstable political situation represents unstable economy. Investment in this sector can result in high risk and uncertainty. Similarly, the manager of the Dimension Data believes that the level of risk as defined on the customer's behaviour. If the demand for the goods and services remain fluctuating, it can represent high risk in the business. It becomes quite important to analyse and evaluate the customer's behaviour to understand the market trend. Investment projects based on customer's taste and preference is likely to reduce risk in the business.

**Q6. Does your organization develop the extreme events according to the recommendation of PRINCE2 model?**

Findings: it has been observed that respondents have different view and opinion over this question. It has been found that majority of the manager did not recommend this method for the development of the large scale projects. The managers of Accenture have concluded that, this method is limited regarding the scale of operation. Since, this method consider basic issues and core problems, it is required to follow this method for small scale operation. Following the principles of this method on the large scale can lead to high risk and uncertainty in the business. Similarly, the managers of the Dimension Data has concluded that this method is quite time taking and costly. Following the principles of this method can result in high risk related to loss of market share. According to the managers, global economy is subject high fluctuation. In such situation depending entirely on this, can make situation more complex and might result to high market loss. It has been stated by the

manager, that this method is more general and does not consider specific problems and issues related to investment projects.

However, the managers of the IBM believe that this method can help in understanding the major issues. It might take specific time for analysing the situation, but it can provide more accurate data of the internal and external scenarios. Developing the investment projects based on this method can help in obtaining a positive result. According to the manager of the IBM, an organisation ability to generate positive result depends on the internal situation. This method can help in evaluating the performance of the organization and can analyse their ability compared to their competitors. Hence, it was recommended by the manager of IBM, to adopt the principles of this method for improving the extreme events.

**Q7. Does your organisation gather more than one year's data?**

Findings: it has been analysed that most of organization consider data of more than one year to analyse their financial performance as well to decide their investment project. In the words of the manager of Accenture considering past data can help organization in understanding the final position of an organization. It can help organization in developing their investment projects in most profitable zone. According to the manager, evaluation on the past performance is likely to reduce risk related to the project. Business organisation makes their investment decision based on the analysis of the pasts and current performance of an organization. It can help in understanding the ability of the organization compare to its competitors. In the words of the manager, deciding investment project without considering the performance of the organization can result in high market loss. The managers of IBM have concluded analysing the past performance of an organization can help in estimating their future performance. However, the manager of the Accenture has argued that considering the data of more than 5 years can results in the false conclusion. It can represent falls estimation of an organisation performance. Most of the time it has been observed that organisation is growing rapidly.

However, unfavourable condition their performance can reduce. In such situation considering the data of past 5 years is likely to show higher average growth rate of the organization. In such situation, it can become difficult for the manager to obtain accurate forecasts of an organization performance. Making an investment projects based on the forecast can result in market loss. However, the point of view of the managers of the Dimension Data is different from the managers of IBM. According to the manager of Dimension Data it is required to consider data of at least 10

years to make strong conclusion. The manager has explained that an organization performance is subject to market fluctuation. An organization performance of changed with respect to the market's performance. In such situation considering the data of past 10 years is likely to produce clearer image. However, following the data of more than 10 years can represent false conclusion. According to the majors, in order to generate a profitable investment it is required to compare the past 10 year's data of an organization with respect to industries data. It can help in providing more clear view of the organization position.

### **4.3 Secondary Thematic Analysis against the Literature Review**

#### **Theme 1: Project risk management in IBM**

IBM enables the most successful companies in the world for risk awareness by the company's risk analytics solutions. It enables the risk decisions by smarter risk management programs in order to drive business performances and for better outcome.

- IBM solution of risk analytics helps in improving the decision making process and provides risk analysis, transparency and perception.
- This risk management solution by IBM reduces its cost from regulatory compliances.
- The company dynamically evolves with architecture of risk that are adopted as practices of risk management, changes of regulations and demands of clients efficiently.
- Through this risk management solution, it increases return on the capital by making decisions on risk information and finds the process for optimizing the capital allocation and regulatory incentives are qualified under Dodd-Frank, solvency II and so on.

IBM commits people from the company for building a better world by making innovative and transformative leadership. Governance risk management in organisations offers significant opportunities to the members but are not able to achieve and maintain taking risks. The company has created a consistent and systematic approach for identifying risk management and helps in determining the process of management and reduction of the found risks over the company.

