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CRISIS MANAGEMENT IN THE CONSTRUCTION INDUSTRY OF PAKISTAN

TERM PAPER

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Table of Contents

ABSTRACT 4

INTRODUCTION 5

A. SIGNIFICANCE OF CRISIS MANAGEMENT 5

B. STUDY SCOPE 6

C. STUDY OBJECTIVES 6

D. METHODOLOGY OF WORK 6

E. ORGANISATION OF THE REPORT 6

LITERATURE REVIEW 7

A. WHAT IS CRISIS? 7

B. TYPES OF CRISIS 7

C. CRISIS MANAGEMENT 8

D. FACTORS CAUSING CRISIS 10

METHODOLOGY OF WORK 13

STEP BY STEP EXPLANATION OF METHODOLOGY 14

LITERATURE REVIEW 14

FACTORS IDENTIFICATION 14

QUESTIONNAIRE DESIGN 14

SURVEY 14

ANALYSIS 14

INTERPRETATION 14

STUDY DESIGN 15

A. RSEARCH DESIGN 15

B. DATA COLLECTION METHODOLOGY 24

C. SURVEY TARGET AUDIENCE 24

ANALYSIS AND RESULTS 24

A. SECTION B 25

B. SECTION C 40

C. SECTION D 42

D. SECTION E 44

CONCLUSION AND RECOMMENDATIONS 48

A. IMPACTS 48

B. FUTURE OUTLOOK 48
C. LESSONS LEARNED 48
D. CONCLUSION 48
E. FINDINGS/OBSERVATIONS 49
F. LIMITATIONS OF STUDY 49
G. RECOMMENDATIONS 49
H. REMARKS ENDING PAPER 49
REFERENCES 50

ABSTRACT

At one time or the other, organizations would witness crisis whether internal or external in which its impact could induce severe consequences or even disasters if wrong strategic moves are devised. The issue of how organizations can maintain good performance when faced with critical situations has largely remained unexplored. This study therefore examines the effect of crisis management strategy on organizational performance of multinational corporations in Nigeria, empirical insight from Promassidor ltd. Crisis management forms the bedrock for peaceful co-existence between employers and employees and even the society at large. Crisis is inevitable in any organization because it comes in varied forms and degrees. In this paper 20 response from different industries are taken and the results are formulated using one mean hypothesis.

INTRODUCTION

A. SIGNIFICANCE OF CRISIS MANAGEMENT

The field of crisis management has evolved over the last three decades from the relatively long tradition of research into disaster management. Although crisis management research is in its early stage, its value in other contexts is already becoming evident. This is because crises are unique work of human life, emerging to the surface, processes which lie at the very core of management. During a crisis, power-configurations, interests, values, perceptions, bargaining and decision-making processes are highlighted by being sharply focused upon a single well-defined issue. Moreover, because a multitude of forces interact during a crisis, it provides an excellent context for the integration of theory. **[M.loosemore. 1998]**

Despite the apparent value of crisis management research, caution is needed in transferring its theories, ideas and principles to other contexts. For example, in construction there are important differences between the projects based 'temporary multi-organizations' used to procure buildings and the relatively permanent organization's within which the majority of crisis management research has occurred.**[Rosenthal. 193].**In particular, project organizations are typically more dynamic and characterized by higher differentiation and conflict, qualities which make the management of change more difficult. **[Antony, R. N. 1998]**. A further reason for caution in transferring general crisis management principles to the construction context is related to the industry's unique professional roles, employment practices, expectations, norms and traditions. While it is important not to treat construction as a special case as warned against by Hildebrandt and Bryant, it is important to recognize the possible influence of these unique characteristics on the crisis management process. Within this context, the aim of this paper is to investigate the crisis management process in a construction context and thereby to identify any special problems paper is presented within this restricted context, it will be of interest to any manager who operates within a crisis-prone organization.

There has been a scarcity of crisis management research in construction, particularly from a reactive perspective. Although studies of construction project disasters seem relevant, they pay most attention to identifying the causes of disaster in order to prevent them in the future **[Le Patner, B. B. and Johnson, 1982, Kharbanda, O. P. and Stallworthy, E. A1983, Francis, A. J. 1989]**

Despite a growing understanding of how to prevent and predict construction crises, little attention has been paid to the manner in which construction project organization's deal with crises. In particular, little is known about the pattern of events which evolve in response to them and about any relationship between these patterns and crisis management efficiency.**[Berkeley. 1991; T. P., Lam, K. C., Tam, 1993].** This is also true in the literature relating to mainstream project management and indeed, crisis management, where it has been acknowledged that research has progressed further in under-standing how crises occur than in studying responses to them.

B. STUDY SCOPE

The scope of the study is limited to questionnaire survey from different construction organizations in order to understand the status of crisis management in the construction industry of Pakistan.

C. STUDY OBJECTIVES

The objectives of the study is

- To study the international best practices and identify the factors causing crisis in the construction industry.
- To benchmark the factors causing crisis for the Pakistani construction industry.

D. METHODOLOGY OF WORK

The methodology of work will be to identify relevant data through research papers, write the literature review of the topic, and design the questionnaire, conduct survey to various construction companies, analyze the data collected and interpret the results.

E. ORGANISATION OF THE REPORT

This report consists of five chapters and appendices containing supporting information and results of the data collection and analysis. The chapters it include are:

a. INTRODUCTION

It describes about the scope and objectives of this report, the methodology of work and the parts of the report.

b. BACKGROUND STUDY

It comprises of definitions of crisis and crisis management, the management in the three periods, factors causing crisis and the description of the factors.

c. METHODOLOGY

It is represented in the form of flow chart and shows the different phases of work done.

d. STUDY DESIGN

It describes the data collection methodology and identifies the target audience for the survey.

e. ANNALYSIS

It reveals the research findings from the analysis of the site data and presents discussions regarding findings of this research study.

f. CONCLUSION AND RECOMMENDATIONS

It discuss about the achievement of research objectives as well as conclusions, recommendations, contributions, and suggestions for future research.

LITERATURE REVIEW

A. WHAT IS CRISIS?

- **ACADEMIC DEFINITION**

A crisis is 'a situation faced by an individual, a group or an organization, which they are unable to cope with, by the use of normal routine procedures and, in which stress is created by sudden change'[Booth SA.1993]. Crisis may also be described as a period of sudden change during which a totally new system is formed; stressing on the fact that the meaning of crisis does not only cover risk, uncertainty, threat, conflict, accident, and instability but also covers opportunity [Fink S.1986 and Heath R.1998].

- **PRACTICAL DEFINITION**

Any incident that can focus negative attention on a company and have an adverse effect on its overall financial condition, its relationships with its audiences, or its reputation in the marketplace is termed as crisis. Crises are associated with consequences. Nothing is said about magnitude as a criterion. That is, it does not take a tsunami, an earthquake, a fire, or a death on site to precipitate a crisis. They may be associated with disasters, but not necessarily so. They are any event or incident that poses a threat to an organization's security or has an adverse effect on financial conditions, relationships, or reputation in the marketplace. **[Hensgen et al. 2006]**

- **CONSTRUCTION RELATED DEFINITION**

The identification of threats to an organization and its stakeholders, and the methods used by the organization to deal with these threats. Due to the unpredictability of global events, organizations must be able to cope with the potential for drastic changes to the way they conduct business. Thus crisis can be defined as internal and/or external events that cause stress on organizational resources and pose the greatest threats on any organization's security and vitality. [Pavlak A.2004]

B. TYPES OF CRISIS

Crisis may be abrupt or cumulative.

1) **ABRUPT CRISIS**

An abrupt crisis is a sudden impact of internal or external disturbances that is generally more specific, but less predictable, than a cumulative one. These types of crisis cannot be foreseen and thus are more critical. Abrupt crisis have an adverse impact on the market position of the company and it badly affects the financial condition. Abrupt crisis are very much difficult to manage because of its unpredictability. However cumulative crisis accumulate stressors and erupts eventually. **[Hwang P. 2000]**

2) **CUMULATIVE CRISIS**

A cumulative crisis, are those crisis which can be foreseen but also breaks suddenly. These crisis particularly accumulate stressors and eventually erupt. Likewise cumulative crisis can be simply defined

as a process of accumulation of deficiencies and weaknesses rather than as a sudden and extraordinary irruption. For instance, made a study of deviations (their term) in construction projects. Not all deviations, however, are cumulative crises. Deviations along the non-critical path for example are handled by using some of the slack available that makes the task non-critical. It is only when the deviation occurs along the critical path, or when it extends the timing of a noncritical task to make it critical, does a crisis occur. It would appear that a relatively high incidence of these crises is possible in the industry. Although firms in the industry have been described as loosely coupled systems, which would suggest resistance to the ‘‘cascades of failures’’ associated with tightly coupled systems, crises still occur – the consequence of planning introduces tight coupling in activities. **[Hwang P. 2000]**

C. CRISIS MANAGEMENT

Crisis management is a dynamic and continuous process that includes both proactive and reactive actions with the aim of identifying the crisis, planning a response to the crisis, confronting the crisis, and resolving the crisis.**[Hwang P. 2000]**

Crisis management process constitutes three main periods that are before, during and after the crisis.

1. MANAGEMENT BEFORE THE CRISIS

Crisis management before the crisis focuses on two main issues. These are:

a) **ISSUES ANALYSIS**: According to Kashan Darling **[Kash TB, Darling JR. 1998]**, one reason so many companies fail to take steps to proactively plan for crises, is that they fail to recognize the possibility of any crisis occurring. Accordingly, first step of crisis management is issues analysis, which includes recognizing potential causes of crises. Potential causes of crises can be environmental, organizational and interaction of the two. **[Mittroff I, Harrington L, Eric K. 1996, Molnar JM. 1999].**

Environmental causes of crises are those that companies have no or very little control over .These are generally related with economic, political, legal, natural and rivalry conditions, clients ‘expectations and technological developments **[Booth SA. 1993, Heath R. 1998].** Organizational causes, on the other hand, are those that companies have direct control over and are generally related with the management of the organization’s own resources. Interaction between the environment and the organization usually cause crises due to the problems related with the information flow and decision-making process.

b) **EARLY WARNING SYSTEM:** An early warning system provides the company a continuous review of financial, organizational and managerial performance of both the industry and the company with respect to the past. Any changes that may result in a crisis are then recognized and if the crisis cannot be prevented, threats and opportunities of the potential crisis are assessed. Such an assessment results in the overview of the company’s values, mission

and policies. If required, various organizational changes related with the management system, management approach and organizational structure are undertaken. Additionally crises plans that include crises scenarios and case studies are prepared in order to show how the company should react to crises [Loosemore M. 2000, Tuz VM.2003, Maynard R. 1993]. As Maynard [Maynard R. 1993] states, decisions during crises are more rational and crises are of shorter duration, for companies who prepare proactive crises plans.

2. MANAGEMENT DURING THE CRISIS

Management during the crisis starts with the pre- parathion of a management plan in order to guide both the management and the employees on what should be done to get the crisis under control with minimum loss [Tuz VM. 2003]. Decisions at this stage are undertaken under pressure, uncertainty and little time. Thus, use of team work and decision-making techniques like; brain storming, Delphi method, decision trees are essential for objective decision-making.

Besides managing the crisis plan, the management should focus on increasing the productivity and the motivation of employees. At this stage, any action like firing employees should be avoided, as these would affect employee morale [Baltas Z. 2002].

3. MANAGEMENT AFTER THE CRISIS

Activities after the crisis should start with the analysis of the current position of the company. New directions of the organization should be decided by analyzing the effects of crisis on the organization. Feedback on managerial, financial and organizational performance should be used to create new mission and policies of the organization [Loosemore M. 2000].Thus, strategic repositioning in the product/market position combined with a series of holistic changes in the structure, systems, processes need to be undertaken in order to be successful especially, in case of cumulative crises

.

D. FACTORS CAUSING CRISIS

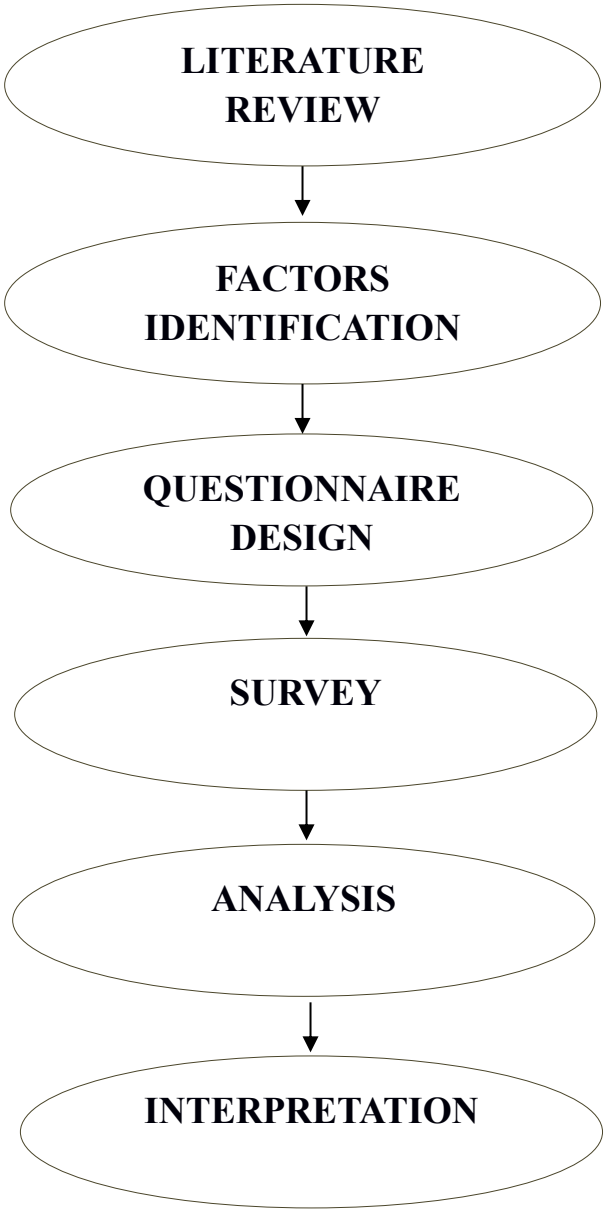
	Factors Causing Crisis
1	Political conditions
2	Financial management
3	Economic conditions
4	Client's Expectations
5	Technical difficulties
6	Employ Safety and Health Issues
7	Cost overrun
8	Under-estimate discovery
9	Legal requirements
10	Design related problems
11	Inadequate communication systems
12	Lack of financial support
13	Inadequacy of human resources
14	Inadequate organizational structure
15	Inadequate risk management applications
16	Inadequate feedback systems
17	Changes in project teams
18	Strikes
19	Technological developments
20	Adequate support towards socio-physiological needs of employees
21	Employ raiding by a competitor
22	Key employs starting a competing company
23	Insensitivity of company members towards company objectives
24	Inadequate perception of top management about problems
25	Too much centralization
26	Too much confidence on surviving any crisis
27	Resistance of employees towards change
28	Cultural problems
29	Natural Disasters
30	Industrial accidents
31	Sabotages
32	Managers leaving the project
33	Hostile approach of clients

DESCRIPTION OF CRISIS:

- **Political conditions:** Any kind of political influence affecting badly the project performance such as, elections, political grudges that can cause time over run.
- **Economic conditions:** The economic stability of a country. If the economic conditions of the country are not good then there cant be high budgeted projects in the country and the industry remains at the same status.
- **Employ Safety and Health Issues:** The illness and injury of employee during the project which can cause stoppage of work. If a new employee is hired than he will take time to understand the ins and outs of the project due to which delays occur which can cause crisis.
- **Cost overrun:** if the project going out of budget then waiting for the capital or arranging the capital will lead to delays.
- **Under-estimate discovery:** a new discovery which is found later can cause cost and time over run due to such as mistakes in estimation of cost, labor or material.
- **Legal requirements:** The bye laws and standards which require time to meet can cause time over run. If a byelaw is neglected can cause problem later.
- **Design related problems:** The flaws in design which recognized later in construction or the design which is beyond the scope or less than the scope can cause cost overrun time over run or stoppage of work due to the revision in design.
- **Inadequate communication systems:** communication gap between stake holders such as the client is unable to deliver his expectations to the contractor or the contractor to the labor then there will be a flaw in the design as well as the construction and the product is less than the expectations.
- **Inadequacy of human resource:** unavailability of human resource at the require time. This can cause the delay in the activity which can ultimately delay the project.
- **Inadequate organizational structure:** Insufficient information transfer due to the authority gap can cause the misunderstandings which can cause many conflicts.
- **Inadequate risk management applications:** lack or avoiding risk management applications. If the risk management is not adequate then there will always be a threat of any risk which cannot be overcome due to the inadequacy of risk management applications.
- **Inadequate feedback systems:** taking no feedback about the work or project will cause the weaknesses and flaws remain hidden that will lead to the problems.

