

ÖZGEÇMİŞ

Önder Evin, 1973 yılında Ankara’da doğdu. İlk, orta ve lise öğrenimini Bursa’da tamamladıktan sonra, 1991 yılında İstanbul Teknik Üniversitesi (İ.T.Ü.) İşletme Mühendisliği Bölümü’ne başladı. 1995’te mezun oldu ve aynı sene İ.T.Ü. Sosyal Bilimler Enstitüsü İşletme Ana Bilim Dalı, İşletme Programı’na girdi. O dönemden bu zamana çeşitli iş yerlerinde pazarlama ve analistlik konularında özel sektörde çalıştı ve 1997-1998 öğrenim yılı yaz yarıyılında yüksek lisans derslerini tamamladıktan sonra askerlik görevini de 21/03/1999 tarihi itibariyle bitirip 1999-2000 öğretim yılı kış yarıyılında Öğr. Gör. Dr. Halefşan Sümen danışmanlığında “Elektronik Ticaret ve Elektronik İşletmeye Dönüşüm Sürecinde Aşamalar” konulu tez çalışmasına başladı.

**RİSK ALTINDA KARAR VERME DAVRANIŞININ KÜLTÜREL MODELİ:
OLASILIK TEORİSİNİN ANALİZİ
(TÜRKİYE, LİBYA, JAPONYA, ÇİN VE KANADA)**

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To my great mother
whose love will always touch the deepest in my heart

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TABLE OF CONTENTS

LIST OF TABLES	IX
LIST OF FIGURES	X
SUMMARY	XI
OZET (TURKISH SUMMARY)	XII
CHAPTER 1: INTRODUCTION	1
1.1 Decision Making	1
1.1.1 Decision Making Definition	3
1.1.2 Decision Making Process	5
1.1.2.1 Problem Recognition	6
1.1.2.2 Constructing Alternatives	8
1.1.2.3 Choice	10
1.1.3 Managerial Decision-Making Styles	11
1.1.3.1 Autocratic Style	15
1.1.3.2 Consultative Style	15
1.1.3.3 Participative Style	16
1.1.3.4 Delegative Style	17
1.2 General Objectives	
CHAPTER 2: LITERATURE REVIEW: THE FACTORS INFLUENCING RISKY DECISION-MAKING BEHAVIOUR	21
2.1 Risk Taking Behaviour	22
2.1.1 Risk Definition	22
2.1.2 Risky Choice	26
2.1.3 Risk Behaviour	27
2.1.3.1 Risk Aversion and Risk Seeking	28
2.1.3.2 Risk Perception	30
2.2 Framing Effects	32
2.2.1 Problem Framing	33
2.2.1.1 Framing and Evaluation of Outcomes	37
2.2.1.2 Framing and Weighting of Chance Events	39
2.2.2 Problem Framing In Past Research	41
2.3 Culture	45
2.3.1 Cultural Bias in Theory Building	46
2.3.2 What Is Culture?	47
2.3.3 Cultural Frameworks	49
2.3.4 Critique of Hofstede's Research	55
2.3.5 Risky Decision-Making Behaviour In Cross-Cultural research	58
2.3.6 Critique of The Cross-Cultural Research	60
2.4 Conclusion	61

CHAPTER 3: A CULTURAL MODEL OF RISKY DECISION-MAKING BEHAVIOUR	64
3.1 An Overview of The Model	65
3.1.1 Culture	67
3.1.2 Decision-Making Process	67
3.1.3 Preference for Decision-Making Style	68
3.1.4 Problem Framing	69
3.2 The Relationships Between Cultural Values And Risky Decision-Making Behaviour	69
3.2.1 Cultural Values-Risk Perception Relationships	70
3.2.2 Cultural Values-Preference For Decision-Making style Relationships	73
3.3 The Relationships Between Risk Perception And Creativity, Risky Choice, and Decision-Making Style Preference	77
3.3.1 Risk Perception-Creativity Relationship	78
3.3.2 Risk Perception-Risky Choice Relationship	79
3.3.3 Risk Perception-Preference for Decision-Making Style Relationship	80
3.4 The Effects of Problem Framing	81
3.4.1 The Framing Effects on Decision-making Process	81
3.4.2 The Framing Effects on Preference For Decision-Making Style	84
CHAPTER 4: RESEARCH METHODOLOGY	86
4.1 The Selection of Cultures	86
4.1.1 Power Distance	88
4.1.2 Uncertainty Avoidance	89
4.1.3 Individualism-Collectivism	90
4.1.4 Masculinity-Femininity	91
4.1.5 Time Orientation	92
4.2 Administration of The Survey	93
4.2.1 Participants	93
4.2.2 Procedures	95
4.3 Research Design	96
4.4 Measurements	97
4.4.1 Cultural-Value Variables	97
4.4.2 Problem Framing	103
4.4.3 Risk Perception	108
4.4.4 Preference For Decision-Making Style	109
4.4.5 Demographic Information	109
CHAPTER 5: DATA ANALYSIS	111
5.1 Comparison of Cultural Profiles	111
5.1.1 Power Distance Dimension	113
5.1.2 Uncertainty Avoidance Dimension	113
5.1.3 Individualism-Collectivism	114
5.1.4 Masculinity-Femininity	114
5.1.5 Time Orientation	115

5.2	Cultural Values-Risk Perception Linkages	116
5.2.1	Results from ANOVA Analyses	117
5.2.2	Results From Correlation Matrix	118
5.2.3	Results From Regression Analyses	120
5.3	Problem Framing-Risk Perception Linkage	122
5.3.1	Results From Independent-Sample Tests	122
5.3.2	Results From Regression Analyses	124
5.4	Risk Perception- and Problem Framing-Creativity Linkages	124
5.4.1	Results From Chi-square and Cramer'V Tests	125
5.4.2	Results From Proportion Tests	129
5.4.3	Results From Logistic Regression Analyses	128
5.5	Risk Perception- and Problem Framing-Risky Choice Linkages	131
5.5.1	Results From Chi-square and Cramer'V Tests	132
5.5.2	Results From Proportion Tests	136
5.5.3	Results From Logistic Regression Analyses	138
5.5.4	Additional Tests of Risky Choices	139
5.6	Cultural Values-Preference for Decision-Making Style Linkages.	145
5.6.1	Results From Chi-square and Cramer'V Tests	146
5.6.2	Results From Proportion Tests	148
5.6.3	Results From ANOVA Analyses	153
5.7	Risk Perception- and Problem Framing-Preference For Decision-Making Style Linkages	155
5.7.1	Results From Chi-square and Cramer'V Tests	155
5.7.2	Results From Proportion Tests	157
5.7.3	Results From Multinomial Logistic Regression	158
CHAPTER 6: DISCUSSION		160
6.1	An Overview of The Model and The Tests	161
6.2	Decision-Making Process	163
6.2.1	Cultural Values-Risk Perception Linkages	164
6.2.2	Risk perception-Creativity Linkage	165
6.2.3	Risk perception-Risky Choice Linkage	166
6.3	Preference For Decision-Making Style	168
6.3.1	Cultural Values-Preference Decision-Making Style Linkages	168
6.3.2	Risk Perception-Preference Decision-Making Style Linkage	171
6.4	Problem Framing Effects	172
6.5	The Major Contributions of The Proposed Model	175
6.6	Methodological Issues	177
6.6.1	Minimising Bias Effect	177
6.6.2	The Sampling Frame	178
6.6.3	Prevention of Self-Presentation	180
6.6.4	Common Method Variance	181
CHAPTER 7: CONCLUSION, LIMITATIONS, FUTURE RESEARCH DIRECTIONS & IMPLICATIONS		184
7.1	A Risky Decision-Making Behaviour Model	184
7.2	Limitations and Future Research	188