The risk management framework of IBM ranges the industry standard by good practices. The leadership focus, effectiveness, enablement and the practices and programs are the few parts of the framework. This is a smarter risk process of advantage that reports, monitors, implements and communicate with the company's members and the environment companies. By the year 2016, the company continued to increase the various approaches by focusing greatly on the era of the



strategic imperatives of the company, identification of risks and broaden the risk awareness by increasing the use of analytics of IBM's cognitive technologies.

The various exposure of risk that is reduced on day to day basis are managed and assessed by the senior management of the company. This process includes appropriate risk management policies and programs; the leadership team of the company continues the collaborative process for identification, management and evaluation of risk level of the company. IBM has also managed to interact with the audit committee and included periodic reviews of board of director. Risk is an element that executes compensation program and designs to motivate the leaders of the company in order to deliver a high degree performance of business without uplifting and taking excessive risk.

One of the basic key elements of senior managers in an organisation for leadership is to identify and deploy management system and model of governance. This process encourages the transparency and collaborations for risk management in the overall enterprises. The company uses the enterprise risk management (ERM), an executive council that consists of 16 managers who represents different functions, geography and various units regularly in order to help in improvement and management of risk in enterprises. The ERM council of IBM replaced six members by the year 2016 and kept rotational off for six members as well.

IBM focuses on accepting new technologies and tools for supporting risk management. The previous year, the company continued building success on the country's financial risk scorecard by the process of award winning. The risk summary of the country is also kept on focus which provides end view of the situations for emerging risks. As on the report, IBM co-developed with the researchers through cognitive based tools for identifying automatically the risk on projects and also the future scenario of the company. This tool of reducing risk management within the organisation enhances the global risk awareness for the leaders and the ability of the employees to improve the risk management.

## **Theme 2: Project risk management in Accenture**

Project risk management in Accenture is different from IBM, Accenture makes decision each day and every decision is taken under risk. An approach of the structure is to understand risk and reduce uncertainty of the company that helps in making better decision, manages to minimize risk and maximize profit as the performances are high and successful. As in the risk analytics survey of

Accenture, more than 250 companies out of 450 believed that risk analytics helped in improving the decision making process.

Accenture has significantly expanded the analytic capabilities with the response of the growing importance of risk analytics. The company offers many sophisticated capabilities in the risk analytic areas. These are:

- Accenture is a worldwide network that specialized risk analytics professionals and brought firm skills of risk analytics, the details for knowing the industry well and the experience of financial services.
- Accenture provides a strategy for wide enterprise and emphasis an integration that is a best breed approach and also an intelligent system.
- The lab of the Accenture technology is the dedicated technology of the research and development organisation. The company uses extensive technical and scientific capabilities in order to find new ways in which analytics could be applied and the challenges of risk management are solved.
- The clients of the company benefits different unparalleled systems capabilities and the company uses different supplementary techniques for the industry in which the business experience are more shared.
- Accenture also apply some powerful alliances and the employees are the vendor neutrals, the company maintains a strategic alliance with some of the best leading technological vendors of the world.
- The main focus of the company is on the success of the clients, this is done by the comprehensive sets of methods, tools and architectures that are purely taken from the collective outcome of the innovations of the employees and enabled the company to deliver the risk analytics solution on time with competitive price over hundreds to the clients.
- Accenture is a global delivery centre that is highly efficient on the global network that has more 50 deliveries centre. Among the 50 centres few are present in Asia pacific, which provides analytic expertise, experience of the project and the functional knowledge of the company.

The risk analytic solution of Accenture provides support to wide range of the industries and corporate business. As a leader, the company is the best in risk analytics and works with bank and other institution that are related to finance closely and also develops in building blocks on risk

analytics of credits. It is found that the company has many reasons to prove that it is the right partner for the risk analytic initiative. The network of risk analysis of Accenture has experienced the professionals from the local Asian pacific countries. The people present in this company have experienced professionalism from the local countries of Asia Pacific. The people have experience of in-market extensive and provided broader and diversion modelling skills. The company has also brought insight of the industry, familiarity and knowledge of the industry for a specific standardization for each of the assignments that clients expect. Accenture brings together risk practices and finance such as technology, consulting and assets capabilities along with the capital market, banking and knowledge of insurance industry for financial services. This helps the finance services to become firm and focus on the challenging factors of the company like increase of probability, managing regulations and reduce complexity. Accenture draws the transformation capability of the industry and also core strength of the technology helps in firming the technology and create sustainable competitive advantages.