- **Changes in project teams:** altering project teams during the project can cause delays because the new project team will take time to know the ins and outd of the project which will increase the duration of project.
- **Strikes:** Strike means delays which can affect the project cost in the form of time overrun and cost overrun.
- **Technological developments:** not adopting the new technological developments. If the competitor is adopting these technologies then all the next projects will be given to the competitor which will cause a negative impact to the industry.
- **Employ raiding by a competitor:** if any employee left and work under the competitor than there will be a threat of leakage of confidential knowledge to the competitor by the employee and the competitor may harm through this confidential knowledge
- **Key employs starting a competing company:** if a key employee starts his own company then besides losing the key employee, he knows all the strategies about the previous company through which he can threaten the company and can implement those strategies at low cost for the sake of customers which can decrease the amount of customers to the company
- **Inadequate perception of top management about problems:** carelessness of top management towards problems can convert those problems into crisis
- **Resistance of employees towards change:** if the employee remains resistive to the new challenges then the company can't grew up to the ladders of success besides this the client remains unsatisfied if the employee remains resistive towards his will.
- **Natural Disasters:** these are un predictable which can lost the total investment and the company will be in loss means total loss of investment
- **Industrial accidents:** stoppage of work due to any accidental effect can cause the delay in the project
- **Managers leaving the project:** manager is the key person who knows and manages the whole project, by hiring a new project manager can bring a drastic draw back in the project as the new project manager needs time to understand the ins and outs
- **Hostile approach of clients:** change in scope by the client will increase the quantity of work and there will be a time and cost over run

METHODOLOGY OF WORK



STEP BY STEP EXPLANATION OF METHODOLOGY

LITERATURE REVIEW

Research papers related to the crisis in the construction were read to develop the knowledge about the crisis and crisis management i.e. what they actually are and also different internet links were used to get the sense about the topic.

FACTORS IDENTIFICATION

After doing the literature review, then the factors which lead to crisis were identified and understood to properly use it in the survey and interpretation.

QUESTIONNAIRE DESIGN

After factors identification, the next step was to design a survey form in a manner that it is easily understandable to the targeted audience and is easily analyzable for the required results.

SURVEY

Conducted survey by 20 consultants, contractors, site engineers and project managers in the construction industry. By filling up the questionnaire from them, get to know about the crisis management practices and different approaches.

ANALYSIS

Did the analysis of the collected data, get to know about the crisis management practices and different approaches of the construction industry.

INTERPRETATION

The last step was to interpret the analyzed data to get the required results.

STUDY DESIGN

A. RSEARCH DESIGN

On the basis of the research work, a questionnaire is prepared to understand how effectively the crisis discovered effect the management of the construction industries in Pakistan and what is the best solution to these crisis in the perception of the people of the construction industry.
Questionnaire comprises of the following sections:

SECTION A: Contains Respondent's information.

SECTION B: It contains factors causing crisis and is further divided into two parts.

- **PART 1:** This part consists of perception of crisis i.e. percentage of the ambiguities mentioned for crisis in construction. In this part discussed some leading ambiguities that how frequently these factors occur in construction industry as crisis in any project. Discussed 33 factors in this part and defined rating for them from 1-5 and decoded them as:

1	Very highly important
2	Highly important
3	Moderately important
4	Somewhat important
5	Not important

- **PART 2:** this part consists of identification of crisis and certain factors which can lead to crisis in construction industry. This part containing 33 factors regarding the crisis leading factors that how effectively these factors leading towards crisis in any construction project and used rating format starting from 1-5 and decoded them as:

1	Always
2	Occasionally
3	Often
4	Rarely
5	Never

- **Section C:** It contains different definitions of crisis and the respondents are requested to rank the option as per the scale describing their perception about crisis in Pakistani construction industry. The scale is decoded as:

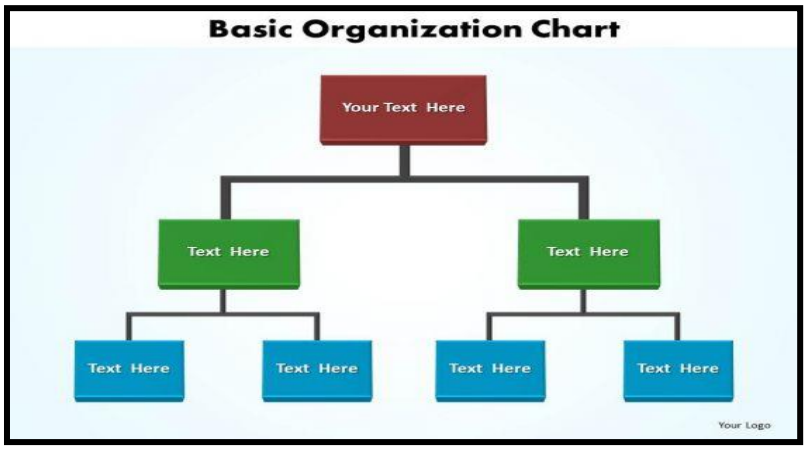
1	Always
2	Occasionally
3	Often
4	Rarely
5	Never

Section D: It contains three types of the organizational structure the respondents are requested to select the appropriate structure for Pakistani construction organizations. The structures mentioned below;

1) **BASIC ORGANIZATIONAL STRUCTURE**

The typically hierarchical arrangement of lines of authority, communications, rights and duties of an organization. Organizational structure determines how the roles, power and responsibilities are assigned, controlled, and coordinated, and how information flows between the different levels of management. Companies also may be structured according to projects or products. This type of organizational structure is called basic organization structure and is common in environments where projects, products or product lines are governed independently of each other.

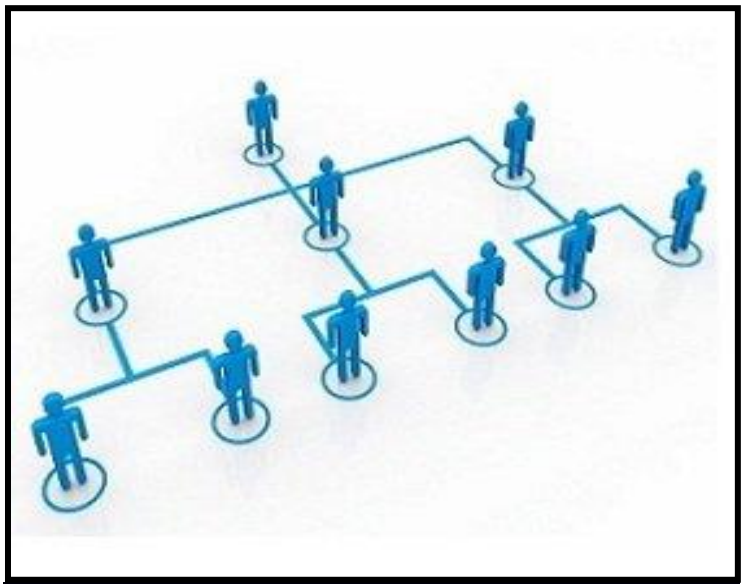
A basic organizational structure can make it easier for a company to respond to market changes. Also, within the division, communication is easier and team identification is encouraged. On the downside, work can become inefficient as some efforts are duplicated. There also can be conflict between divisions, especially if one is more successful than another.



2) FUNCTIONAL ORGANIZATIONAL STRUCTURE

In a functional organization structure, you will report to the functional manager, while in other types of structures, you will report either to the project manager or multiple bosses. A functional organizational structure is a structure that consists of activities such as coordination, supervision and task allocation. The organizational structure determines how the organization performs or operates. The term organizational structure refers to how the people in an organization are grouped and to whom they report. One traditional way of organizing people is by function. Some common functions within an organization include production, marketing, human resources, and accounting.

This organizing of specialization leads to operational efficiency where employees become specialists within their own realm of expertise. The most typical problem with a functional organizational structure is however that communication within the company can be rather rigid, making the organization slow and inflexible. Therefore, lateral communication between functions become very important, so that information is disseminated, not only vertically, but also horizontally within the organization. Communication in organizations with functional organizational structures can be rigid because of the standardized ways of operation and the high degree of formalization.



3) Matrix ORGANISATIONAL STRUCTURE

Matrix management is the practice of managing individuals with more than one reporting line. The matrix structure groups employees by both function and product. This structure can combine the best of both separate structures. A matrix organization frequently uses teams of employees to accomplish work, in order to take advantage of the strengths, as well as make up for the weaknesses, of functional and decentralized forms. An example would be a company that

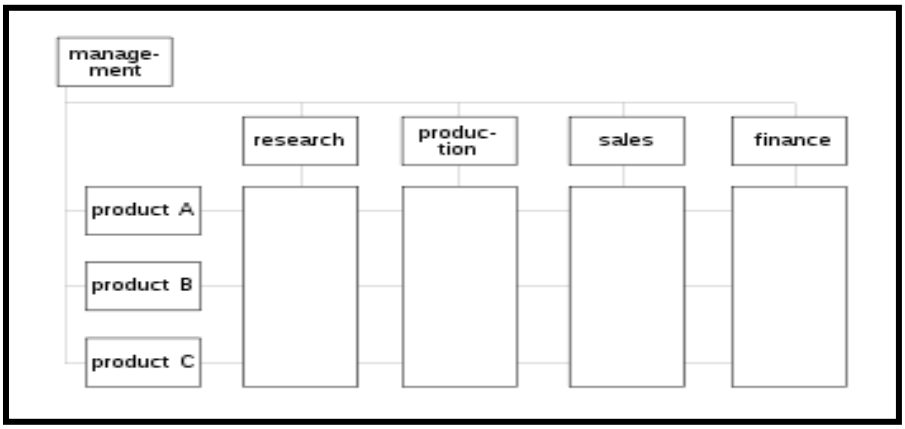
produces two products, "product a" and "product b". Using the matrix structure, this company would organize functions within the company as follows: "product a" sales department, "product a" customer service department, "product a" accounting, "product b" sales department, "product b" customer service department, "product b" accounting department. Matrix structure is amongst the purest of organizational structures, a simple lattice emulating order and regularity demonstrated in nature.

i. **WEAK/FUNCTIONAL MATRIX:** A project manager with only limited authority is assigned to oversee the cross- functional aspects of the project. The functional managers maintain control over their resources and project areas.

ii. **BALANCED/FUNCTIONAL MATRIX:** A project manager is assigned to oversee the project. Power is shared equally between the project manager and the functional managers. It brings the best aspects of functional and projected organizations. However, this is the most difficult system to maintain as the sharing of power is a delicate proposition.

iii. **STRONG/PROJECT MATRIX:** A project manager is primarily responsible for the project. Functional managers provide technical expertise and assign resources as needed.

Matrix structure is only one of the three major structures. The other two are Functional and Project structure. Matrix management is more dynamic than functional management in that it is a combination of all the other structures and allows team members to share information more readily across task boundaries. It also allows for specialization that can increase depth of knowledge in a specific sector or segment.



Section E: It contains possible solutions to get over with crisis and the respondents are requested to rank the best solution for the organizations engaged in construction sector of Pakistan on the following scale.

1	Very useful
2	Occasionally useful
3	Often useful
4	Rarely useful
5	Never useful

CRISIS MANGEMENT IN THE CONSTRUCTION INDUSTRY OF PAKISTAN

Background:

Crisis is defined as those internal and/or external events that cause stress on organizational resources and pose the greatest threats on any organization's security and vitality. They always arise during the execution of work in construction projects, so to overcome these crises or to reduce their impacts on organization crisis management is practiced.
The purpose of this questionnaire is to study construction project crisis management's status, and the best solution of crisis for the construction industry of Pakistan.

Confidentiality Statement:

The results of this survey form would be strictly confidential. The name, designation, address or any other information of the person/organization would not be published in the survey form, the survey results will only be used for research purpose.

Introduction:

This questionnaire comprises of five sections.
Section A: ***Respondent's information***.
Section B: It contains ***factors causing crisis*** and is divided into two parts.

- Part 1: Contains ***factors causing crises*** and the respondents are requested to ***rank these factors on the basis of their importance***.
- Part 2: Also Contains ***factors causing crises*** and the respondents are requested to ***rank these factors based on the practices*** in Pakistani construction industry.

Section C: It contains ***consequences of crisis*** and the respondents are requested to ***rank these as per their perception.***
Section D: It contains three types of the ***organizational structure*** and the respondents are requested to ***select the appropriate structure*** for Pakistani construction organizations.
Section E: It contains ***Strategies to manage crisis*** and the respondents are requested to ***rank these strategies*** for Pakistani construction organizations.