7.3	Practical and Theoretical Implications	192
7.3.1	Practical Implications	192
7.3.2	Theoretical Implications	193
REFERENCES		194
APPENDIX		
A.	Measurement Table	212
B.	The English Version of the Questionnaire	213
C.	The Turkish Version of the Questionnaire	220
D.	The Arabic Version of the Questionnaire	226
E.	The Japanese Version of the Questionnaire	233
BIOGRAPHY		240



LIST OF TABLES

Table 1.1	Comparison Between Decision-Making Styles in Previous Research	14
Table 3.1	The Culture-Preference Relationships	77
Table 4.1	Total Sample and Sub-Samples' Characteristics	95
Table 5.1	Cultural Profiles	112
Table 5.2	Results from ANOVA and Scheffe Tests	117
Table 5.3	Correlation Matrix	119
Table 5.4	Regression Analyses: Cultural Values Effects on Risk Perception	120
Table 5.5	Multicollinearity Analyses	121
Table 5.6	Independent-Sample Tests Results: Problem Framing Effects on Risk Perception	122
Table 5.7	Chi-square & Cramer's V Tests Results: Framing Effects on Creativity	125
Table 5.8	Logistic Regression Results: Effects of Risk Perception and Problem Framing on Creativity	130
Table 5.9	Chi-square & Cramer's V Tests Results: Problem Framing Effect on Risky Choice	132
Table 5.10	Results From Proportion Tests (Z Values): Effects of Risk Perception on Risky Choice in Positive-Frame Samples	137
Table 5.11	Results From Proportion Tests (Z Values): Effects of Risk Perception on Risky Choice in Negative-Frame Samples	138
Table 5.12	Logistic Regression Results: Effects of Problem Framing and Risk Perception on Risky Choice	138
Table 5.13	Chi-square & Cramer's V Tests Results: Problem Framing Effects on Risky Choice (Asian-disease Problem)	140
Table 5.14	Chi-square & Cramer's V Tests Results: Problem Framing Effects on Risky Choice (Gambling Problem)	143
Table 5.15	Chi-square & Cramer's V Tests Results: Preference For Decision-Making Style	147
Table 5.16	Proportion Tests Results (Z Values): Comparison of Preference Patterns Across the Five Countries	149
Table 5.17	ANOVA Results: Cultural Values-Preference Patterns For Decision-Making Style	153
Table 5.18	Chi-square & Cramer's V Tests Results: Effects of Positive and Negative Problem Frames on Preference for Decision-Making Style	156
Table 5.19	Multinomial Logistic-Regression Results: Effects of Problem Framing and Risk Perception on Preference For Decision-Making Style	158

LIST OF FIGURES

Figure 1.1	Decision-Making Process	6
Figure 2.1	The Model of the Determinants of Risky Decision-Making Behaviour	29
Figure 2.2	Prospect Theory's Two-Frame Model	36
Figure 2.3	A Typical Value Function	37
Figure 2.4	A Typical Weighting Function	39
Figure 3.1	The Proposed Cultural Model of Risky Decision-Making Behaviour	85
Figure 5.1	Plot of the Five Cultures	112
Figure 5.2	Risk Perception Across the Five Countries	118
Figure 5.3	Problem Framing Effects on Risk Perception	123
Figure 5.4	Problem Framing Effects on Creativity	126
Figure 5.5	Positive-Frame Effects on Creativity	127
Figure 5.6	Negative-Frame Effects on Creativity	128
Figure 5.7	Framing Effects on Risky Choice	133
Figure 5.8	Positive-Frame Effects on Risky Choice	134
Figure 5.9	Negative-Frame Effects on Risky Choice	135
Figure 5.10	Problem Framing Effects on Risky Choice (Asian-disease Problem)	140
Figure 5.11	Positive-Frame Effects on Risky Choice (Asian-disease Problem)	141
Figure 5.12	Negative-Frame Effects on Risky Choice (Asian-disease Problem)	142
Figure 5.13	Effect of Problem Framing on Risky Choice (Gambling Problem)	142
Figure 5.14	Positive-Frame Effects on Risky Choice (Gambling Problem)	144
Figure 5.15	Negative-Frame Effects on Risky Choice (Gambling Problem)	144
Figure 5.16	The Total Sample' Preference Patterns for the Manufacturer's Manager' Decision-Making Style	146
Figure 5.17	Preference Patterns For Decision-Making Style in Each country	148
Figure 5.18	Effects of Positive and Negative Problem Frames on Preference For Decision-Making Style	157
Figure 6.1	The Cultural Model of Risky Decision-Making Behaviour Supported by this Dissertation's Findings	183

**A CULTURAL MODEL OF RISKY DECISION-MAKING BEHAVIOUR:
A TEST OF PROSPECT THEORY
(TURKEY, LIBYA, JAPAN, CHINA and CANADA)**

SUMMARY

Decision-making behaviour especially under risk has received considerable attention from different researchers in different fields of inquiry. Yet cross-cultural risky decision making behaviour is relatively new and undeveloped field of study. This dissertation presents a cultural model of risky decision making behaviour.

The current study probed three sets of relationships between four sets of influential factors. The four sets of factors are cultural values, decision-making process, preference for decision-making style, and problem framing. The first set of relationships proposed in the model is between cultural values and decision-making behaviour. The investigation is beyond the scope of previous studies by incorporating multiple cultural dimensions and exploring the specific influence of each value. The second set of relationships is between risk perception and the other aspects of decision-making behaviour; namely, creativity, risky choice, and decision-making style preference. The risk perception-preference for decision-making style linkage has never been assumed in past research. The third set of relationships is between problem framing and all aspects of risky decision-making behaviour. The investigation is also beyond the scope of the previous research by extending the framing effects that is proposed by prospect theory.

The proposed model cross-culturally empirically tested employing between-subjects experimental design. Samples were drawn from five culturally different countries; namely, Turkey, Libya, Japan, China, and Canada. The overall results were supportive of the proposed model and provide an empirical evidence for prospect theory and Hofstede's cultural framework. The findings of the current study have made significant contributions and have both practical and theoretical implications and suggest directions for future research.

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ÖZET

Risk altında karar alma farklı alanlarda araştırmaların yoğun ilgi gösterdiği bir alandır. Çok farklı alanlarda çalışmaların yoğunluğuna rağmen, farklı kültürlerde risk altında karar alma çok yeni ve gelişmekte olan bir çalışma sahasıdır. Bu doktora tezi riskli karar verme modelinin farklı kültürel faktörlerden etkileşimini incelemektedir.

Bu tezde ele alınan modelde dört etkinin faktör grubu içinde üç farklı ilişki zinciri incelenmiştir. Ele alınan faktörler; kültürel değerler, karar verme süreci, farklı karar verme türleri içinde tercihler ve problemi tanıma farklılıklarıdır. Modelde yer alan birinci ilişki zinciri kültürel değerler ve karar verme davranışı arasındadır. Bu araştırma daha önce yapılan çalışmalardan daha detaylı olarak çoklu kültürel değişkenleri ele almakta ve her değer üzerinde bunların belirgin etkilerini incelemektedir. İkinci ilişki zinciri risk algılama ve yaratıcılık, riskli seçim ve farklı karar verme stillerinde tercih gibi karar verme davranışının diğer faktörleriyle ilişkisini ele almaktadır. Daha önceki araştırmalarda risk algılama ve farklı karar verme stilleri arasındaki tercih ilişkisi ele alınmıştır. Üçüncü olarak incelenen ilişki zinciri problem tanımlama ve riskli karar verme davranışının tüm yönlerini ele almaktadır. Bu araştırma daha önceki çalışmaların kapsamında yer almayan olasılık teorisinde öngörülen problem tanımlama etkisini geniş açıdan ele almıştır.