### **Theme 3: Project risk management in Dimension data**

Dimension data is an organisation that uses the power of technology and helps in achieving an organisational digital era. As per the report of global threat intelligence in the year 2017, the executive guide of the organisation provides insight the latest IT risks that is also known as security threats and offers the organization the cyber security incidents. As per the report, it says that the impact of threats is demonstrated by every type of organisations in the world. By the report, a company understands the importance of the company and the process of progressing it. This also emphasizes the action management, users, and technical supporters to improve the internet security. IT governance and the department of risk management have now become the most challenging parts of the organisations. This discipline understands implements and maintains the risk that is raised in the organisation. Some of the business organisation has internal resources and visibility that are required to formulate the clear policies and processes of Dimension Data. As the company has poor focus on the policies and processes, it affects the ability of the company in order to achieve and maintain standardization compliance of the industry and the requirement of the country. Another impact of poor focus on company's policies affect the security management of the industry by ISO standardization like ISO 27000, ISO 31000:2009 and so on. The policies are not able to measure the posture of risk and the status of the status of the security governance.

The budget of the company and control over it are effectively affecting the progress of Dimension Data. Low focus on the risk governance enforces the security policy. The governance, risk and compliance assessment of Dimension data gives an overall view on the recent IT security risk profile against the standard risk activities of the industry confidentiality, availability and integrity. Dimension data planned to introduce new security assessment and plans for risk management that offers the midmarket. Cisco system, software technologies and so on are the few key technology partner of the company that plans in targeting IT and financial companies. Mobile security is the highest matter of concern for the department of IT and the business leaders. There are few matters that are not be able to stop and employees are one major factor that make use of the company's devices and stopping them is impossible and illegal. Over 90% of the people in the world decided that this factor is a great issue for the global mobility dimension data's security survey. For IT and business leaders, mobile security is at the top. A major part of this action is involvement of security in every device that user access. It is important to know that policies of mobility are placed are in line with other companies maybe IT policies. The security team of dimension data assists to realize the IT governance, compliance and risk for achieving goal through various eservices. These are assessment of security architecture, technology of life cycle management assessment, infrastructure services for managed security and uptime support and maintenance. The platform of enterprise service on the dimension data provides a position of contact and made easy operation management. The company offers beyond protection and included detection for security breach and appropriate response to the detection. It helps in creating posture for cyber security to minimise cyber risks in the hybrid IT environment. Dimension data predicts ransom ware protection in order to prevent from other malware and also to protect from ransom ware. It has provided facilities to build cyber security environment by the leading market technology and complemented the environment with technical and consulting services.

#### **4.4 Summary**

This chapter is comprised of the secondary thematic analysis that is based on three themes of the real world companies. The first company that is taken is IBM, the second company Accenture and the third theme is dimension data. Here the three companies show the various ways of risk management by identifying it effectively and efficiently. IBM formed a risk analytic that helps in reducing the risk and improving the company with maximum amount of profit. Accenture is also

a worldwide company that provides services to many companies over the world and identifies risk with a great technology.

## **Chapter 5: CONCLUSION AND RECOMMENDATIONS**

### **5.0 Conclusion**

Project risk can be managed and this is discussed on the previous chapters. The risk management process is started with the introduction of risk and the management of risk in organisations. The aim of the assignment is to identify and demonstrate the various factors of the risk that rises while building a project. These factors are responsible for ensuring the different ways of risk management that are accountable for recovering the risk factors of the organisation. The objective of the paper is to identify the factors responsible for risk and the impact of it in an organisation, to evaluate the cost issue that overruns the delay schedule of organisation and to find the appropriate proof that shows proper specification of risk management.