Instructions:

Please take a look at the following questionnaire, and based on your experience, try to answer correctly and accurately, all the questions. If you find that the questionnaire is not suited to your expertise, then please forward it to a person, preferable in your organization, who may answer the questions.

Section A: Respondent's Information

Respondent's Name

Organization	
Designation	
Experience	
Contact Information	

Section B: Factors causing Crisis

PART 1:

1. *Rank the following factors causing crises based on their importance as per your perception.*
   Scale:

Very highly important	Highly important	Moderately important	Somewhat important	Not important
1	2	3	4	5

	Factors Causing Crisis	1	2	3	4	5
1	Political conditions					
2	Financial management					
3	Economic conditions					
4	Client's Expectations					
5	Technical difficulties					
6	Employ Safety and Health Issues					
7	Cost overrun					
8	Under-estimate discovery					
9	Legal requirements					
10	Design related problems					
11	Inadequate communication systems					
12	Lack of financial support					
13	Inadequacy of human resources					
14	Inadequate organizational structure					
15	Inadequate risk management applications					
16	Inadequate feedback systems					
17	Changes in project teams					
18	Strikes					
19	Technological developments					
20	Adequate support towards socio-physiological needs of employees					
21	Employ raiding by a competitor					
22	Key employs starting a competing company					
23	Insensitivity of company members towards company objectives					
24	Inadequate perception of top management about problems					
25	Too much centralization					
26	Too much confidence on surviving any crisis					
27	Resistance of employees towards change					
28	Cultural problems					
29	Natural Disasters					
30	Industrial accidents					
31	Sabotages					
32	Managers leaving the project					
33	Hostile approach of clients					

PART 2:

2. *Rank the following factors causing crises in the manner you consider them, while practicing crises management in your organization.*
   Scale:

Always	Occasionally	Often	Rarely	Never
1	2	3	4	5

	Factors Causing Crisis	1	2	3	4	5
1	Political conditions					
2	Financial management					
3	Economic conditions					
4	Client's Expectations					
5	Technical difficulties					
6	Employ Safety and Health Issues					
7	Cost overrun					
8	Under-estimate discovery					
9	Legal requirements					
10	Design related problems					
11	Inadequate communication systems					
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29	Natural Disasters					
30	Industrial accidents					
31	Sabotages					
32	Managers leaving the project					
33	Hostile approach of clients					

Section C: Perception of Crisis

1. *Based on the factors causing crisis, rank the following consequences, describing what crisis might bring to your organization?*
   Scale:

Always	Occasionally	Often	Rarely	Never
1	2	3	4	5

	Perception Of Crisis	1	2	3	4	5
1.	Uncertainty					
2.	Risk					
3.	Instability					
4.	Halt					
5.	Opportunity					
6.	Confusions					
7.	Problems					
8.	Threat					
9.	**Disaster**					

Section D: Most Appropriate Organizational Structure for Crisis Management

1. *What do you think that will be the most suitable organizational structure that help in minimizing crisis?*

	Organizational Structures	
1.	Basic Organizational Structure	
2.	Functional Organizational Structure	
3.	Matrix Organizational Structure	

Section E: Strategies to overcome Crisis

1. *In your opinion how useful are the following strategies to overcome crises in Pakistani construction industry?*
   Scale:

Very useful	Occasionally useful	Often useful	Rarely useful	Never useful
1	2	3	4	5

	Strategies To Overcome Crisis	1	2	3	4	5
1.	Change the organizational structure					
2.	Diversify to new markets					
3.	Give paid/ unpaid leaves to employees					
4.	Employ a Crisis manager or consultant					
5.	Decrease employ's working hours					
6.	Fire some of the employs					
7.	Change the top management					

B. DATA COLLECTION METHODOLOGY

A questionnaire survey will be undertaken with the respondents of at least 15 construction companies that are part of the Pakistan Construction Industry. Questionnaires will be delivered to the companies by hand.

C. SURVEY TARGET AUDIENCE

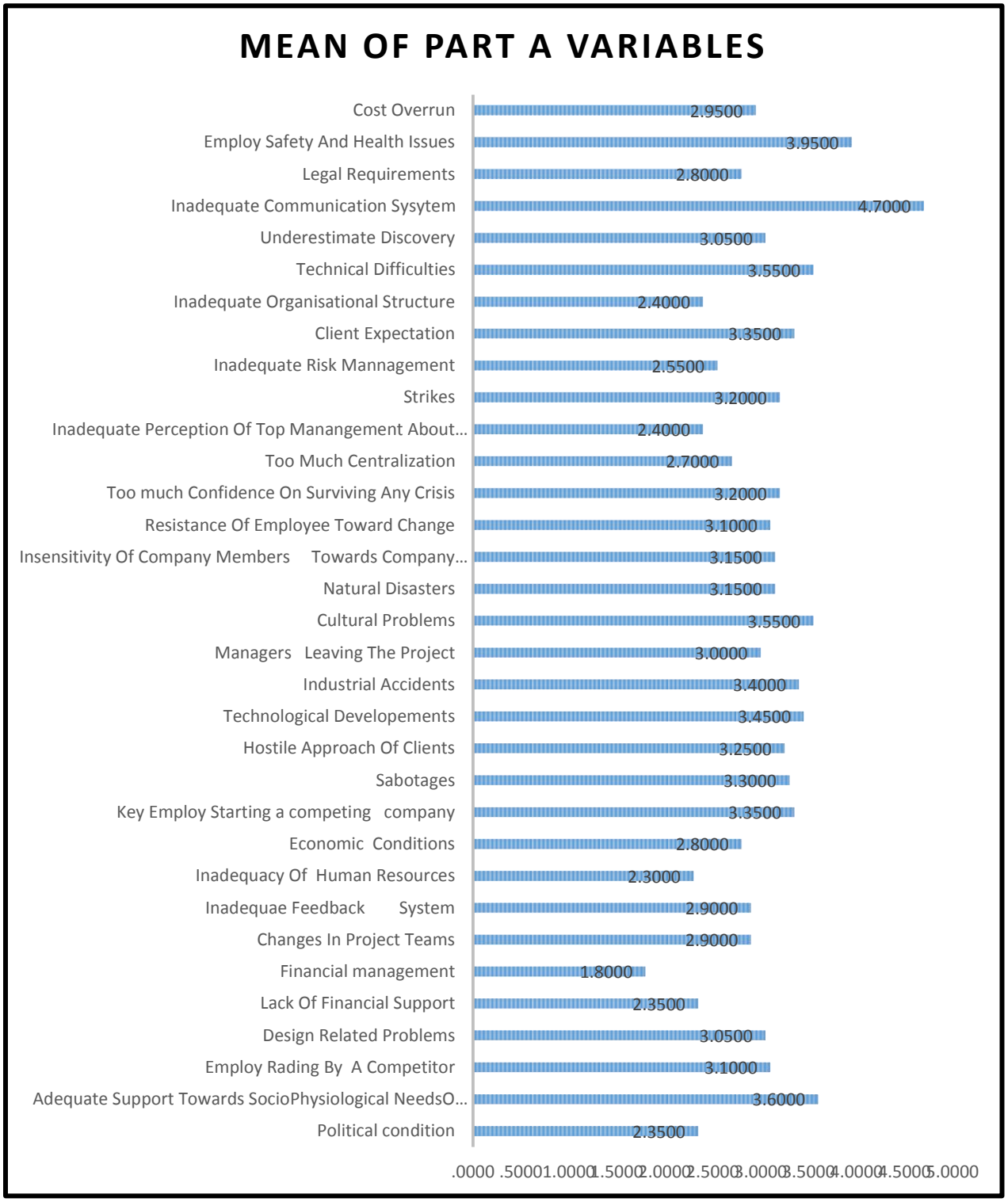
The target audience will be the contractors, project managers, site engineers, construction managers from the construction organizations of Pakistan having a good knowledge of construction.

ANALYSIS AND RESULTS

The analysis is done using SPSS Software and MS Excel. First the mean of the variables is tabulated through SPSS which is used to generate Mean Graphs on excel. Based on the mean value of the variables the one mean test (t-test) is applied to forecast the importance and consideration/ perception/ Organizational structure and best strategy listed in the questionnaire.

A. SECTION B

1. PART A



T-TEST TO CONFIRM MEAN

A. FOR 2= IMPORTANT

ONE-SAMPLE TEST				
Test Value = 2				
	t	df	Sig. (2-tailed)	Mean Difference
Political condition	1.234	19	.232	.35000
Financial management	-.847	19	.408	-.20000
Lack Of Financial Support	1.437	19	.167	.35000
Inadequacy Of Human Resources	1.453	19	.163	.30000
Inadequate Organizational Structure	1.633	19	.119	.40000
Inadequate Perception Of Top Management About Problems	1.902	19	.072	.40000

INTERPRETATION:

The test suggest that the above factors tested are not important factors that cause crisis as per the perception of the people associated with the Pakistan's Construction industry.

B. FOR 3= MODERATELY IMPORTANT

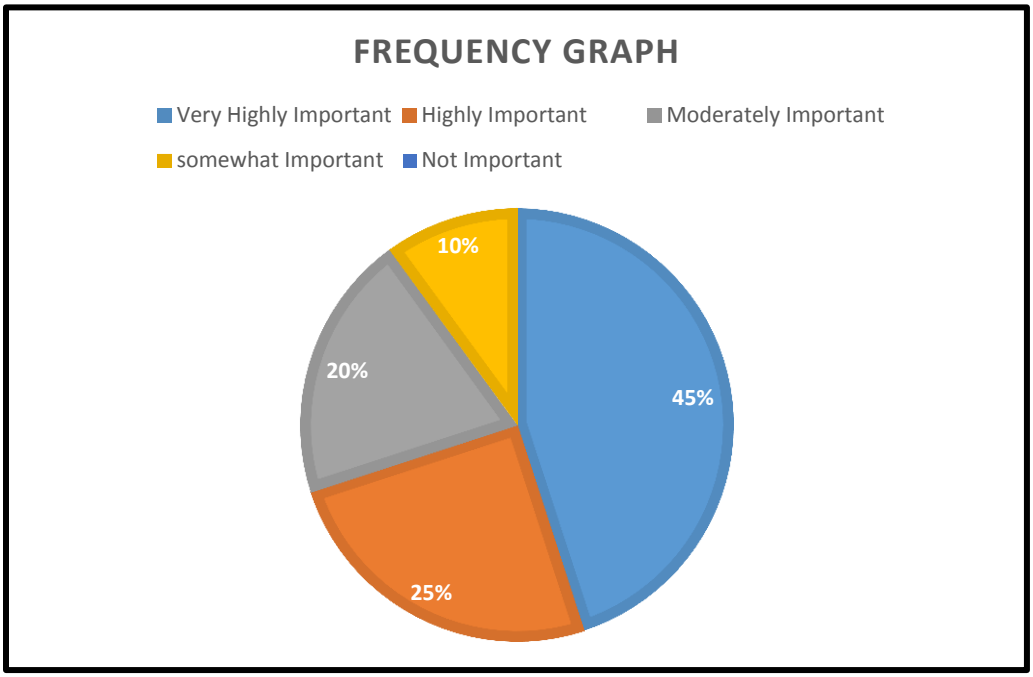
ONE-SAMPLE TEST				
Test Value = 3				
	t	df	Sig. (2-tailed)	Mean Difference
Cost Overrun	-.213	19	.834	-.05000
Legal Requirements	-.847	19	.408	-.20000
Underestimate Discovery	.181	19	.858	.05000
Technical Difficulties	2.238	19	.037	.55000
Client Expectation	1.377	19	.185	.35000
Inadequate Risk Management	-1.577	19	.131	-.45000
Strikes	.777	19	.447	.20000
Too Much Centralization	-1.552	19	.137	-.30000
Too much Confidence On Surviving Any Crisis	.940	19	.359	.20000
Resistance Of Employees Toward Change	.462	19	.649	.10000
Insensitivity Of Company Members Towards Company Objectives	.590	19	.562	.15000
Natural Disasters	.529	19	.603	.15000
Managers Leaving The Project	.000	19	1.000	.00000
Industrial Accidents	1.566	19	.134	.40000
Technological Developments	1.690	19	.107	.45000
Hostile Approach Of Clients	1.045	19	.309	.25000
Sabotages	1.301	19	.209	.30000
Key Employee Starting A competing Company	1.277	19	.217	.35000
Economic Conditions	-.777	19	.447	-.20000
Inadequate Feedback System	-.335	19	.741	-.10000
Changes In Project Teams	-.418	19	.681	-.10000
Design Related Problems	.165	19	.871	.05000
Employ Raiding By A Competitor	.418	19	.681	.10000

INTERPRETATION:

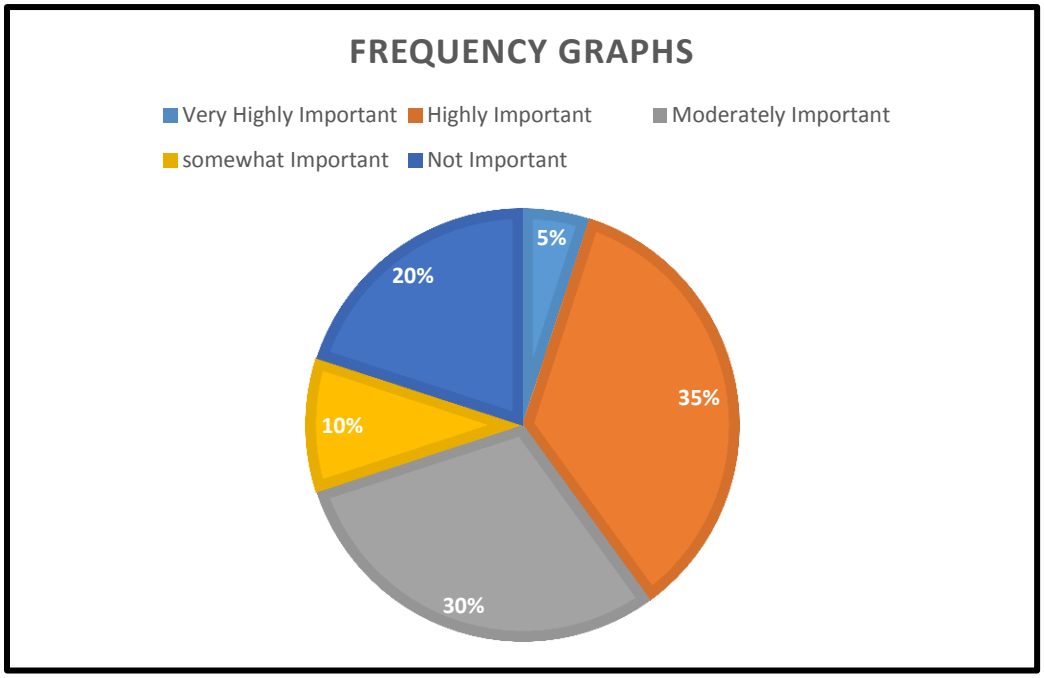
The test suggest that the highlighted factors are considered somewhat important as the cause of crisis in the perception of the people associated with the Pakistan's Construction industry.