Öngörülen modelde, deneysel araştırma kapsamında ampirik olarak test edilerek farklı kültürlerdeki deneklere yer verilmiştir. Örneklimde kültürel farklılıkları olan, Türkiye, Libya, Japonya, Çin ve Kanada olmak üzere beş ülke seçilmiştir. Araştırma sonuçları, geliştirilen modeli ve olasılık teori ile Hofstede'nın kültürel kavram ayrışımını desteklemektedir. Bu araştırmanın sonuçları, pratik ve teorik açıdan varılan model ve teorileri yeni verilerle katkı sağlamakta, aynı zamanda gelecekteki araştırmalar için yön gösterici olmaktadır.

CHAPTER ONE

INTRODUCTION

Decision making is an integral part of the management of the organisation. Management is universal and decision making is a generic process that is applicable to all activities and to all organisations (Harrison, 1995). There exists a great body of research that has been focused on this important area of management literature. In fact, decision making is an evolving area of study and one of considerable importance to practicing managers, as well as to scholars. The first section in this chapter is devoted to briefly discuss the nature and the definition of decision making and decision-making process and styles. Section two summarises the general objectives that the current study is aimed to achieve.

1.1 DECISION MAKING

Without a doubt decision making is the most significant activity that managers perform in all types of organizations at any hierarchy level (Harrison, 1995; Gray & Starke, 1984; Daft, 1994; Simon et al, 1992; Mintzberg et al, 1976; Gutenbeg and Richman, 1968). Popular images of management usually place decision making at the centre of management life. The significance of decision making stems from the fact that it effects all the functions that managers perform (Cooke & Slack, 1991; Harrison, 1995; Gray & Starke, 1984). It is closely related to all the traditional management functions. That is, when a manager plans, organizes, and controls, he or she, in fact, is making decisions. For example, when the planning function is going on, decisions must be made about what the organization will do with respect to new products, employee-compensation programs, and a host of other activities. Decision making is therefore the essence of management because it is the central focus of what managers do when they perform the functions of management. (Harrison, 1995)

People think that only top managers make decisions. In fact, it does not really matter what is being managed, or at which level a manager is, making decisions is the task that every manager has to practice. Harrison (1995) argues that management is universal and managerial decision making is generic to management universality as he states “like management itself, decision making is a generic process that is applicable to all forms of activity.”(p 8)

Mintzberg (1973) has developed three sets of roles that are common to the jobs of all managers. The decision roles are seen as perhaps the most crucial part of managers’ work. Managers are often referred to as decision-makers (Daft, 1994). Managers always search for problems and make decisions for solving them. Good managers, it is said, are those who make good decisions. A good decision making is a vital part of good management, because decisions determine how the organization solves its problems. In fact, one of the most important characteristics of a good manager is his or her willingness and ability to make decisions and accept the responsibility for so doing. (Gutenberg & Richman, 1968)

Decision making occurs at several levels, organizational level, group level, and the most basic level is individual level (Harrison, 1995; Simon, et al, 1992). While the two formal levels are beyond our attention, this dissertation focuses on the individual level of decisions making.

Although decision making has been an integral part of the management literature for more than half of the century, it was only recently that managerial decision making became an interesting research area (Harrison, 1995). Vroom and Yetton (1973) argue that decision making is central to many scientific disciplines. Much of human behaviour is simply a reflection of the decisions that people make, and the processes that regulate and control these decisions are central to any discipline that purports to understand and predict human behaviour. Generally speaking, decision making is a meeting ground for different discipline scholars, such as psychologist, economists, sociologists, statisticians, philosophers, and organisational theorists. Some disciplines, such as economic, statistics, and operations research, approach decision making from a normative

standpoint with a fundamental interest in how choices or decisions should be made. On the other hand, psychology, sociology, and political science, among others, are fundamentally concerned with understanding and predicting human behaviour including human choices and decisions.

In sum, decision making is an integral part of the management of any kind of organization. More than anything else, competence in this activity differentiates managers from non-managers and more important effective managers from ineffective managers (Harrison, 1995).

1.1.1 Decision Making Definition

Literature reveals that decision making has been treated and discussed based on two approaches (Harrison, 1995). The first approach is a choice-making approach. According to this traditional approach, considerations are given only to the choices that decision-makers make. The second approach is a process-oriented approach that indicates the dynamic and continuous nature of decision making. Therefore, decision making has two meanings: broader meaning and narrower meaning. Easten (1973) has recognised and defined both as

“In the broader sense, decision refers to a complex process that begins with the recognition of a need for change and terminates with the adoption and implementation of a particular course of action....Decision also has a narrower meaning as a synonym for choice. Choice is one step in the decision process. It occurs when the decision maker has completed his evaluation of various alternative courses of action and selects one for implementation.”(p 70).

Decision making is almost universally defined as choosing between alternatives. (Luthans, 1995). For instance, Daft and Steers (1986) define decision as choice made from available alternatives. Mintzberg (et al, 1976) simply defines a decision making as “a specific commitment to action.”(p 246). Similarly, Miner (1992) argues that decision making “represents a moment at which a choice must be made in an ongoing process of

evaluating alternatives for meeting an objective.”(p 50). Likewise, Harrison (1995) defines decision making as “a moment, in an ongoing process of evaluating alternatives for meeting an objective, at which expectation about a particular course of action impel the decision maker to select that course of action most likely to result in attaining the objective.”(p 4).

Thus, by definition, as Gutenberg and Richman (1968) have argued, decision making is “the process of arriving at a decision.” (p 470). Decision making is one of the major activities through which managers seek to achieve rational actions. Wise decision making is not easy. By its very nature, decision making involves the delicate weighing of numerous factors, some known and some estimated, some unknown and imponderable.

It is worthwhile to notice that when such topic is under investigation, differentiation must be made between decision making and problem solving. There is a tendency in the literature to view decision making and problem solving as interchangeable terms and identical activities. The relationship between these two terms is obviously the source of the confusion in the literature as to what each term means (Harrison, 1995; Lang et al, 1978). Lang (et al 1978) summarises this confusion as:

“some writers envisage problem solving as a broad process that includes decision making... Other authors depict the opposite ...problem solving is an element in the decision making process... A third set of authors treat decision making and problem solving as synonymous and use both terms to describe a general process of information gathering, analysis, and choice behaviour.” (p 125).

For instance, Daft (1994) argues that decision making is the process of identifying problems and opportunities and resolving them. According to Daft (1994), decision making involves both prior to and after the actual choice, and, therefore, the two terms are interchangeable. Contrarily, Harrison (1995) argues that decision making and problem solving are not the same thing. Decisions can be and are often made and implemented successfully in the absence of problems, whereas problems can be and are often identified and solved in the absence of decisions. He argues that decision making

is a more comprehensive process than problem solving, “problem solving is only part of decision making. Particular kinds of decisions may necessitate problem solving; but the presence of problem solving is not sufficient to justify a claim of decision-making.” (p 6) Therefore, the two terms, according to Harrison (1995), are interrelated but not interchangeable. Similarly, Simon and his associates (1992) distinguish between problem solving and decision-making in the same way. Choosing issues that require attention, setting goals, and finding or designing suitable solutions is usually called problem solving, while evaluating alternatives and choosing among them are usually called decision-making. According to Simon (1992), thus, problem solving is apart of decision-making process.