Risk management is a process that identifies and reduces risk in the organisation by applying various factors and affects the goal and objective that are to be achieved by an organisation. Recently, it is hard to find an organisation that is free from risk, as every small and large business organisation has chances of meeting risk once every year and this make the company more firms in meeting the needs of the company. Risk management is the process that identifies all risks originated in an organisation and risks are arranged and assessed according to the management of the company. One of the reason for which a company give rise to risk is the limited resources of the company that are supplied to the customers. The assignment has also discussed about the risk categories and the various types of risks are also discussed that depends upon the circumstances of the organisation. Financial, operational, strategic, governmental and reputational categories are the few parts that affect the organisational achievement and the goal of the company is not met.

Risk management was mainly introduced for all types of organisation after the World War II. The risk arrangement was associated with the insurance of the market that protects individual and a company from various loss and competitive environment. A book “The Remarkable book of Risk” was published by Peter L. Bernstein, who contended that the people of an organisation understands and predicts risk that could harm the future goal of a company and failure in the organisational achievement. Risk management have now become an important part of every organisation and departments are formed by the organisation to maintain risk by identifying it and managing risk. The risk managers are responsible for identifying risk and make list that could harm the organisational reputation and finance. Various models and theories are used in this assignment to

describe about the process. The international standardization (ISO) is responsible for providing documents and guidelines and make sure that the company uses properly the items and materials that are brought by maintaining its quality. ISO 31000:2009 is the international standard that is used by the action of principle and guidance of risk management, although this principle is not consistent. To conclude, this paper comprised of all the necessary information of risk management and identifying it with various factors.

In this way, previous chapters of this research paper has illustrated the relationship between different aspects of mitigating risks in a project through a coherent and way. Apart from exploring the theoretical aspects of project risk management and incorporating established frameworks for assessing risks in a project, the paper has also highlighted how different risk management standards has been developed over time in order to address drawbacks of the previous and make the practice of risk management more effective in contemporary world. Furthermore, first-hand data, obtained from research participants and analysed in the light of relevant theoretical constructs, highlight that the issue of mitigating risks in a project of paramount significance and hence modern organisations are expressing their enthusiasm in adopting risk management standards in their respective organizational framework.

## **5.1 Linking with objectives**

### **5.1.1 Linking with first objectives**

As found in the data analysis chapter, the risk management is one of the important part of every governmental and non-governmental organisation. This is recently formed as a perfect proof that shows the exact utilisation of the risk management. This paper has illustrated the structural risk, component risk and the overall management risk of organisations. The role of organisations are discussed that identifies, evaluates and prioritise the risk arises in an organisation. Risk management is an important part of every organisation because without the presence of this management, a firm is not able to identify the risk and define objective of the organisation for future.

The aim of the risk management is to access the process that evaluates factors and remove risk and minimise the level of risk that arises in an organisation by taking appropriate controllable

measures. Moreover, the rise of risk in any business organisation makes it unstable and thus shows proper measurement of the organisation.

### **5.1.2 Linking with second objectives**

Cost issue is a great factor for all industries and gaining more profit without failure is the main aim of each of the organisation. The second objective of the paper is to evaluate the cost issue of organizations and delay schedule of the organizations can harm it thoroughly. Delaying in risk management may cause great loss if it is not managed on time. The cost issue is a great factor for all organizations and most of the time companies fail to manage the cost overrun. Through this paper, it is aligned about the methodologies that can be adopted to manage risk and thus make an organization more firms. PRINCE2 and M\_o\_R methods are adopted for managing risk in a project. The process through which the programs support the guidelines and takes similar information have begun focusing on practical challenges of incorporates for maintaining quality, cost and time.

### **5.1.3 Linking with third objectives**

The third objective of the paper is to identify the variety of factors that could help in managing risk and the impact of the risk that affects the factors. There are various factors that helps in reducing risk in an organization. Risk managements involve methods, processes and various tools that are placed to deal with the consequences and the risks are identified as threats for the business organizations. Project risk managements are not an off exercise that refers to mean continuous monitoring and reviewing the success of the risk management approaches. All the problems can be addressed by the policies of risk management and making it more effective and responsible while choosing employees. Some factors may also affect the reputation of the company that is the reason a company must ensure policies and insurance mandatorily. The main key insurance is designed to cover the cost of finance.

### **5.1.4 Linking with fourth objectives**

In the paper, the fourth objective refers to explain the appropriate strategies that are adopted to overcome various risks factors affecting an organisation. Evaluation of risk allows an organisation for determining the risks that are to be adopted by a business and give permission to the organisations for adopting and accepting specific risk and respective actions to prevent and



minimise the risk. Product and public liability are designed for choosing compensations and actual cost of the duty.