a. Frequency Graphs:

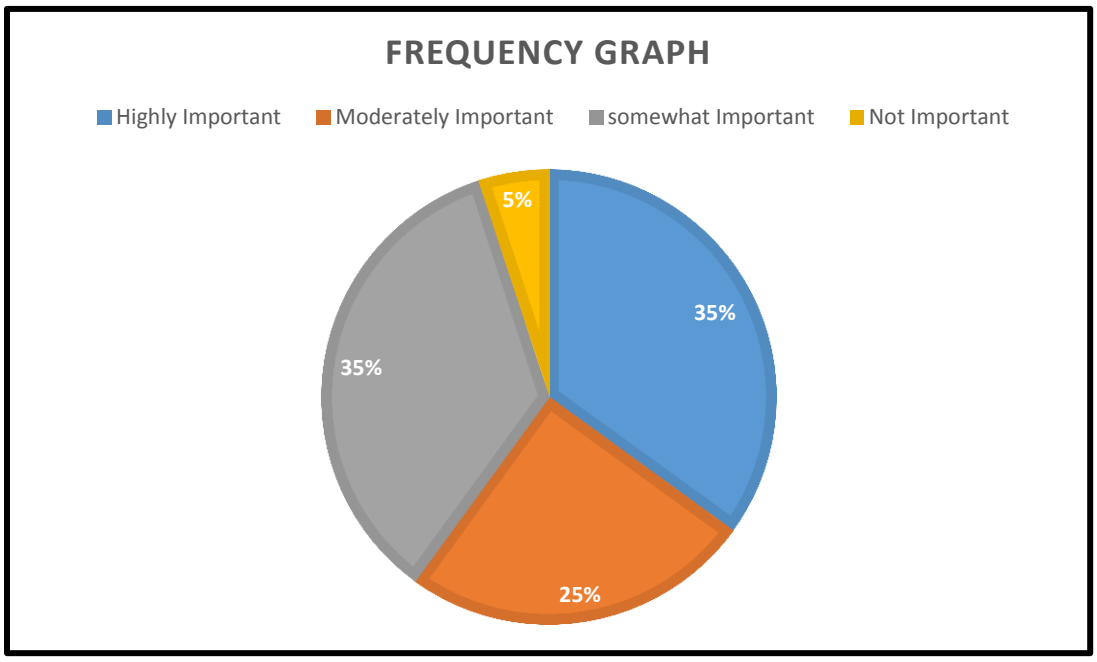
i. COST OVER RUN



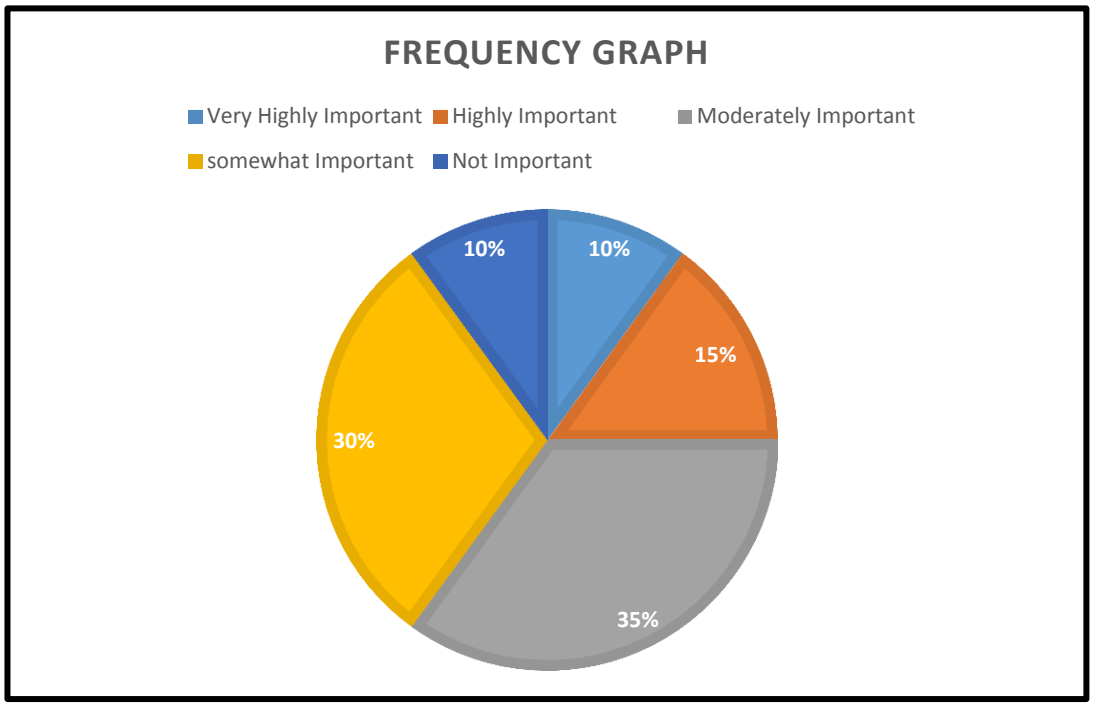
ii. UNDERESTIMATE DISCOVERY



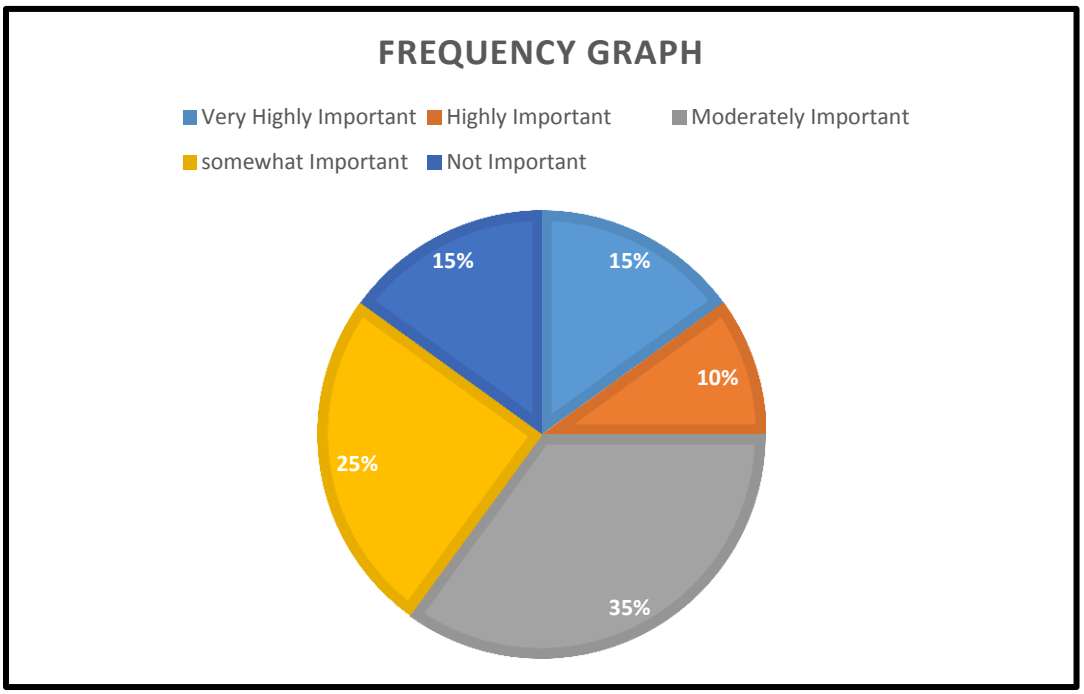
iii. RESISTANCE OF EMPLOYEE TOWARDS CHANGE



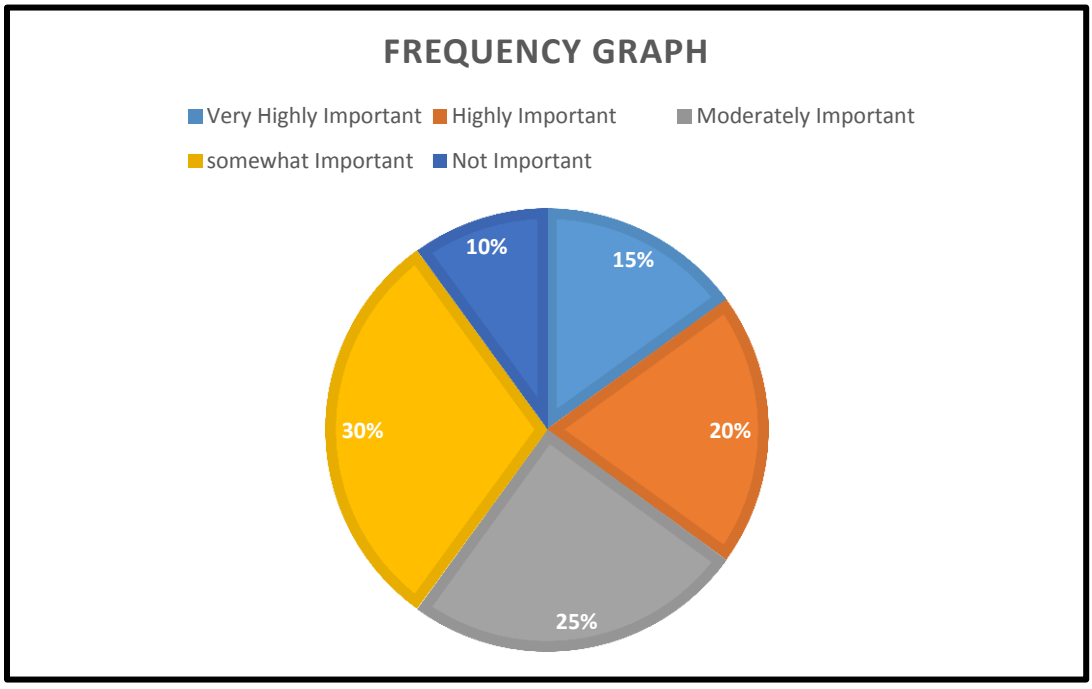
iv. INSENSITIVITY OF COMPANY MEMBERS TOWARDS CHANGE