However, Cooke and Slack (1991) view the interrelationship between the two terms differently. They consider decision making as a part of the larger process of problem solving. They argue that decision making is focusing around the central problem of choice between alternative courses of action. Thus, problem solving is a broader process including steps from the recognition that a problem exists til the implementation of whatever solution is thought to be appropriate.

In this dissertation, a similar view to Cooke and Slack’s (1991) is adopted. That is, if a problem occurs, it will not be solved by deciding on one solution per se. The solution needs to be implemented to solve the problem and get feedback about it. Thus, the problem solving is a broader process then the decision-making process. Since this dissertation focuses only on decision-making process, as discussed in the next section, implementation and feedback steps are beyond our attention.

1.1.2. Decision-Making Process

Most discussions of the decision-making process break it down into a series of steps or stages that a decision-maker should go through to arrive to his or her decision. However, there is no agreement among scholars on how many steps or stages should be included in decision making process. For instance, while Harrison (1995) suggests that

search for alternatives, comparing and evaluating alternatives, the act of choice, implementing the decision, and follow-up control. Mintzberg (et al, 1976) conceptualises three major stages in the decision making process. These are: the identification phase including the problem recognition and diagnosis, the development phase including alternatives search and design, and finally the selection phase which including judgment, analysis, and bargaining.

In reality, whether the decision that has to be made is managerial or non-managerial, whether the decision-maker is an individual or a part of group, there are three main steps typically that are associated with an effective decision-making process. These are 'problem recognition, alternative construction, and choice of desired alternative. Although each of these steps in themselves is a process, decision-making process, in this dissertation, is reviewed as including these three main steps, as shown in Figure (1.1)

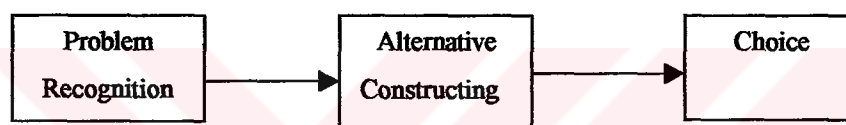


Figure (1.1) Decision-Making Process

1.1.2.1 Problem Recognition

No doubt that problem recognition is the first step in decision making process. However, this step is the least understood and has received little attention (Simon, 1992). Simon (1992) argues that decision-makers have limited capacities for dealing with many tasks simultaneously. Consequently, while some problems capture full attention, some others are neglected. Even when an identical appears on agenda, the priorities usually vary (Gross, 1968).

Most problems do not present themselves to the decision-makers in clear ways. Problems, in most cases, must be recognized and identified (Mintzberg et al, 1976). Daft (1994) points out that recognizing a problem is not easy. It requires integration of pieces of information in novel way. What is the problem, therefore, is one of most challenging questions facing decision-makers.

Past research reveals that problem recognition is strongly influenced by the decision-maker's perception (Robbins; 1996; Gross, 1968). Gross (1968) argues that obviously different people have different views of the same problem. In other words, one individual's problem might be another individual's satisfactory state of affairs. (Robbins, 1996). For instance, one manager may view her or his division's a two-percent decline in quarterly sales to be a serious problem requiring immediate actions. In contrast, another division's manager of the same organization, who also had a two-percent sales decline, may consider that quite satisfactory

Moreover, what one perceives can be substantially different from objective reality. Robbins (1996) argues that people's behaviours are based on their perception of what reality is, not on reality itself. Perception explains why individuals may look at the same thing yet interpret it differently. For instance, while some employees consider their organization as a great place to work for, some others consider the same organization as not good enough place to work for. Famous example is the picture that presents both a pretty young lady and an ugly old woman. While some people look at and say it is a picture of a beautiful young lady, others fail to see this young lady and see only the ugly face of an old woman. No doubt that the difference in their findings is a matter of perception. The situation as perceived, therefore, is the important fact to the decision-maker.

Harrison (1995) has argued that perception in general is "being sensitive to and interpreting stimuli or facts. It includes the ability to fit a limited amount of facts and information into a whole picture."(p 201). Similarly, Daft (1994) and Robbins (1996) define perception as a process that we use to make sense out of our environment by selecting, organizing, and interpreting information from the environment.

In discussing the importance of perception on managerial decision-making process, Harrison (1995) has summarized five uncontrollable factors that effect decision makers' perception. These are familiarity with the situation, personal values, personality, cultural background, and physiological characteristics. He argued that these variables give rise to true individual differences in perception.

Therefore, the awareness that a problem exists and a decision needs to be made is a perceptual issue. Moreover, problem perception and definition, as Fischhoff (et al, 1983) argues, helps decision makers to determinate the alternatives and the consequences to be considered and the kinds of information and risk to be taken into account.

1.1.2.2 Constructing Alternatives

Once the problem has been recognised and captured enough attention, decision-makers begin to consider taking actions. The next stage, therefore, is to generate possible alternative courses of action that will respond to the needs of the situation and correct the underlying causes (Daft, 1994). At this stage decision-makers develop as many possible solutions to the problem as can be generated. Drawing on one's past experience, and the experience of colleagues, peers, and followers are found to be good techniques to generate good alternatives (Easten, 1973). The greater the length and diversity of the list of alternatives, the greater the likelihood that a suitable and workable solution will be found (Gray & Starke, 1984). Thus, generating good alternatives is an essential part of making good decisions.

However, in complex circumstances such as high risk and uncertainty, decision makers are unable to develop such a list and may develop only one or two alternatives that will help handling the situation (Daft, 1994). In such cases, creativity is an important factor in making a good decision especially in rapidly changing and ambiguous environment (Gray & Starke, 1984; Harrison, 1995; Klondonfor et al, 1993; Mintzberg et al, 1976; Ogilvie, 1998, Daft, 1994, Luthans, 1995; Cooke & Slack, 1991;

Anderson, 1995; Miner, 1992). Creative solutions often resolve problems when traditional solutions can not.

Unfortunately, creative ideas from both individuals and groups are scarce (Luthans, 1995). We often hear exhortations for managers to “think creatively” when they make decisions. Miner (1992) argues that one important factor that influences the way in which individuals make decisions is their creativity. It has been argued that creativity is the generation of new and useful ways of doing things by going beyond the current boundaries, whether these are boundaries of technology, knowledge, social norms or beliefs (Gray and Stark, 1984; Miner, 1992; Cooke and Slack, 1991; Anderson, 1995; Klemendorfer et al, 1993).

To illustrate creativity, consider these two examples. First, the problem of how to solve complaints about slow elevators in an office building (adopted from Klemendorfer et al, 1993). Convergent thinkers would accept the diagnosis of “slow elevators” and start to work on ways to speed them up. On the other hand, divergent thinkers would mentally walk around the problem and note that they are dealing, in part, with perceptions about time spent waiting. Thus, one solution may be to change the time perceptions of the people by giving them something to do while waiting, for example, adding bulletin board or insulting mirrors beside the elevators. The second example is that in responding to the question what do you use a newspaper for? Convergent thinkers would answer “read it”, divergent thinkers would say, “make a kit out of it”(adopted from Luthans, 1995).