## 5.2 Recommendations

Three recommendations have been discussed in this part. These are:

### 5.2.1 Recommendation 1

The first recommendation that could be expected effectively for an organization's is to determine the responsibility of the board risk associations and identify that the risk that arises in companies and industries by forming a qualitative committee rather than quantitative committee.

<b>Smart recommendation</b>	
<b>S-Specific</b>	The risk management process must be simple and sensible. The skills and experience of the company are to be gained for the head of the organisation so that, it can build the career of the company and form a successful team leader.
<b>M-Measurable</b>	The process is highly measurable as the goal of the company is to acquire the skills and knowledge that could train the employees within the company.
<b>A-Achievable</b>	The goal of the organisation must be realistic and are attainable for making it successful. Therefore, it forms a achievable recommendation.
<b>R-Relevant</b>	This process is relevant as most of the organisations are using project risk management and the various factors for maintaining customer base.
<b>T-Time</b>	Time that is taken to make changes in organisations for working effectively and efficiently can be around 6 to 7 months.

**Table 5.1 Recommendation 1**

(Source: Created by author)

### 5.2.2 Recommendation 2

The second recommendation that can be presented is high priority risk management supports, so that the products and services that are provided by organisations to the customers are generic and quality based.

<b>Smart recommendation</b>	
<b>S-Specific</b>	The process is specific and important as this helps in reducing risk and maximising profit for the organisations
<b>M-Measurable</b>	This process is measurable as the products and services that the company use are to be good and can be used.
<b>A-Attainable</b>	It can be said that the recommendation is perfect and suitable. It can be considered that risk management is the feasible method. Due to this innovative ideas can be created. For risk management, innovative plans are required.
<b>R-Relevant</b>	The recommendations can be considered as relevant because majority of organisations uses risk management. This helps in the maintenance of customer base.
<b>T-Time</b>	Time taken for this recommendations are around 7 to 8 months

**Table 5.2 Recommendation 2**

(Source: Created by author)

### 5.2.3 Recommendation 3

The third recommendation is that risk quotient for various risks should be prioritized and clear vision should be in the project of the organisation.

<b>Smart recommendation</b>	
<b>S-Specific</b>	This recommendation is specific as risk quotient would be used for understanding various risks related to project in the organisation. This is done considering the customers of the organisation.
<b>M-Measurable</b>	This recommendation can be measured because major aim of the organisation is to reduce risks of the company so that tasks can be achieved without any risks.
<b>A-Attainable</b>	The aim that has been discussed is realistic and can be achieved efficiently. This can be achieved after providing proper training to the employees of company and hence it can be said this is achievable recommendations.
<b>R-Relevant</b>	It is relevant as organisations are in high need of managing risks in company and hence risk quotient would help to maintain performance of the company and customer base.
<b>T-Time</b>	Time taken for this task is around 8 months for introducing risk quotient.

**Table 5.3 Recommendation 3**

(Source: Created by author)

### 5.3 Limitations of the research

For the execution of this research investigation, there were various limitations that the researcher had to face. It has been noticed that there were challenges with time and space. Researcher did not get enough time and space and hence, it became highly difficult to execute this investigation of research. In addition to this, researcher had to face financial obstructions because for researching, enough money is required. The researcher had restrictions of budget for carrying out this investigation and due to this, researcher faced financial obstructions.

#### **5.4 Future scope of the research**

It has been noticed that the investigation were unable to provide descriptive results. Furthermore, the researcher was unable to produce diversified results. This had happened due to money, space and time constraints. Therefore, future researches can get enough opportunities to extend their research and findings. They can do this based on study and observations of dissertations. The dissertation that has been conducted now can be used for future as secondary information. Due to this, research can find various risk management techniques. This can be presented as graphical representations so that project managers can obtain positive vibes from those presentations. Furthermore, researchers can do comparative analysis upon reducing project risks with other companies. This can be compared to other companies that belong to other sectors. Researcher can do thematic analysis for understanding the process for reducing risks of the company. Researcher can get ample scope to reduce the risks for the management of the company and that helps the researcher to provide more good recommendations to organisation.