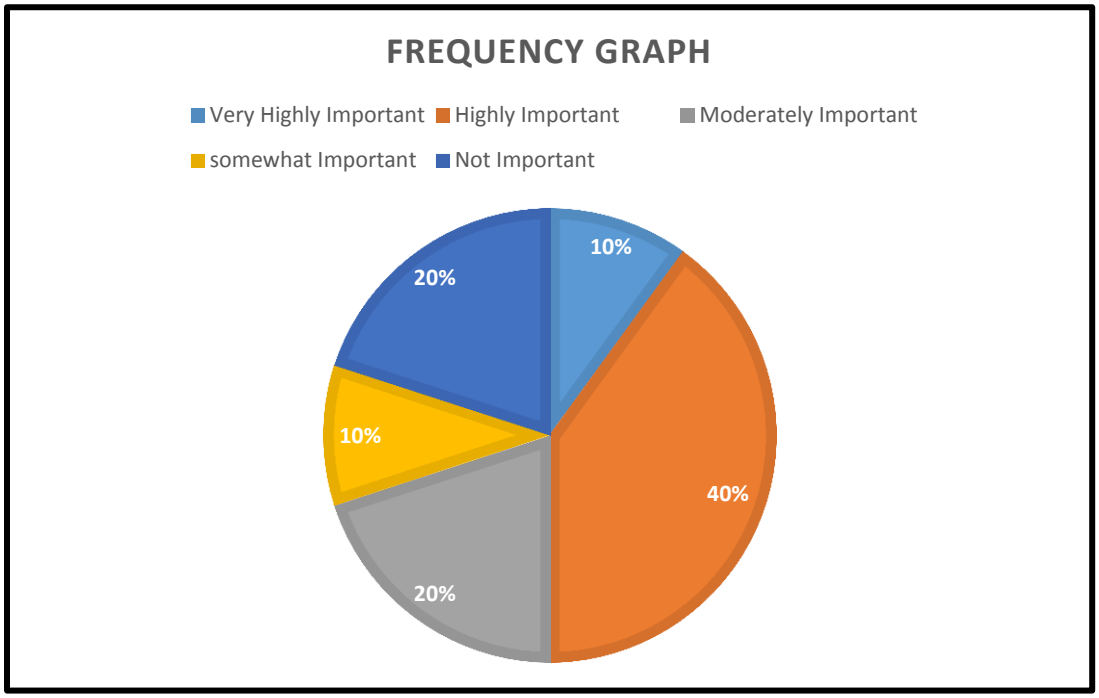
v. NATURAL DISASTERS



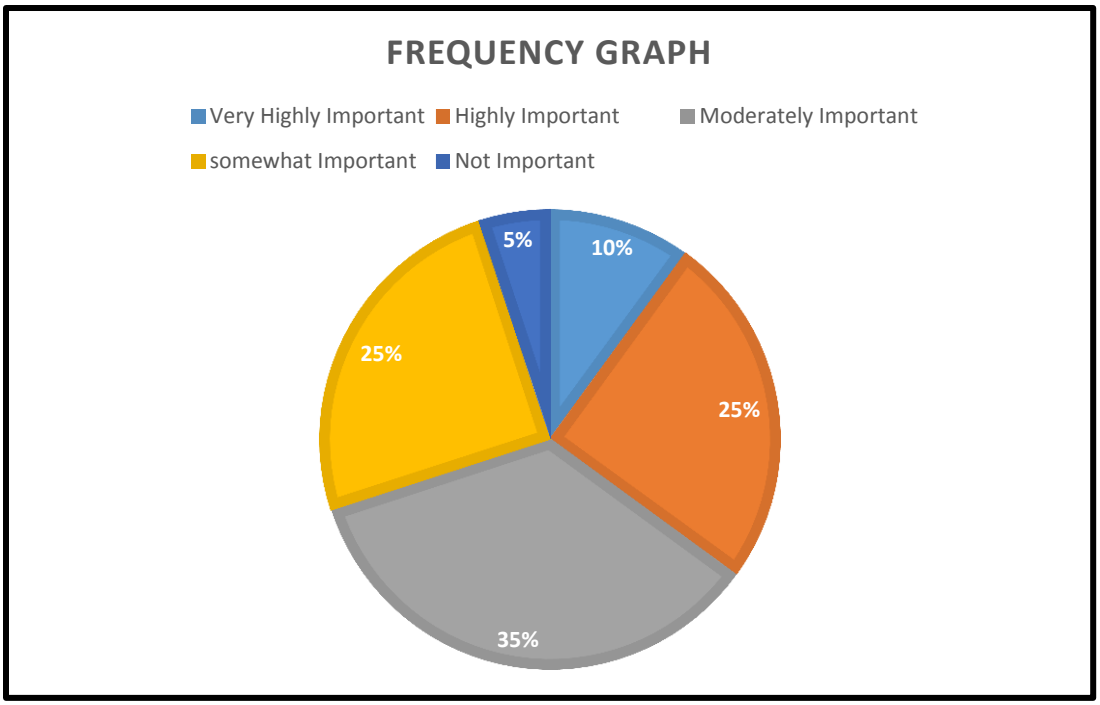
vi. MANAERS LEAVING THE PROJECT



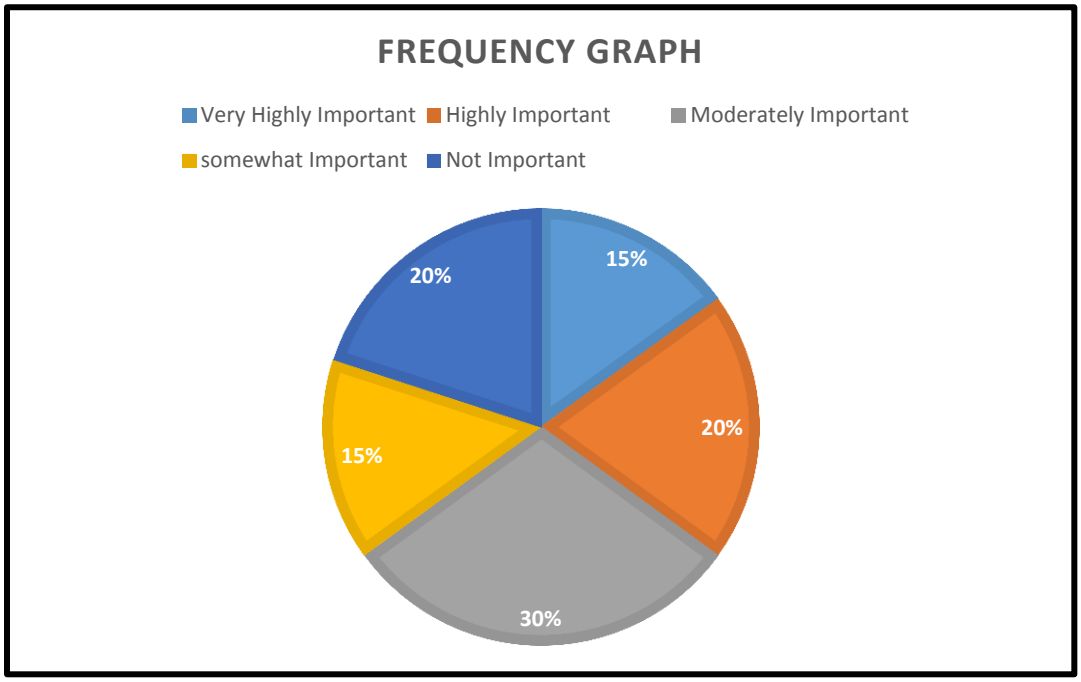
vii. INADEQUATE FEEDBACK SYSTEM



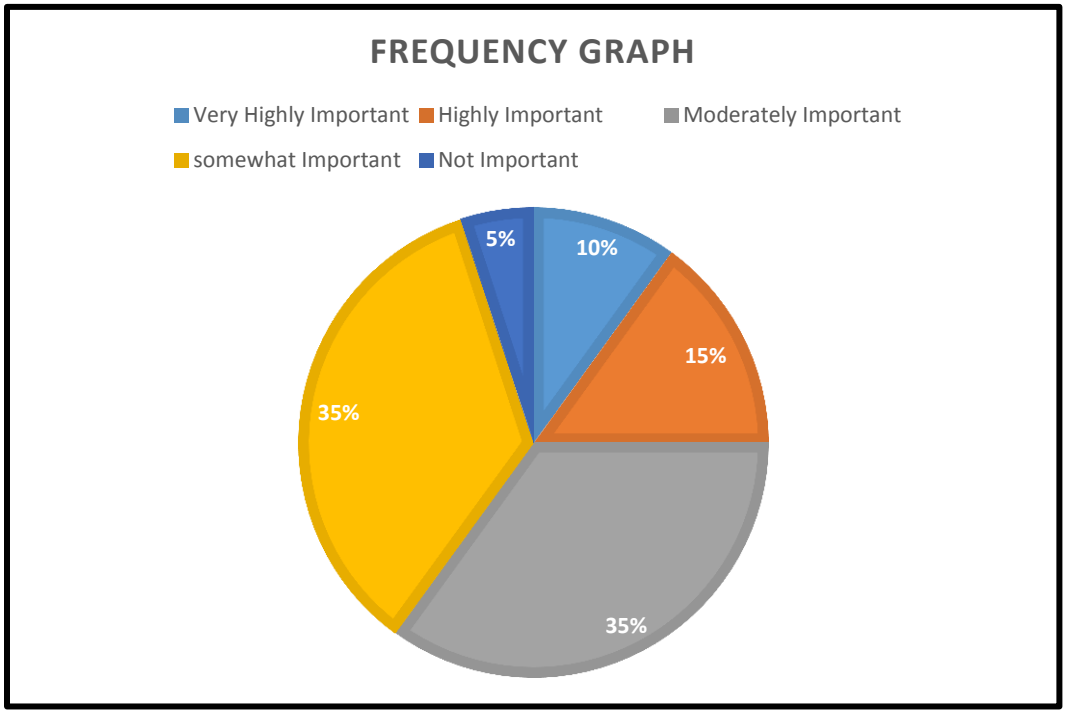
viii. CHANGES IN PROJECT TEAMS



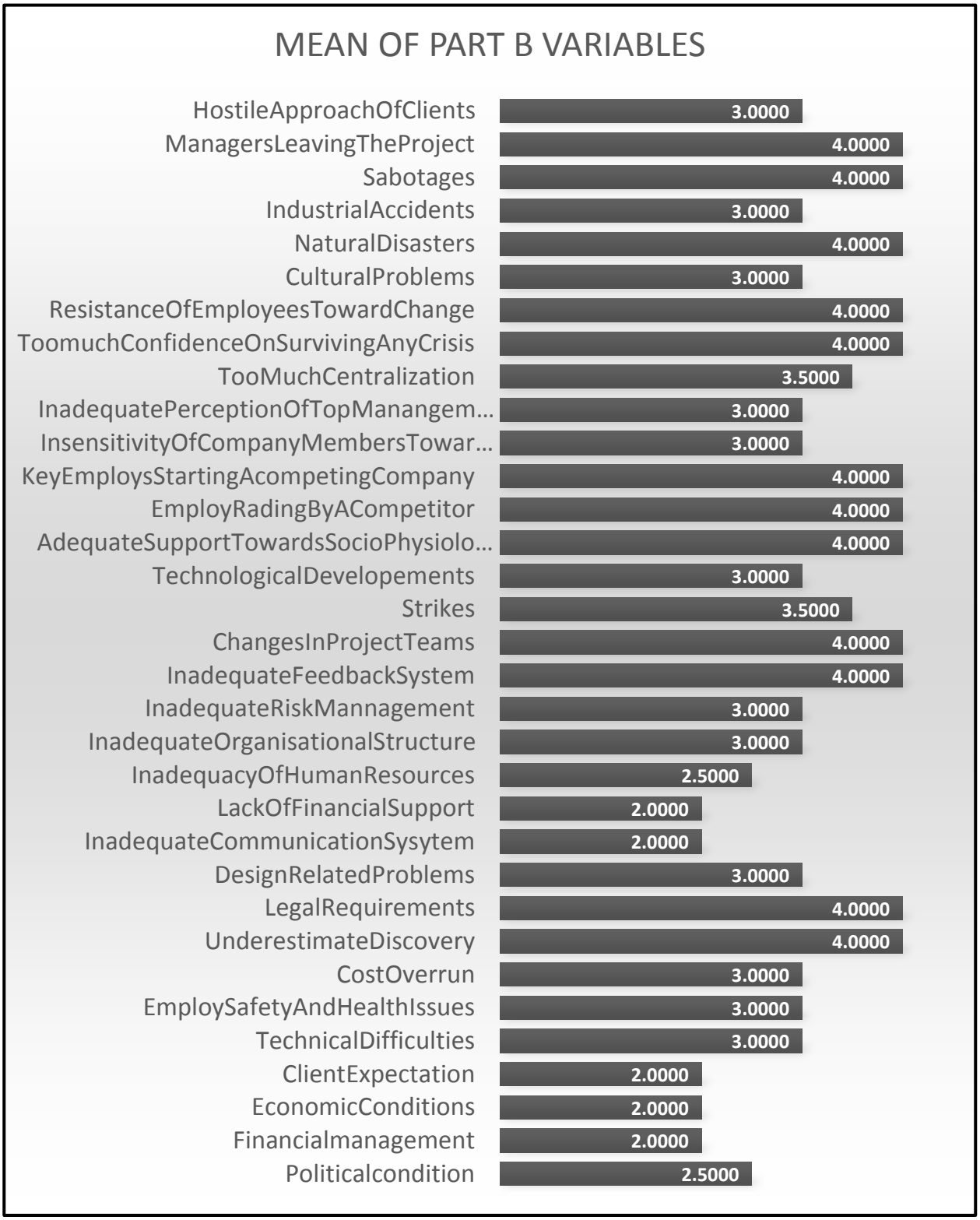
ix. DESIGN RELATED PROBLEMS



x. EMPLOY RAIDING BY A COMPETITOR



2. PART B


MEAN OF PART B VARIABLES
HostileApproachOfClients 3.0000
ManagersLeavingTheProject 4.0000
Sabotages 4.0000
IndustrialAccidents 3.0000
NaturalDisasters 4.0000
CulturalProblems 3.0000
ResistanceOfEmployeesTowardChange 4.0000
ToomuchConfidenceOnSurvivingAnyCrisis 4.0000
TooMuchCentralization 3.5000
InadequatePerceptionOfTopManangem… 3.0000
InsensitivityOfCompanyMembersTowar… 3.0000
KeyEmploysStartingAcompetingCompany 4.0000
EmployRadingByACompetitor 4.0000
AdequateSupportTowardsSocioPhysiolo… 4.0000
TechnologicalDevelopements 3.0000
Strikes 3.5000
ChangesInProjectTeams 4.0000
InadequateFeedbackSystem 4.0000
InadequateRiskMannagement 3.0000
InadequateOrganisationalStructure 3.0000
InadequacyOfHumanResources 2.5000
LackOfFinancialSupport 2.0000
InadequateCommunicationSysytem 2.0000
DesignRelatedProblems 3.0000
LegalRequirements 4.0000
UnderestimateDiscovery 4.0000
CostOverrun 3.0000
EmploySafetyAndHealthIssues 3.0000
TechnicalDifficulties 3.0000
ClientExpectation 2.0000
EconomicConditions 2.0000
Financialmanagement 2.0000
Politicalcondition 2.5000

T-TEST TO CONFIRM MEAN

A. FOR 2= CONSIDERED

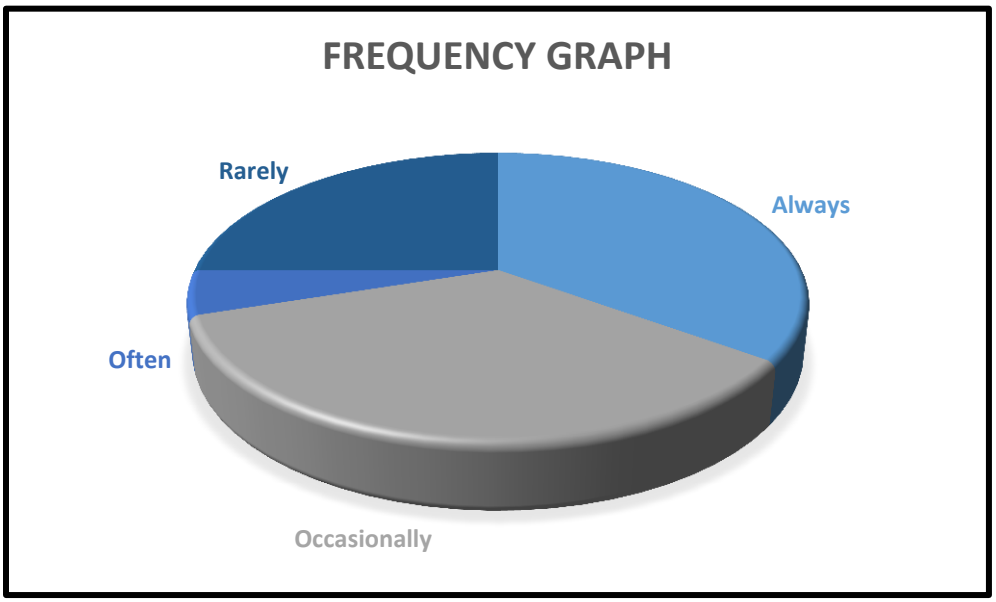
ONE-SAMPLE TEST				
Test Value = 2				
	t	df	Sig. (2-tailed)	Mean Difference
Financial management	.748	19	.464	.20000
Economic Conditions	-.462	19	.649	-.10000
Client Expectation	1.241	19	.230	.30000
Inadequate Communication System	1.677	19	.110	.35000
Lack Of Financial Support	1.505	19	.149	.35000

INTERPRETATION:

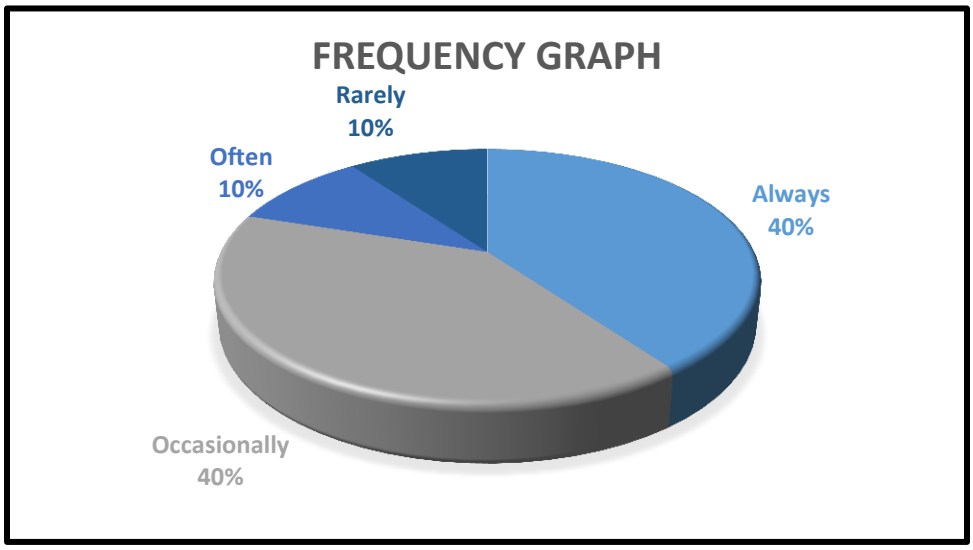
The test suggest that the factors as FINANCIAL MANAGEMENT and ECONOMIC CONDITIONS are generally considered during crisis management in the Pakistani construction industry.