While convergent decision makers rely on their past experience to find new solutions, divergent decision makers obviously use their creativity when it is needed. The divergent thinkers are considered to be more creative. Moreover, the conservative nature of some decision-makers makes the creative alternatives dismissed. Those decision-makers, as Gray and Starke (1984) suggest, are either unwilling or unable to seriously consider creative solutions.

1.1.2.3 Choice

The fundamental purpose of a decision-making process is to select a course of action among all possible alternatives which is most likely to yield the best results and solve the problem (Gutenberg & Richman, 1968). Thus, selection of one alternative is logically considered to be the last step in the decision-making process (Mintzberg et al, 1976). It is the point in the decision-making process at which any consultants or advisers leave responsibility to the decision-makers themselves (Cooke & Slack, 1991).

Making a choice is often far from easy. It involves some degree of risk that, after all, there is a possibility that the problem may become worst than ever especially in rapidly changing and ambiguous environment. Therefore, it is the decision maker's responsibility to make a choice with the least amount of risk and uncertainty when it is possible (Cooke & Slack, 1991; Daft, 1994)

The normative literature describes the choice stage in terms of three sequential steps including determination of criteria for choice, evaluation of the consequences of alternatives in terms of the criteria, and the making of a choice. In reality, however, as Mintzberg (et al, 1976) has argued, decision makers seldom follow these steps in their selection of choice. Some individuals already have their minds before decision-making process begins and logical analysis of a problem will have no influence on their choices (Gray & Starke, 1984). According to Harrison (1995), choosing one alternative and not the others is based on one or two combination of three models: judgment, bargaining, and analysis. Briefly, by using the judgment model, decision-maker arrives at a choice based on experience, values, perceptions, and intuition. Bargaining model is applied when other parties are involved or the choice promises to be controversial. In such cases, decision-makers seek alternatives that permit the achievement of the shared goals among concerned parties. Finally, in the analysis model of comparing and evaluating alternatives, all alternatives are carefully and objectively evaluated and a choice is finally made to maximize utility. Harrison (1995) argues that the judgment model appears to be the favoured model. It is the faster, most convenient, and least stressful of the other models. Similarly, Daft (1994) argues that under some circumstances, such as

risk and uncertainty, decision -makers rely heavily on their intuition and experience to estimate whether a given course of action is likely to work out.

In conclusion, there are three main steps that are typically associated with an effective decision making process, namely, problem recognition, alternative construction, and choice. How decision-maker perceives the problem is an important factor that influences his or her way and ability in generating alternatives and the choice to be made to solve the problem.

Discussing decision-making process always raises important question that is who makes the decision? The decision-makers' willingness to involve others in each step of the decision-making process, and the amount of other's participation in each step are as important and crucial as the decision per se. Past research on decision making styles will be reviewed next.

1.1.3. Managerial Decision-Making Style

An extensive review of the literature indicates that there are probably as many different styles of managerial decision making as there are managers (Gray & Strake, 1984; Luthans, 1995). Generally speaking, the term decision-making style refers to the behaviour that the manager exhibits during the decision-making process. According to Muna (1980), this term refers to the different degrees of power sharing between the manager and his or her subordinates when decision making is on process. Similarly, Vroom and Yetton (1973) refer to the term decision making style as the degree of participation in decision-making process.

There is a voluminous literature dealing with the concept of participation in decision making process (Harrison, 1995). Heller (et al, 1998) defines participation in decision making as "a process in which influence on decision making is shared between hierarchical superiors and their subordinates." (p 67). Likewise, Harrison (1995) argues that participation in the broader sense refers to "the active involvement of subordinates

or followers in the making of decisions that directly effect them in the work place.” (p275).

Therefore, participation in decision-making is largely a matter of degree from the least to the most participative decision-making process (Vroom & Yetton, 1973; Luthans, 1995; Gray and Starke, 1984). At one extreme of this continuum, the manager might allow no participation and simply makes his or her decision. At the other extreme, the manager who gives his or her subordinates the total freedom to make the decision. Between these two extremes, there are a wide variety of styles that managers can choose from.

Many decision-making style models have been developed to help managers to select the appropriate amount of subordinates' participation in decision making. Several of them are discussed here briefly.

Based on research, Tannenbaum and Schmidt, as reported in Daft (1994), have introduced leadership model which reflects different amount of employee participation. This model contains seven decision-making styles. The least participation degree in decision making is when managers make their decisions and announces them (autocratic style), and the highest level of participation is when managers permit subordinates to function within limits defined by superior (delegative style). Tannenbaum and Schmidt argue that the extent to which leadership is boss centred (autocratic) or subordinate centred (democratic) depends on organisational circumstances.

An original work by Frank Heller (1971) suggests the influence-power continuum. According to his model, five decision-making styles are identified. At one extreme, the manager makes the decision without discussion or explanation (style 1), and at the other extreme, the manager delegates the decision and gives subordinates control over it (style 5). Heller (et al, 1998) argues that each decision making style has two level of subordinate influence, low and high. For instance, at low level of autocratic style, boss makes the decision ignoring subordinates' preference completely, and at

high level, boss makes the kinds of decisions that he or she thinks subordinates would want him or her to make.

One of the most known models concerning decision-making styles is Vroom and Yetton's. Vroom and Yetton (1973) have developed a contingency model of leadership style based on the idea that a leader must decide how much participation subordinates should make to influence the decisions. Their model continuum is range widely from allowing no participation (autocratic style) to allowing subordinates to make the decision (delegative style). In their model, Vroom and Yetton (1973) discuss the effects of several situational variables on the subordinates' participation including time, quality, leader's information, acceptance, trust and worthiness, conflict, and structure. They argue that each style in their model can be effective depending on the answers to a series of work-related questions concerning the situational variables (see Vroom & Yetton, 1973). Therefore, according to Vroom and Yetton's model no one style is applicable to all situations. Each style is effective under a given set of conditions.

Bass and Volenzi, as reported in Ali (1993), have suggested a decision-making behaviour model that includes five systems: direction, negotiation, consultation, participation, and delegation. System 1 (direction) and system 2 (negotiation) represent the autocratic style.

Likewise, Muna (1980) suggests a continuum with four styles of decision-making behaviour, namely, own decision, consultation with subordinates, joint decision with subordinates, and delegation. In a more recent review, Ali (1993) summarized six decision-making styles that reflect participation in decision-making process. These are own decision, pseudo-consultative, consultative, participative, pseudo-participative, and delegative.

Thus, in sum, literature has shown clearly that there are different decision making styles reflecting different degrees of subordinates' participation in making decisions. Table (1.1) summarizes the models described above.