## Reference list

### Journals

- Sanders, E. B. N., & Stappers, P. J. (2014). Probes, toolkits and prototypes: three approaches to making in codesigning. *CoDesign*, 10(1), 5-14.
- O’Gorman, K., Lochrie, S., & Watson, A. (2014). Research philosophy and case studies. *Research Methods for Business & Management*, 152-172.
- Zyl, I. (2015). Disciplinary Kingdoms: Navigating the Politics of Research Philosophy in the Information Systems. *The Electronic Journal of Information Systems in Developing Countries*, 70(1), 1-17.
- Yusuf, M., Adams, C., & Dingley, K. (2014, June). Research Philosophy and Methodologies of e-Government: Update from ECEG and ICEG. In *Conference Proceedings, The 14th European Conference on E-Government (ECEG), Spiru Haret University, Romania* (pp. 242-251).
- Akintoye A.S., & MacLeod M.J. 1997. Risk analysis and management in construction. *International Journal of Project Management*, 15 (1), pp. 31–38.
- Da Veiga, A. (2016, July). A Cybersecurity culture research philosophy and approach to develop a valid and reliable measuring instrument. In *SAI Computing Conference (SAI)*, 1006-1015.
- Ioannidis, J. P., Greenland, S., Hlatky, M. A., Khoury, M. J., Macleod, M. R., Moher, D., ... & Tibshirani, R. (2014). Increasing value and reducing waste in research design, conduct, and analysis. *The Lancet*, 383(9912), 166-175.
- Lewis, S. (2015). Qualitative inquiry and research design: Choosing among five approaches. *Health promotion practice*, 16(4), 473-475.
- Sultan, P., & Yin Wong, H. (2013). Antecedents and consequences of service quality in a higher education context: a qualitative research approach. *Quality assurance in education*, 21(1), 70-95.

- Teherani, A., Martimianakis, T., Stenfors-Hayes, T., Wadhwa, A., & Varpio, L. (2015). Choosing a qualitative research approach. *Journal of graduate medical education*, 7(4), 669-670.
- Dong, X., Li, Y., Chen, R., Chang, E. S., & Simon, M. (2013). Evaluation of community health education workshops among Chinese older adults in Chicago: A community-based participatory research approach. *Journal of Education and Training Studies*, 1(1), 170-181.
- Grimmer, J., & Stewart, B. M. (2013). Text as data: The promise and pitfalls of automatic content analysis methods for political texts. *Political analysis*, 21(3), 267-297.
- Chen, J., Sohal, A. S., & Prajogo, D. I. (2013). Supply chain operational risk mitigation: a collaborative approach. *International Journal of Production Research*, 51(7), 2186-2199.
- Project Management Institute. 2001. Practice Standard for Work Breakdown Structures. ISBN 1-880410-81-8.
- Tummala, V.M.R., & Burchett J.F. 1999. Applying a Risk Management Process (RMP) to manage cost risk for an EHV transmission line project. *International Journal of Project Management*, 17 (4), pp. 223–235.

## **Textbooks**

- Flick, U. (2015). *Introducing research methodology: A beginner's guide to doing a research project*. Sage.
- Kumar, R. (2014). *Research methodology: A step-by-step guide for beginners*. California: Sage.
- Panneerselvam, R. (2014). *Research methodology*. PHI Learning Pvt. Ltd..
- Silverman, D. (Ed.). (2016). *Qualitative research*. California: Sage.
- Taylor, S. J., Bogdan, R., & DeVault, M. (2015). *Introduction to qualitative research methods: A guidebook and resource*. John Wiley & Sons.
- Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.

## Websites

archive.org (2015), *Research methodology*, On: 10 Jan 2018, Retrieved from:  
[https://archive.org/stream/ResearchMethodology/6.researchMethodology\\_djvu.txt](https://archive.org/stream/ResearchMethodology/6.researchMethodology_djvu.txt)

libguides.wits.ac.za (2013), *Scholarly Research and Related Sources*, On 10 Jan 2018, Retrieved from: <https://libguides.wits.ac.za/c.php?g=145381&p=953599>

Hall D.C., & Hulett D.T. 2002. Universal Risk Project—Final report. Available from the PMI Risk SIG website [www.risksig.com](http://www.risksig.com), or [www.techriskmgt.com/home2link.html](http://www.techriskmgt.com/home2link.html)