a. Frequency Graphs:

i. FINANCIAL MANAGEMENT



ii. ECONOMIC CONDITIONS



B. FOR 3= OFTEN CONSIDERED

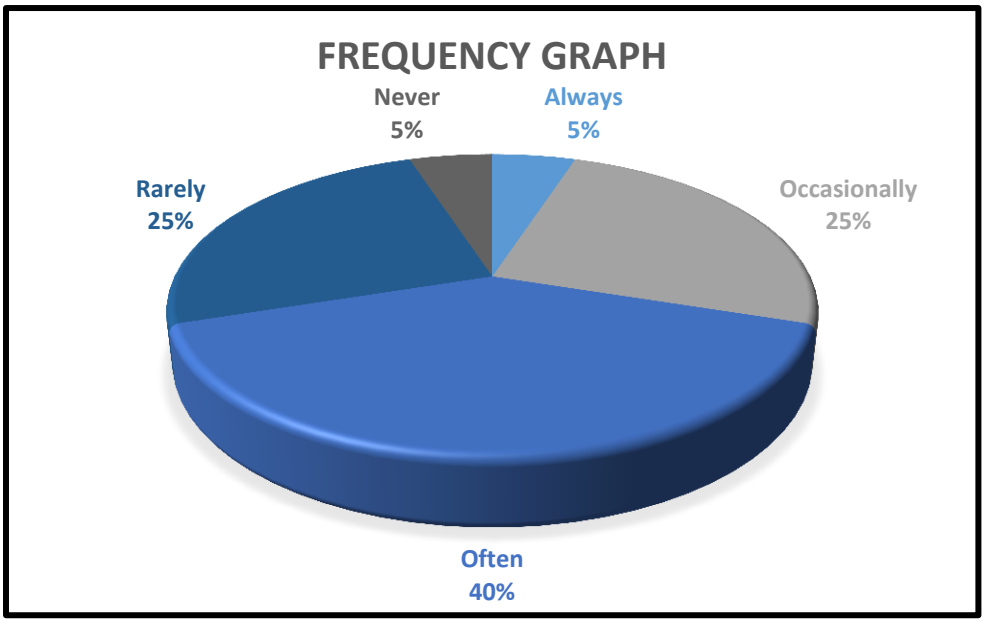
One-Sample Test				
Test Value = 3				
	t	df	Sig. (2-tailed)	Mean Difference
Cost Overrun	.000	19	1.000	.00000
Employ Safety And Health Issues	1.157	19	.262	.25000
Technical Difficulties	1.314	19	.204	.25000
Hostile Approach Of Clients	-.203	19	.841	-.05000
Technological Developments	.471	19	.643	.15000
Inadequate Perception Of Top Management About Problems	.777	19	.447	.20000
Insensitivity Of Company Members Towards Company Objectives	2.131	19	.046	.45000
Industrial Accidents	.809	19	.428	.20000
Cultural Problems	1.301	19	.209	.30000
Inadequate Risk Management	.000	19	1.000	.00000
Inadequate Organizational Structure	.721	19	.479	.20000

INTERPRETATION:

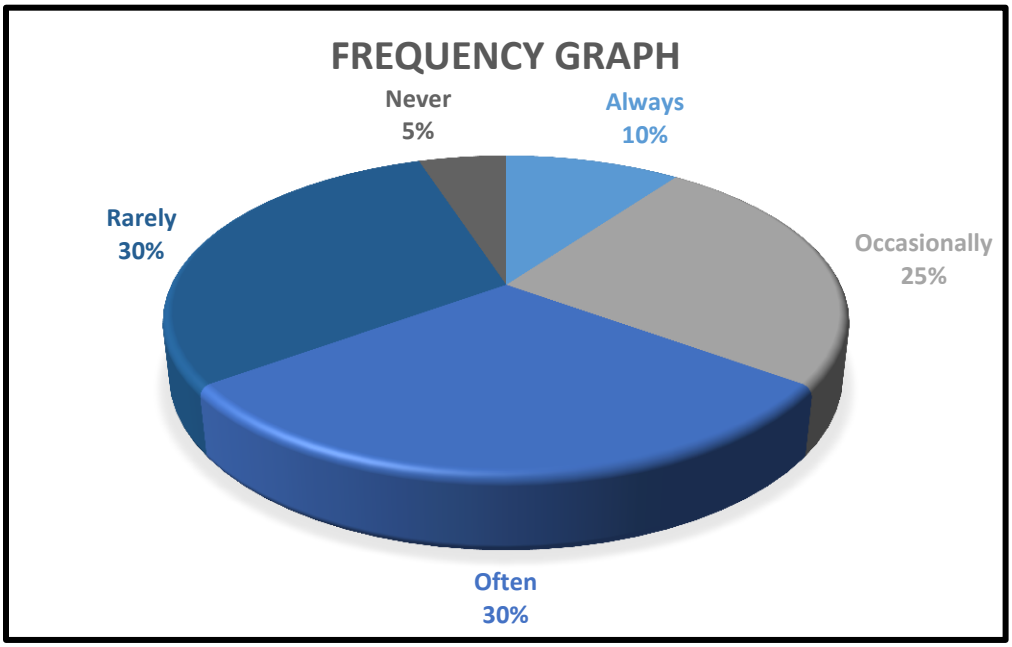
The test suggest that the highlighted factors are considered often while practicing crisis management in the perception of the people associated with the Pakistan's Construction industry.

a. **Frequency Graphs:**

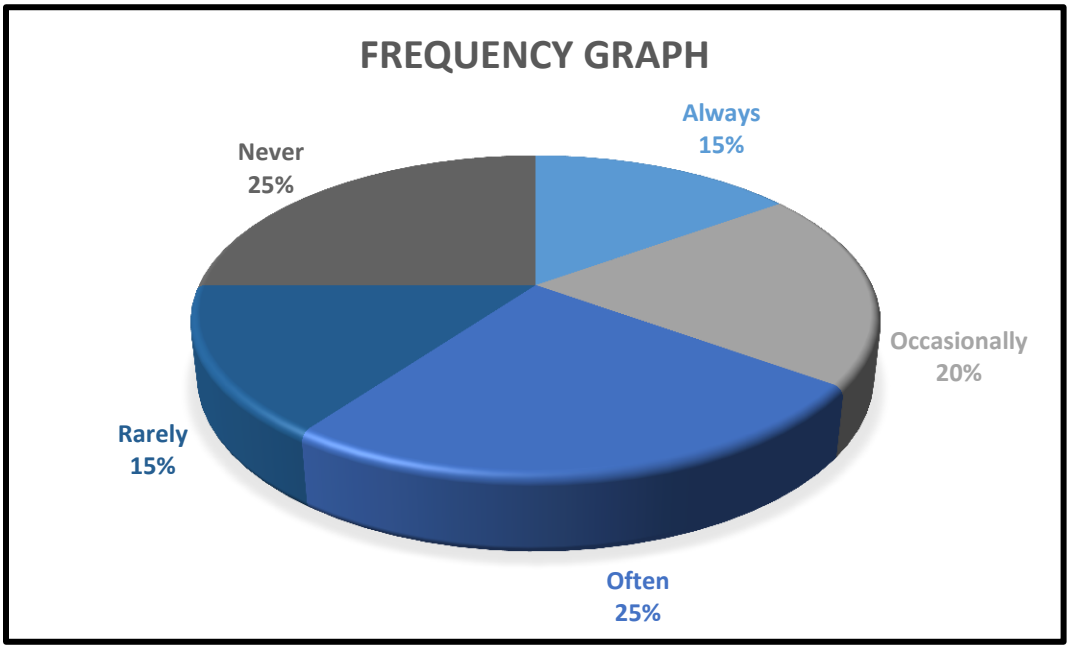
i. COST OVER RUN



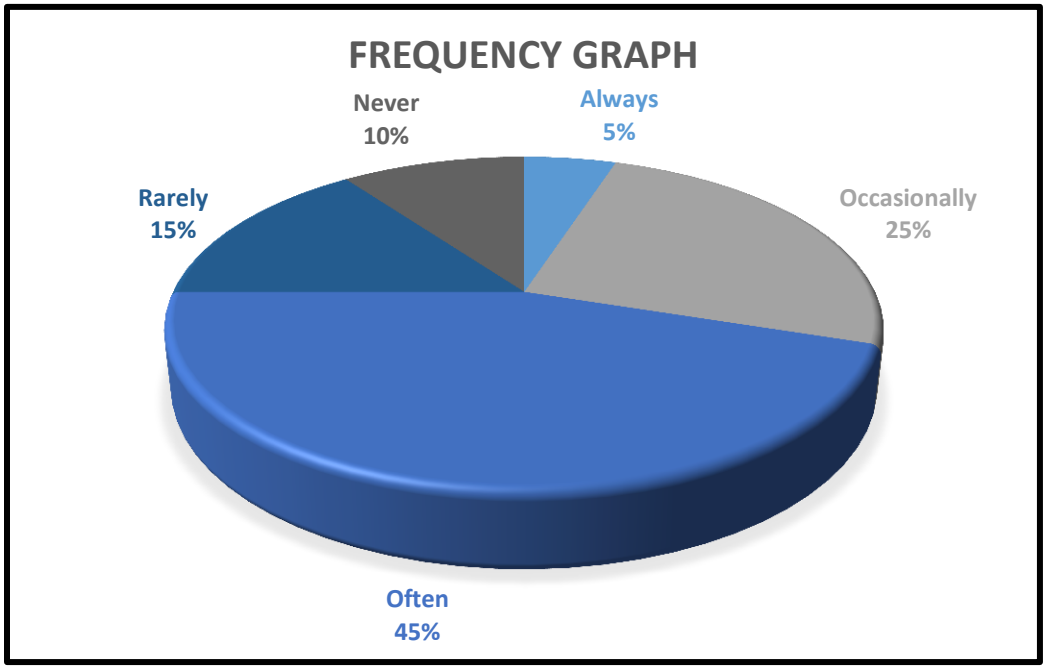
ii. HOSTILE APPROACH OF CLIENTS



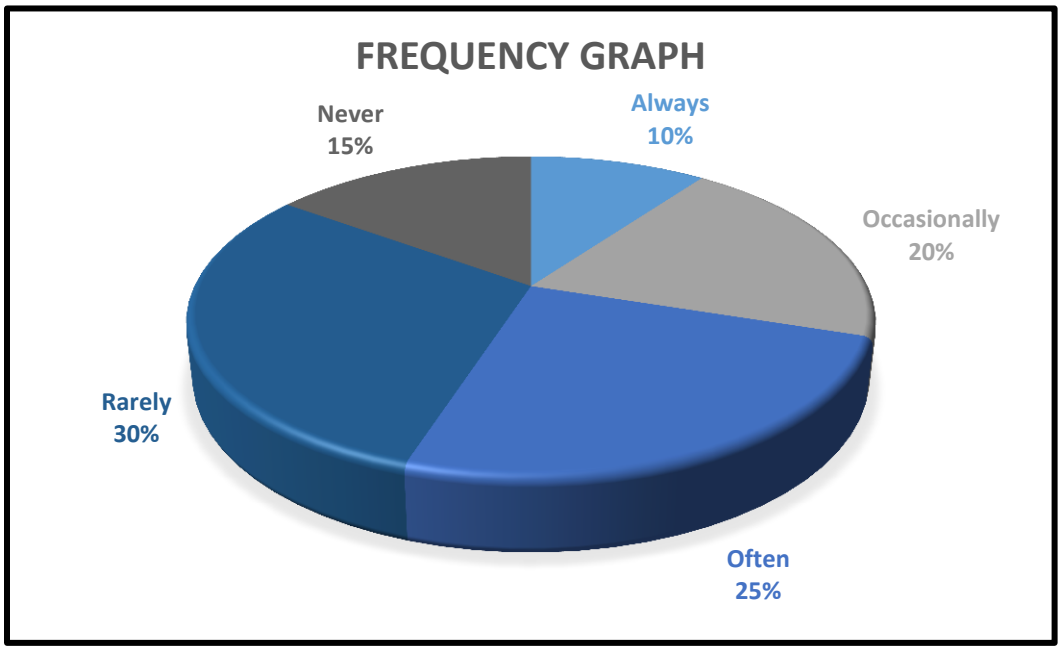
iii. TECHNOLOGICAL DEVELOPMENTS



iv. INADEQUATE RISK MANANGEMENT



v. INADEQUATE ORGANISATIOANL STRUCTURE



C. FOR 4= RARELY CONSIDERED

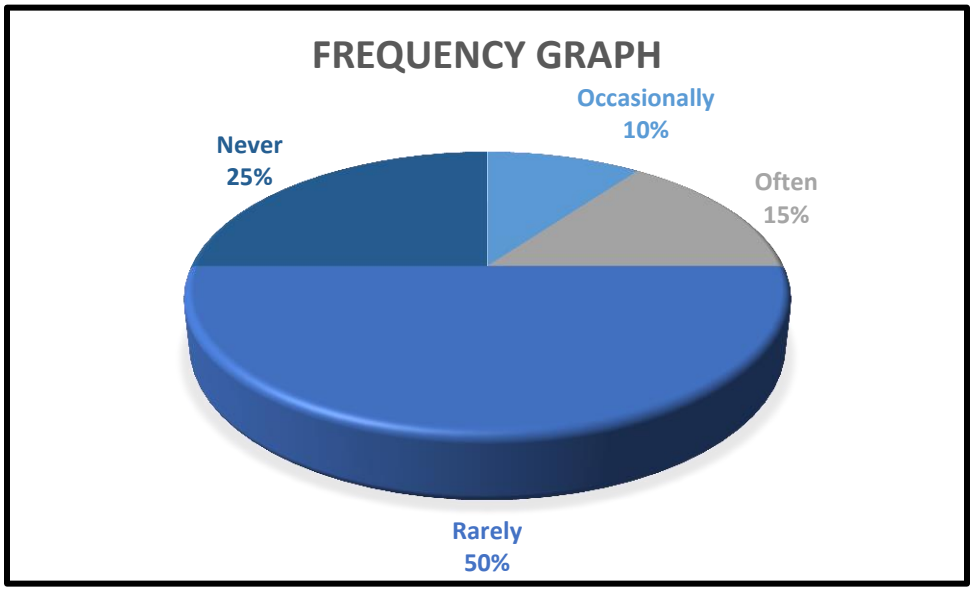
ONE-SAMPLE TEST				
Test Value = 4				
	t	df	Sig. (2-tailed)	Mean Difference
Managers Leaving The Project	-1.798	19	.088	-.40000
Sabotages	-1.045	19	.309	-.25000
Natural Disasters	-1.584	19	.130	-.35000
Resistance Of Employee Toward Change	-.490	19	.629	-.10000
Too much Confidence On Surviving Any Crisis	-2.131	19	.046	-.45000
Key Employs Starting A competing Company	-1.301	19	.209	-.30000
Employ Raiding By A Competitor	-.748	19	.464	-.20000
Adequate Support Towards Socio-Physiological Needs Of Employees	-2.349	19	.030	-.60000
Changes In Project Teams	-1.361	19	.189	-.40000
Inadequate Feedback System	-1.505	19	.149	-.35000
Legal Requirements	-1.453	19	.163	-.40000
Underestimate Discovery	-1.926	19	.069	-.35000