Table (1.1)
Comparison Between Decision-Making Styles in Previous Research

Tannenbaum & Schmidt (1958)	Heller (1971)	Vroom & Yetton (1973)	Bass & Valenzi (1974)	Muna (1980)	Ali (1991)
Manager makes decision and announces it (Style 1)	Own decision without detailed or explanation (Style 1)	Manager makes decision himself (A1)	Direction (System 1)	Own decision (System 1)	Own decision (System 1)
Manager "sells" decisions (Style 2)	Own decision without detailed explanation (Style 2)	Manager makes decision obtaining necessary information from subordinates (A11)	Negotiation (System 2)	Consultation with subordinates (System 2)	Pseudo-consultative (System 2)
Manager presents ideas and invites questions (Style 3)	Prior consultation with subordinates (Style 3)	Manager shares problem with subordinates; makes own decision. (C1)	Consultation (System 3)	Join decision with subordinates (System 3)	Consultation (System 3)
Manager presents tentative decision subject to change (Style 4)	Joint decision making with subordinates (Style 4)	Manager shares problem with group; makes own decision (C11)	Participation (System 4)	Delegation of decision to subordinates (System 4)	Participative (System 4)
Manager presents problem, gets suggestions, makes decision (Style 5)	Delegation of decision to subordinates (Style 5)	Manager and subordinates together arrive at a mutually agreeable decision (G1)	Delegation of decision to subordinates (System 5)		Pseudo-participative (System 5)
Manager defines limits, asks a group to make Decision (Style 6)		Manager and group discuss, evaluate, and make a group decision (G11)			Delegation of decision to subordinates (System 6)
Manager permits subordinates to function within limits defined by superior (Style 7)		Delegation of decision to subordinates (D1)			

Clearly, all these models have in common that both autocracy and delegation are the most extreme degrees in decision sharing. Additionally, although all these models suggest wide variety of decision making styles, all these styles can be categorised into four styles that have received the greatest attention by researchers in this field of study: autocratic style, consultative style, participative style, and delegative style. These four decision-making styles are adopted and emphasised throughout this dissertation. However, which is best is beyond our attention.

1.1.3.1 Autocratic style

By adopting autocratic style, the manager makes a decision himself or herself. He or she may or may not give any details or explanations. The autocratic managers believe that the superior must retain decision-making authority. Although the reasons for this belief vary, the leader-subordinates relationship under this style is the same. (Gray & Starke, 1984). Under this style, managers make decisions while subordinates have to accept and implement them. While this style satisfies the managers' needs, it may induce subordinates to avoid responsibility, initiative, and innovation (Gray & Starke, 1984).

1.1.3.2 Consultative Style

By using consultative style, the manager presents the problem to his or her subordinates to discuss it together, asks for suggestions, and then makes his or her own decision. This decision may or may not reflect the subordinates' ideas or suggestions. Ali (1993) distinguishes clearly between consultative style and pseudo-consultative style. The former implies the real consulting of subordinates, while the later is used "to create a feeling of consultation by means of the leader assuming a particular style." (p55).

1.1.3.3 Participative Style

Under this style, the manager and his or her subordinates together discuss the problem and make a group decision. Participative style implies mutual influence and power equalization between managers and subordinates in discussing problems and making decisions. Participative manager listens to subordinates, encourages them to express themselves, grants wide discussion, is non-punitive in handling mistakes, and de-emphasizes status differences. This participative manager combines the functions of chair, team, leader, and couch (Heller et al, 1998).

1.1.3.4 Delegative Style

Delegation is the most extreme step or degree in decision sharing, as shown in table (1). Recent evidence indicates that delegation is, in fact, not just one more step down on the decision sharing ladder, but qualitatively different as well. It is something to which managers resort only when the decision is of lesser importance, more capable subordinates are involved, and this manager is overloaded with work (Miner, 1992). Therefore, managers should consider carefully before committing to the delegation step, and should not consider delegation as “simply a little more decision sharing.”

Under delegative style, the subordinates’ feeling of self worth and satisfaction are increased and they satisfy high-level needs, such as esteem and self-actualization by letting them take a part in making important decisions (Heller et al, 1998).

To sum up this section, decision making is the most significant activity that managers perform and practice in all types of organizations around the world. Although they have been treated and investigated separately, both decision-making process and decision-making styles have received a considerable attention by researchers from different disciplines.

Having recognized the important steps in decision-making process, one would naturally ask; do decision-makers perceive problems differently, and why? Who is more creative than whom, and why? Which choice is preferred by whom, and why? Similarly, having recognized the existence of various decision-making styles, one would ask; which decision-making style (s) is/are preferred by whom, and why? A contingency approach has led research efforts to explore various influencing factors that might cause differences in decision-making behaviour. Among others, the most important influencing factors are; risk-taking behaviour (risk aversion and risk seeking), problem Framing (positive and negative), and cultural differences. Each of these three influencing factors will be treated and discussed in chapter two.

1.2 GENERAL OBJECTIVES

Decision making is the type of behaviour that all, or almost all, managers practice around the world. However how they practice it might be different significantly. One of the most important factors cause such differences is culture (Hofstede, 1980, 1984, 1994; Adler, 1991; Hodgetts & Luthans, 1994; Robbins, 1996; Miner, 1992; and Ali & Swiercz, 1986). Who makes a decision, when it is made, and the importance placed on rationality vary in organizations around the world. It has been argued that decision making is culturally contingent and decision-makers' behaviours must fit the decision makers' culture (Adler, 1991; Hofstede, 1980, 1984, 1994). Therefore, as Robbin (1996) has argued, we need to take national culture into consideration when we discuss an individual's approach to decision making.

Thus, a common question arising from any behavioural study is whether the observed behavioural patterns have a cross-cultural validity. If so, how it is manifested in another culture? Exploring the effects of cultural differences is crucial for our understanding of decision-making behaviour under risk. However, early research failed to recognise the complete role of culture in risky decision-making behaviour. Cross-cultural research on risky decision-making behaviour is relatively new and undeveloped area of inquiry. Although some progresses have been made, literature concerning risky

decision making behaviour is still poor. Moreover, most of cross-cultural studies that have been conducted so far involved two cultures or similar cultures. The major objective of this dissertation is to explore how culture influences decision-making behaviour especially under the condition of risk. Cultural differences captured along several key dimensions that will be able to predict decision makers' behaviour using the model proposed in this dissertation. The proposed model will be empirically tested in five distinct cultures. One culture from far West; Canada, two cultures from Middle East; Turkey and Libya, and two cultures from Far East; China and Japan. It is expected and assumed that the findings of this dissertation will contribute significantly to decision-making literature.

Although decisions-making process and the preference for decision-making style are very related topics of study, most of scholars have investigated them separately and, therefore, no relationship between them has been assumed. In this dissertation, decision-making process and decision-making style are viewed as two aspects of decision-making behaviour. One of this dissertation's objectives is to integrate these two topics in one model and examine the decision-making process-preference for decision making style relationship. If such relationship exists, which effects what and in which direction is important question to be answered.

Most decisions involve some degree of risk for the decision-makers. Because risky decision alternatives are often associated with extreme consequences, they have been a source of continuing concern both theoretically and practically (Hollenbeck et al, 1994). Under most conditions, individuals are found to be risk averse and shy away from risky decision alternatives, even if the risky alternatives are associated with higher expected values (Bazerman, 1986). However, this preference for certainty is not universal (Kahneman & Tversky, 1979; Tversky and Kanheman, 1982, 1986), and a great deal of research has examined variables that promote risk seeking or risk aversion.

Models of decision-making behaviour have been studied in a variety of contexts to investigate the degree to which they accurately predict individual's decision-making behaviour under risk (Lim, 1995). One of the most frequently studied variables effecting

risk-taking behaviour is “problem framing” in which the decision is placed. “Framing effects” is the fundamental assumption of prospect theory. The theory describes how individuals choose among different risky alternatives when the outcomes associated with those alternatives are probabilistic in nature. Such framing effects provide clear evidence to suggest that choices that individuals make depend not only on the objective characteristics of risky choices (e.g. the probabilities and pay-offs) but also upon the context in which choices are set (Tversky & Kahneman, 1981, 1986; Kahneman and Tversky, 1979; Srarmer, 1996).