INTERPRETATION:

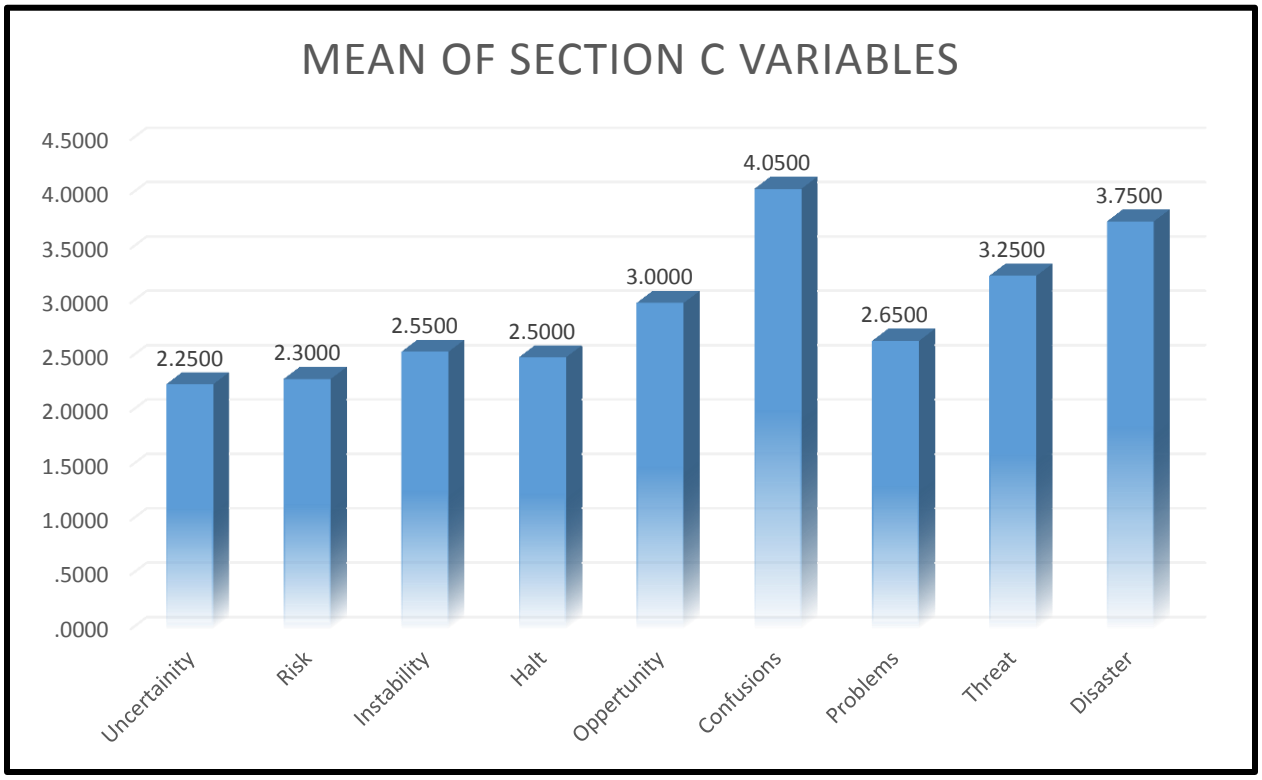
The test suggest that the factor RRESISTANCE OF EMPLOYEE TOWARDS CHANGE is rarely considered during management.

a. Frequency Graph:

i. RESISTANCE OF EMPLOYEE TOWARDS CHANGE



B. SECTION C



T-TEST TO CONFIRM MEAN

A. FOR 3= OFTEN BRING

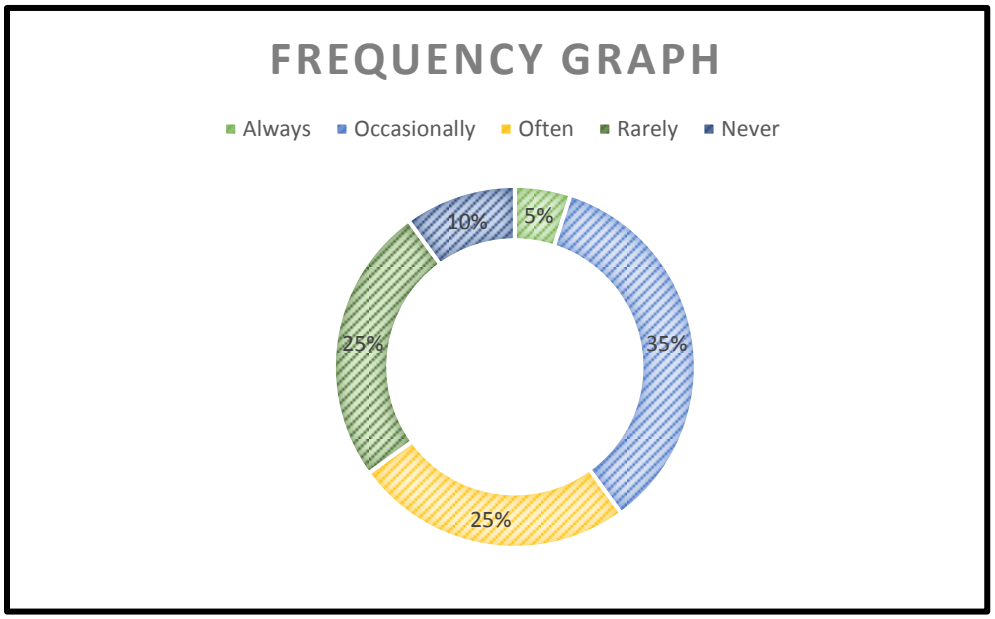
ONE-SAMPLE TEST				
Test Value = 3				
	t	df	Sig. (2-tailed)	Mean Difference
Uncertainty	-2.680	19	.015	-.75000
Risk	-2.570	19	.019	-.70000
Instability	-1.690	19	.107	-.45000
Halt	-1.697	19	.106	-.50000
Opportunity	.000	19	1.000	.00000
Problems	-1.324	19	.201	-.35000
Disaster	2.595	19	.018	.75000

INTERPRETATION:

The test suggest that crisis bring OPPORTUNITY for the organization in the perception of the people associated with the construction industry of Pakistan.

b. Frequency Graph:

i. OPPORTUNITY



B. FOR 4= RARELY BRING

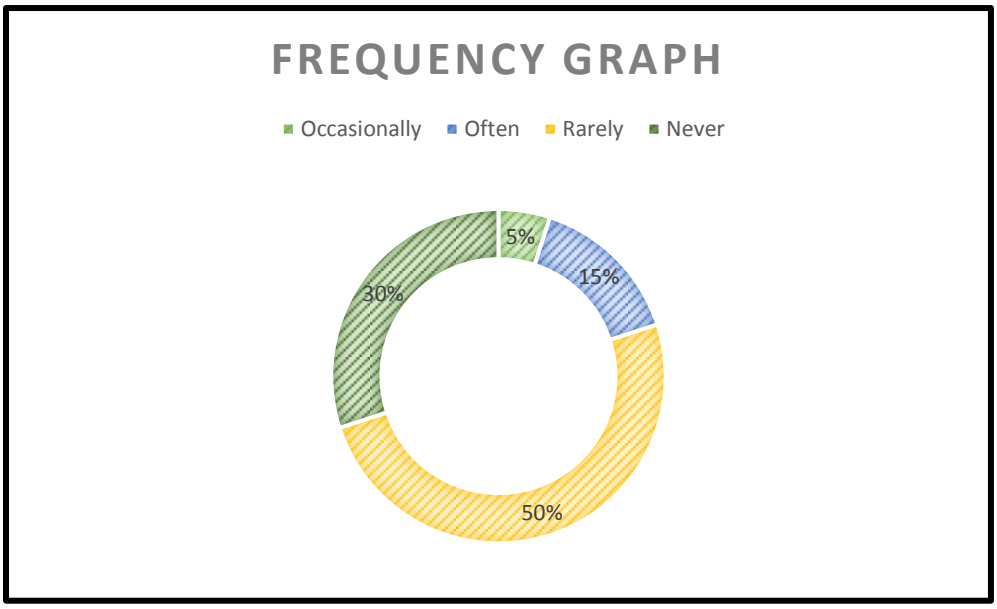
ONE-SAMPLE TEST				
Test Value = 4				
	t	df	Sig. (2-tailed)	Mean Difference
Confusions	.271	19	.789	.05000

INTERPRETATION:

The test suggest that crisis can never be associated with CONFUSIONS in the perception of the people associated with the construction industry of Pakistan.

a. **Frequency Graph:**

i. ***CONFUSIONS***



C. SECTION D

Organizational Structure					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Basic	6	25.0	30.0	30.0
	Functional	10	41.7	50.0	80.0
	Matrix	4	16.7	20.0	100.0
	Total	20	83.3	100.0	

T-TEST TO CONFIRM

A. FOR 2= FUNCTIONAL

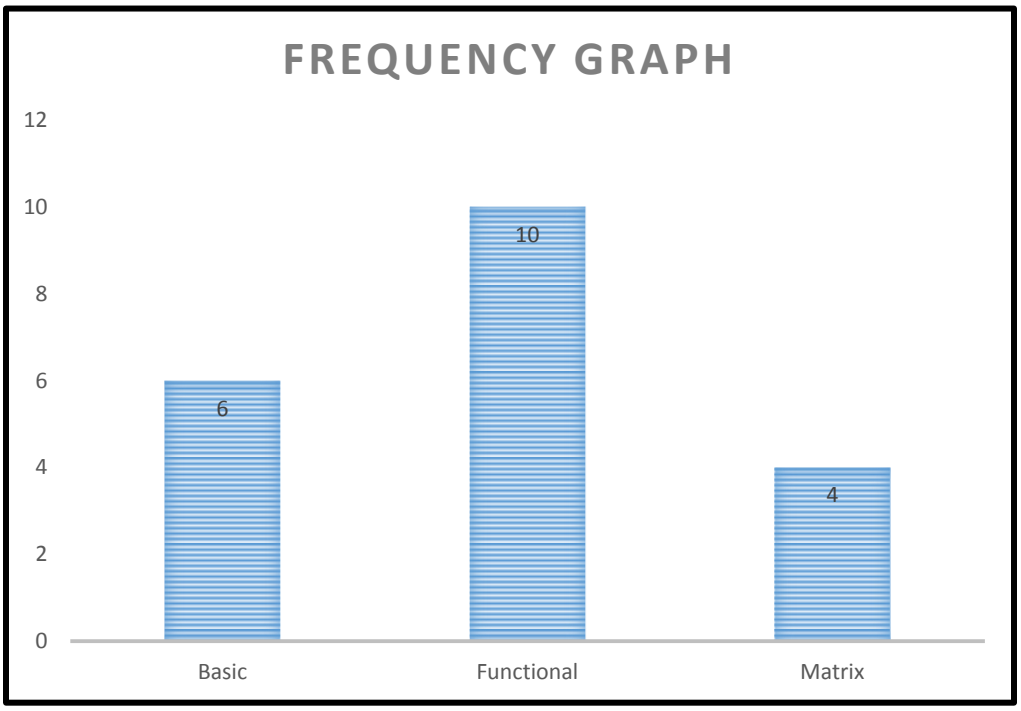
ONE-SAMPLE TEST				
Test Value = 2				
	t	df	Sig. (2-tailed)	Mean Difference
Organizational Structure	-.623	19	.541	-.10000

INTERPRETATION:

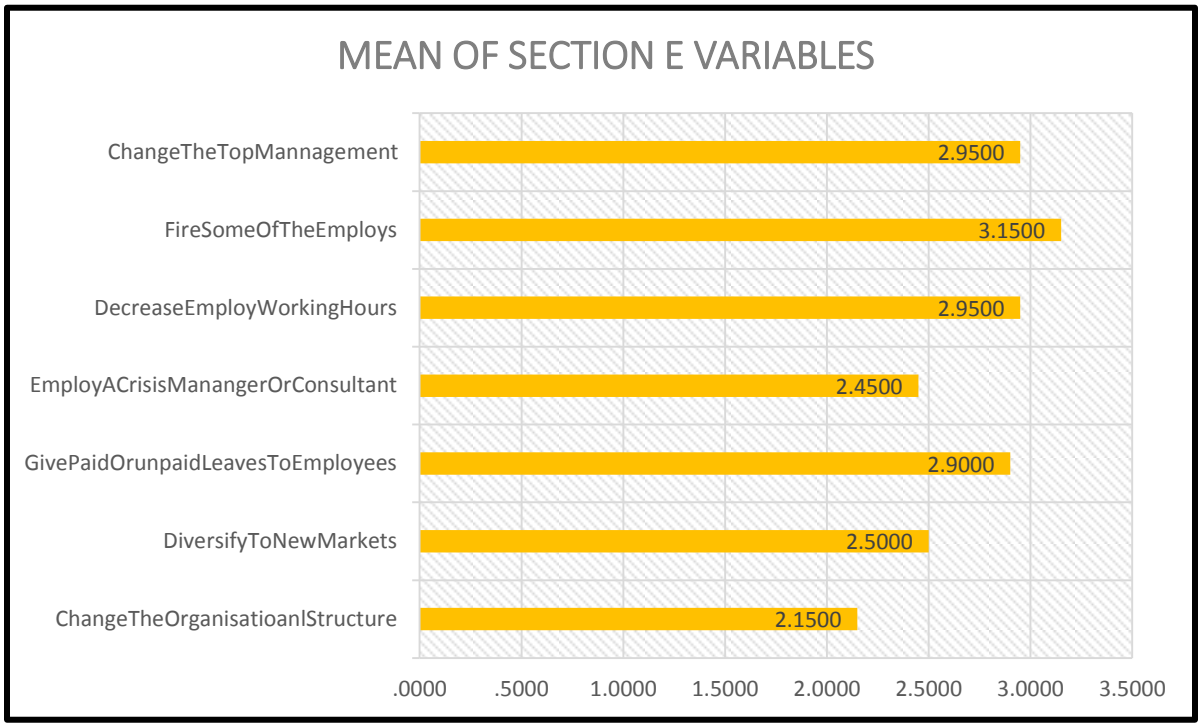
The test indicates that the best organizational structure to get over crisis is the FUNCTIONAL ORGANISATIOANL structure.

a. Frequency Graph:

i. FUNCTIONAL STRUCTURE



D. SECTION E



T-TEST TO CONFIRM MEAN

A. FOR 2= OCCASIONALLY USEFUL

One-Sample Test				
Test Value = 2				
	t	df	Sig. (2-tailed)	Mean Difference
Employ A Crisis Manager Or Consultant	2.131	19	.046	.45000
Diversify To New Markets	2.517	19	.021	.50000
Change The Organizational structure	.900	19	.379	.15000

INTERPRETATION:

The test suggest that none of the above tested variables are useful strategies to get over crisis in the perception of the people associated with the construction industry of Pakistan.

B. FOR 3= OFTEN USEFUL

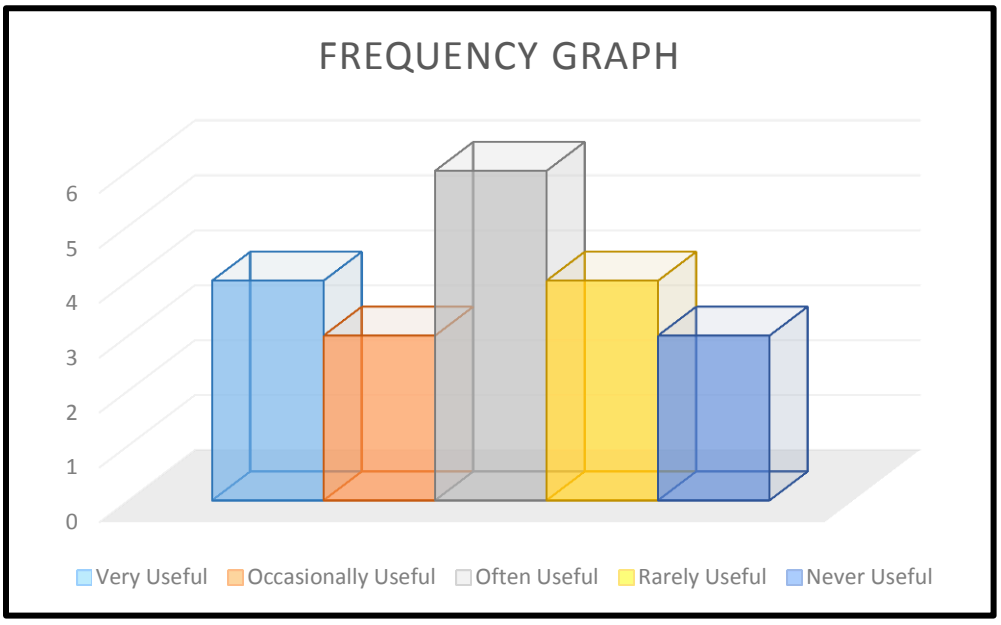
ONE-SAMPLE TEST				
Test Value = 3				
	t	df	Sig. (2-tailed)	Mean Difference
Change The Top Management	-.165	19	.871	-.05000
Fire Some Of The Employs	.484	19	.634	.15000
Decrease Employee Working Hours	-.224	19	.825	-.05000
Give Paid Or unpaid Leaves To Employees	-.418	19	.681	-.10000

INTERPRETATION:

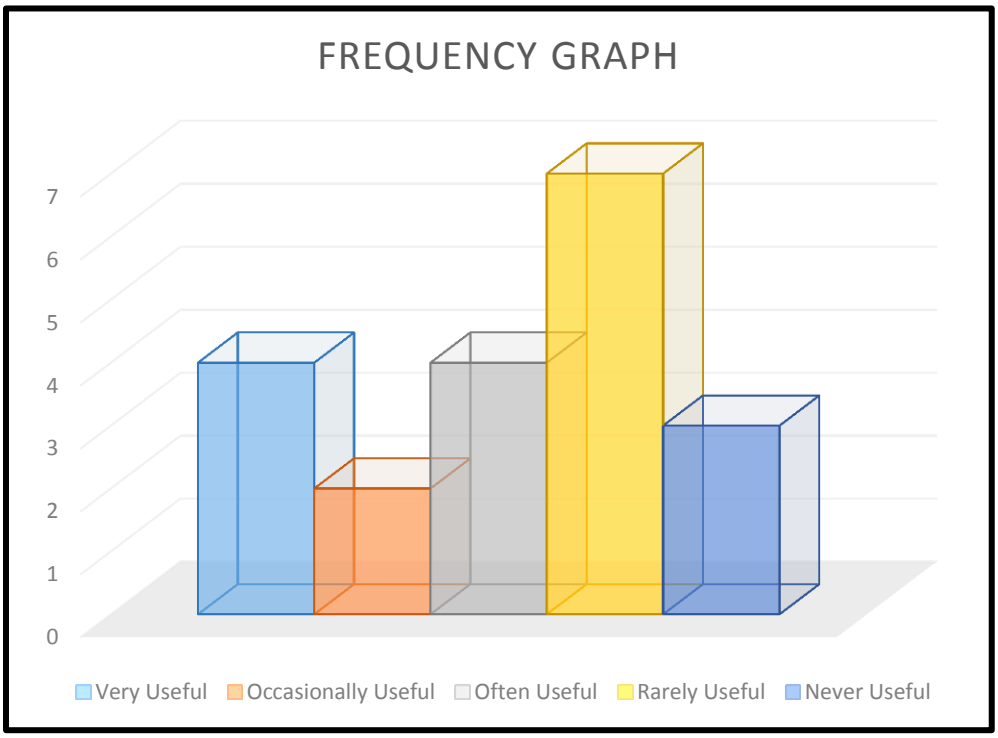
The test suggest that all of the above tested variables are useful strategies to get over crisis in the perception of the people associated with the construction industry of Pakistan.

a. Frequency Graph:

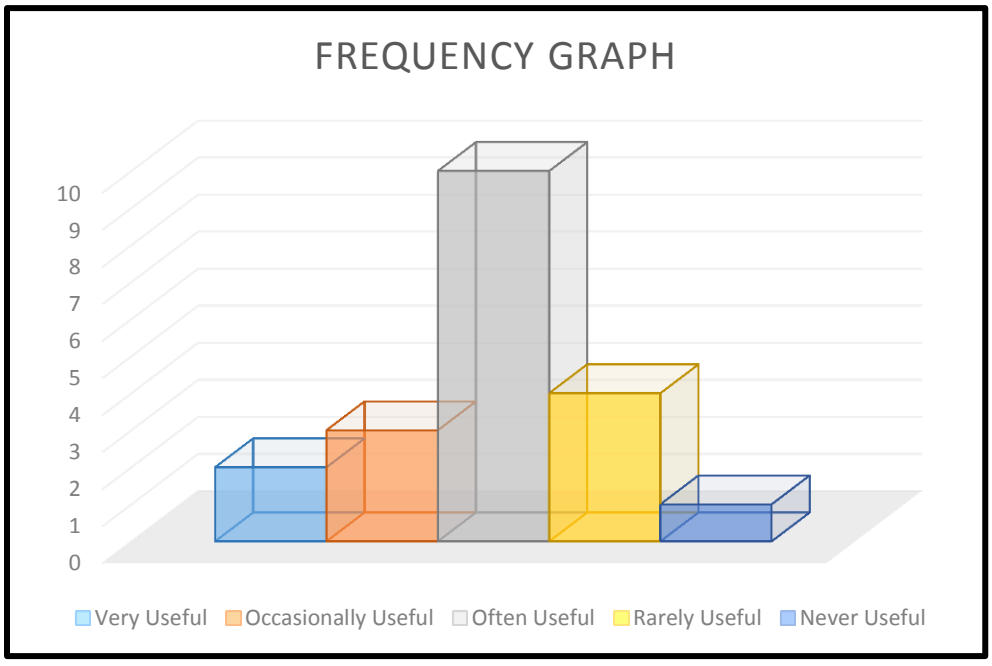
i. CHANGE THE TOP MANAGEMENT



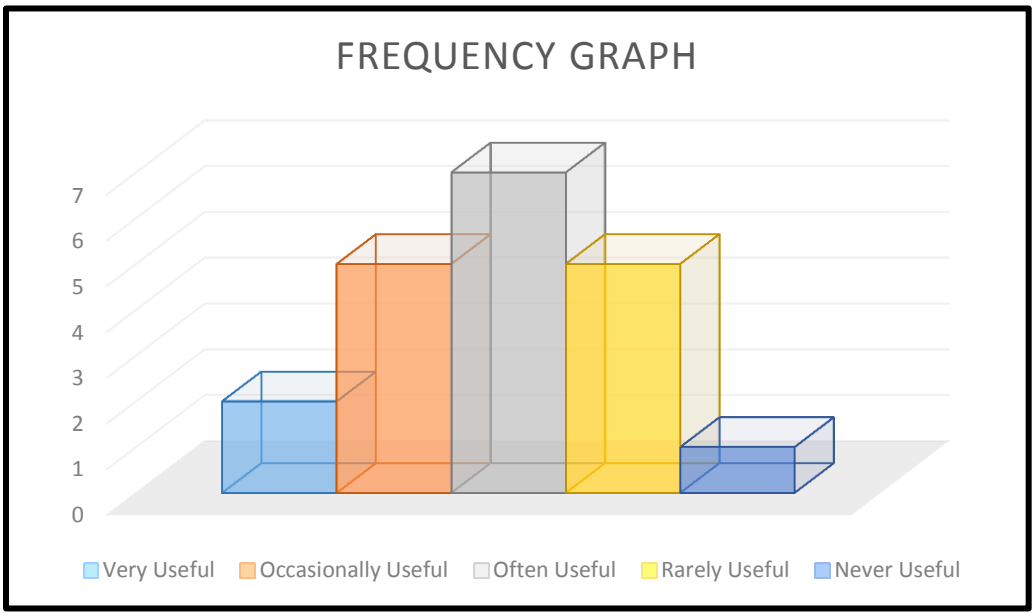
ii. FIRE SOME OF THE EMPLOYEES



iii. DECREASE EMPLOYEE WORKING HOURS



iv. GIVE PAID OR UNPAID LEAVES TO EMPLOYEES



PROPOSED MODEL

CONSIDERATION	VARIABLES
FACTORS CAUSING CRISIS	• Cost Overrun • Resistance Of Employee Toward Change
PERCEPTION	• Crisis Are Opportunities
ORGANISATIONAL STRUCTURE	• Functional Organizational Structure
BEST STRATEGIES	• Change The Top Management • Fire Some Of The Employs • Decrease Employee Working Hours • Give Paid Or unpaid Leaves To Employees

CONCLUSION AND RECOMMENDATIONS

A. IMPACTS

The research will guide to have better understanding of what crisis causing factors are and what are the best strategies to overcome these crisis.

B. FUTURE OUTLOOK

Crisis management has become a defining feature of contemporary governance. In times of crisis, communities and members of organizations expect their public leaders to minimize the impact of the crisis at hand, while critics and bureaucratic competitors try to seize the moment to blame incumbent rulers and their policies. In extreme environment, policy makers must somehow establish a sense of normality, and foster collective learning from the crisis experience. In the face of crisis, leaders must deal with the strategic challenges they face, the political risks and opportunities they encounter, the errors they make, the pitfalls they need to avoid, and the paths away from crisis they may pursue. The necessity for management is even more significant with the advent of a 24 hour news cycle and an increasingly internet savvy audience with ever changing technology at its finger tips.

C. LESSONS LEARNED

An extensive literature review presented numerous productivity factors and their common causes and effects regarding loss of productivity. This study identified common field disruptions affecting labor productivity in plastering works. Based on the model validation process, it is possible that productivity loss due to the impact of disruptions varied based on several aspects including the individual contractor, the crew and the job. For example, each contractor had a different crew size with various equipment and materials. In addition, crew members from different projects may have had different levels of experience. Also, each job had different levels of difficulty in the work. These issues may have a significant impact on the productivity loss data collected through the validation process.

D. CONCLUSION

The test results has shown that not all the factors identified by the international industry are considered important from the management perspective in the construction industry of Pakistan. Moreover, not all the factors identified as the important cause of Crisis are practiced in the field during crisis management. This suggest that there is still a loophole in understanding the factors leading to Crisis in the construction industry of Pakistan and a lot of work has to be done to establish a clear relationship between important crisis causing factors and their consideration

during crisis management so that the best system to deal with the identified factors can be established.

E. FINDINGS/OBSERVATIONS

The following observations were made:

1. The social and economic factors are not the real cause of bringing crisis to an industry.
2. Lack of finance is not a crisis causing factor but its management is (from the fact that it is not an important factor leading to crisis but is an important consideration during crisis management).
3. No factor is ranked, highly important, as the cause of crisis.
4. Adaptation to new techniques do not bring crisis to an organization.
5. The construction industry of Pakistan think of crisis as an opportunity.
6. Crisis do not lead to confusions, suggesting that when crisis hit an organization there is a clear path to walk through in order to overcome these crisis.
7. The best organizational structure is the functional one.

F. LIMITATIONS OF STUDY

As this is a very basic research, the model proposed should be used just for reference, and should be modified based on other sources including historical databases, other research studies or experts opinion. This research study does not consider some aspects including project types, work types, experience of the member of organizations, size of the organization.

G. RECOMMENDATIONS

In order to have clear understanding of the crisis management process, all the factors which influence it must be taken into account. Also one must have some idea of the mindset of the people dealing with crisis management, which is not done in this research study, since management is a people's job. It must also be evaluated that weather management of crisis should be done in the early phases of projects or should be considered when a crisis arise.

H. REMARKS ENDING PAPER

Crisis management methods of a business or in an organization are called crisis management plan. The credibility and reputation of organizations is heavily influenced by the perception of their responses during crisis situations. The organization and communication involved in responding to a crisis in a timely fashion makes for a challenge in businesses. There must be open and consistent communication throughout the hierarchy to contribute to a successful crisis communication process. Crisis is also a facet of risk management, although it is probably untrue to say that crisis management represents a failure of risk management since it will never be possible to totally mitigate the chances of catastrophes occurring. In sort management of crisis must be given importance to attain success.

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