Prospect theory, as proposed by Tversky and Kahneman in 1979, is a theory of choice behaviour under risk; therefore, a considerable research attention and efforts have been devoted to apply and test the theory assumptions only in the last step of decision making process; that is choice. Yet research findings are mixed and inconclusive. Moreover, despite the increasing interest in framing effects, the effects of problem framing on the other aspects of decision-making behaviour are fully neglected and remain unknown. The nature of framing influence on decision-making behaviour; therefore, were not adequately explored. As a pioneer, the dissertation attempts to bridge the existing gap based on the literature by extending the prospect theory to all decision-making behaviour aspects. Specifically, another important objective of this dissertation is to examine whether the problem framing has important effects on risky decision-making behaviour.

In sum, this dissertation is believed to be a significant research in several respects. First, this dissertation proposes a cultural model of decision-making behaviour under risk integrates four sets of variables that never been studied together before. These are culture, problem framing, decision-making process and the preference for decision-making style. Second, in this model, decision-making process and the preference for decision-making style are investigated together as related variables in predicting decision-making behaviour. Third, this dissertation attempts to extent the “framing effects” proposed by prospect theory to all decision-making process, and examines these effects on the individual’s preference for decision-making style. Fourth, the proposed model is empirically tested using five countries culturally as different as possible.

Thus, without a doubt decision making is the most significant activity that managers' perform in all types of organisations around the world. So it is not surprising that factors thought to bias decisions receive considerable attention from both academics and practitioners. In the following chapter, the most important influencing factors that found to bias risky decision-making behaviour are reviewed and discussed in detail.



CHAPTER TWO

LITERATURE REVIEW:

THE FACTORS INFLUENCING RISKY DECISION-MAKING BEHAVIOUR

Having recognised the important steps in decision-making process, one would naturally ask; do decision-makers perceive problems differently, and why? Who is more creative than whom, and why? Which choice is preferred by whom, and why? Similarly, having recognised the existence of various decision-making styles, one would ask; which decision-making style (s) is/are preferred by whom, and why? A contingency approach has led research efforts to explore various influencing factors that might cause differences in risky decision-making behaviour. Among others, the most important influencing factors are; risk-taking behaviour (risk aversion and risk seeking), problem Framing (positive and negative), and cultural differences. Each of these three influencing factors will be treated and discussed in the chapter.

This chapter is organised in four sections. First section of this chapter will be devoted to discuss the definition of risk and risky behaviour. In the second section, framing effects along with prospect theory, as a risky behaviour theory, will be discussed.. Section three will be devoted to discuss the culture differences as an influencing factor of decision-making behaviour. Finally, conclusions on the influencing factors will be drawn in section four.

2.1 Risk-Taking Behaviour

Risk is an inherent characteristic of all decisions. There are no riskless decisions nor there never will be. Yet no one can possibly accept unlimited risks. It has been argued that in any decision, there is some degree of uncertainty associated with decision outcomes and some outcomes are more desirable than others (Pablo, Sitkin & Jemison, 1996; Sitkin and Pablo, 1992; and Sitkin & Weingart, 1995). Therefore, risk-taking behaviour, as Yates, 1992) argues, is about how people act in such situations. Before going any further discussing risk-taking behaviour, we should agree about what we mean by “risk” and “risky choice”. Literature reveals that there is a wide variety of interpretations of these terms, which blocks a meaningful discussion (Wagenaar, 1992).

2.1.1 Risk Definition

The concept of risk has been defined in different ways. Starting with the dictionary definitions, Webster’s dictionary defines “Risk” as “ possibility of loss, injury, disadvantages, or destruction.” Likewise, the Oxford English Dictionary defines the verb “Risk” as “to expose to the chance of injury or loss.” Thus, the common dictionary definition of risk is “the possibility of loss.” Close examination throughout the literature leads to a similar conclusion. For instance, Montana and Charnov (1993) define risk as “a condition which the results of any decision or course of action are not definitely known but probably will fall within a known range.”(p 38) Whereas Sitkin and Pablo (1992) argue that risk, as an element intrinsic to all decisions, can be viewed as “the extent to which there is uncertainty about whether potentially significant and/or disappointing outcomes of decisions will be realized.” (p 10).

Similarly, risk has been defined in some other areas of research. For instance, in their monograph on technological hazards, Fischhoff et al (1981) define risk as the “existence of threats “to life or health. In medicine and epidemiology, risk has been defined as the chance of some adverse outcome, such as, death or the contraction of a particular disease. And in economic and business literature, opportunities whose returns are not guaranteed are commonly described as “risk”

It is worthwhile to notice that the common characteristic of risk definitions that are context free. That is, they refer only to abstract terms such as probability and loss, which are designed for cross situations generality. Unfortunately, risk as “the possibility of loss” falls short on essential detail and does not elaborate what is meant by the components of the risk construct; the possibility of loss and how they combine with each others to determine risk (Yates, 1992; Yates and Stone, 1992). In fact, there are three critical elements of risk construct; these are: potential losses, the significance of losses, and the uncertainty of those losses (Yates & Stone, 1992; Sitkin & Pablo, 1992; MacCrimmon & Wehrung, 1986; Wagenaar, 1992). Because of their importance of understanding of the risk concept, these elements of risk construct are briefly discussed.

Losses: The possibility of loss implies the necessity of a potential loss of some amount (MacCrimmon & Wehrung, 1986). Most risky decisions involve alternatives that if selected would lead to experience loss. What is implicit in the loss concept is the notion of a “reference outcome”, or simply a “reference point” (Tversky & Kahneman, 1979, 1981, 1986; Kahneman & Tversky, 1984, 1990). Any outcome that is preferred to the reference point is a gain; one that is less preferred is a loss. Most frequently, it seems that references are adopted by individuals for various psychological reasons (Yates and Stone, 1992; Tversky & Kahneman, 1979, 1981, 1986; Kahneman & Tversky, 1984, 1990).

Significance: It has been assumed that the more significant the potential losses in a situation, the greater the implied risk. The fact that the reference points are different

from an individual to another effects the significance of loss. That is; an outcome that is a loss for one individual might be a gain for another. Even if two individuals agree upon the same outcome to be losses, there is still a room for disagreement on the significance of that outcome and how risky it is. Tversky & Kahneman (1979, 1981, 1986; Kahneman & Tversky, 1984, 1990) argue that individuals often overweight extreme outcomes, even if their likelihood of being realized is remote.

Uncertainty: All definitions of “risk” agree that there must be uncertainty about the outcomes of prospective actions. There must be a chance of loss. A sure loss is not a risk. Risk is most often associated with outcome uncertainty, which is often defined in terms of potential outcomes, and the uncontrollability of outcome attainment. Even if it is recognized that losses can occur, there is still uncertainty about whether those losses will occur. Thus, risk is uncertainty (Sitkin & Stone 1992). This is implied, for instance, when economists refer to any prospect with unguaranteed returns as a “risk”. It is assumed that the greater the chance of a loss happening, the greater the risk (Yates & Stone, 1992).

In sum, then, there are three important components of risk; losses, significance and uncertainty. To reduce riskiness, as MacCrimmon and Wehrung (1986) argue, it is necessary to reduce at least one of these components. Thus, risk can be great or small. It all depends on the information available to the individual when making decisions. In a perfect world, decision-makers would have all the information they need to make up their mind and decide which alternative to be chosen. In reality, however, decision-makers sometimes have to make decisions “in the dark” with little knowledge of the ultimate consequences of their action (Cooke & Slack, 1991).

We can imagine a scale on which the amount of uncertainty in a decision can be represented. The four positions on this scale are: certainty, risk, uncertainty (Daft, 1994; Gray & Starke, 1984; Cooke & Slack, 1991; Gutenberg & Richman, 1968; Klemdorfer, Kunreuther & Schoemaker, 1993), and ambiguity (Daft, 1994). At one end of this scale, decision making is said to be taking place under condition of

certainty. At the other end of the scale is the condition of ambiguity. In reality, each of these extremes is unlikely to occur. However, to understand risk, it is very important to make clear distinction of these conditions as following:

Certainty: At one extreme, decision-makers can have very precise information about all relevant aspects of the problem facing them. However, few decisions are certain in the real world. Certainty is, perhaps, a philosophical possibility but rarely a practical one (Cooke & Slack, 1991). Few decisions are well structured and programmable, and few decision-makers are confident and certain that the consequences predicted will, absolutely, occur.

Risk: The condition of risk means that a decision has clear-cut objectives and that good information is available, but the future outcomes associated with each alternative are subject to change. In other words, under conditions of risk, decision-maker is able to define the problem clearly, to develop many (but not all) of the alternatives, and to make an assessment of the likelihood of payoffs, and choose a particular alternative. However, under such conditions, the decision-maker can not guarantee that a particular outcome will occur once a given alternative is chosen. Most, if not all, real-world decisions are taken under the conditions of risk.

Uncertainty: Uncertainty means that decision makers know which objectives they wish to achieve but information about alternatives and future events is incomplete and the outcomes of an alternative course of action is unknown and can not even be predicted in probabilistic terms. When facing such decision conditions, decision-makers use personal judgment to determine which alternative is best.

Ambiguity: It is by far the most difficult decision condition. Ambiguity, according to Daft (1994), means that the objectives to be achieved or the problem to be solved is unclear, alternatives are difficult to define, and information about outcomes is unavailable. Fortunately, most decisions are not characterized by these conditions.

2.1.2 Risky Choice

Risky choices, such as whether or not to go to war, are made without advance knowledge of their consequences, as Tversky & Kahneman (1979, 1981, 1986; Kahneman & Tversky, 1984, 1990) point out. Thus, risky decisions are characterized by compiling between alternatives with certainty. In other words, risky decisions usually involve two or more alternatives where at least one alternative exposes a person to a chance of loss. (Maule & Svenson, 1993; MacCrimmon & Wehrung, 1986).

The central focus in the traditional "choice" view of risky decision is on the alternative a person chooses (MacCrimmon & Wehrung, 1986). Risky decisions have long interested researchers, many of whom have suspected that people often make choices "suboptimally" (Neumann and Politser, 1992). This scepticism has motivated many studies to help managers improve their decisions.

Evidence that people often make poor choices in risky situations implies the necessity of understanding how decision-makers make their decision, or how they behave in such risky situation. Indeed, one might choose (or accept) the alternative with the highest risk if it had enough compensating benefits. The attractiveness of an alternative depends upon its full set of relevant positive and negative consequences (Fischhoff et al, 1983), and the perceived risk involved in that choice (Sitkin & Pablo, 1992; Pablo & Sitkin & Jemison, 1996; Sitkin & Weingare, 1995). Deciding which of a set of options is most attractive is inherently situation specific. Moreover, Fischhoff (et al 1983) argues that there is no such universally acceptable choice. The choice of an alternative depends on the set of alternatives, consequences, values, and facts examined in the decision-making process. In different situations, different alternatives, values might be relevant. Even in the same situation and at a single time different people with different values, beliefs, objectives may vary significantly on deciding on which alternative is best.

2.1.3 Risk Behaviour

As mentioned earlier, most of decisions, if not all, involve some degrees of risk. Thus, decisions makers must deal with risk to solve problems they face. The topic of risk often arises, implicitly or explicitly, in the form of a question, How much risk is acceptable?

Literature dealing with risky choice behaviour assumes that decision makers are risk averse and they prefer to avoid risk when it is possible (Fiegenboun & Thomas, 1988; McDougal, 1995; March & Shapira, 1987; Warneryd , 1996; Fischhoff, 1992). For instance, Yates and Stone (1992) argue that, in isolation, there is no such thing as acceptable risk; because of its very nature, risk should always be rejected. The fact of adopting an option does not in and of itself mean that its attendant risks are acceptable in any absolute sense. In other words, one does not accept risks; instead, one accepts options that involve some level of risk among their consequences.

March and Shapira (1987) have pointed out that all theories of risky choice assume that decision makers prefer larger expected returns to smaller ones, when all other factors such as risk are constant. They also assume that decision-makers prefer the smaller risks to larger ones, when other factors such as expected value are constant. The expected value, therefore, is assumed to be positively associated with the attractiveness of an alternative, whereas risk is assumed to be negatively associated.

Therefore, individuals differ in their attitudes toward risk. Some individuals seek certain kinds of risks that others desperately avoid (Bromiley and Curley, 1992). It would seem straightforward to differentiate individuals according to their tendencies toward risk as risk averse or risk seeking.

2.1.3.1 Risk Aversion and Risk Seeking

It is commonly assumed that people are risk averse by nature (Tversky & Fox, 1995; Bazerman, 1986). Decision-makers are assumed to be risk averse, and depart from risk-averse behaviour only under unusual circumstances (Fiegenb'oum & Thomas, 1988). However, this assumption has been questioned. Based on both theoretical and empirical grounds, evidence reveals that most decision-makers exhibit a mixture of risk-seeking and risk-averse behaviour and they can be classified based on their common behaviour as risk averse or risk seeking (Fiegenbanm & Thomas, 1988; McDougal, 1995; March & Shapira, 1987).

Literature suggests that individual decision-makers are risk averse when they choose the certain outcome rather than gambling, whereas individuals who choose gambling for more positive outcomes are risk seeking. According to Tversky and Fox (1995), risk aversion is defined as a preference for a sure outcome over a prospect with an equal or greater expected value. Thus, choosing a sure gain of \$100 over an even chance to win \$200 or nothing is an expression of risk aversion. On the other hand, risk seeking is exhibited if a prospect is preferred to a sure outcome with equal or greater expected value. McDougal (1995) argue that risk-averse decision makers desire security, and so they want to avoid the worst outcomes of gambling for winning nothing or lose a lot. Consequently, they attend most to the worst outcomes (small outcomes for gain and large outcomes for loss). Risk seeking decision-makers, on the other hand, desire potential, and so they want to pursue the best outcomes by gambling for winning as much as possible or losing as little as possible. Consequently, risk-seeking individuals attend most to the best outcomes (large outcome for gains and small outcomes for losses).

The individual risk behaviour has long interested researchers. In theorizing how risks influence individual behaviour, March (1994) has argued that there are three factors that affect individual risk-taking behaviour. These are risk perception, risk-taking propensity, and situational factors. Both risk perception and risk-taking propensity are affected by the context in which they occur. Sitkin & Pablo (1992)

and problem characteristics that have been identified as predictors of risk behaviour. Accordingly, they proposed a model that integrates and reconciles a wide body of literature on risky behaviour. They proposed key mediating mechanism through which a variety of variables act to influence individual risk behaviour in organizational setting. Specifically, they identify two causal mechanism, risk perception and risk propensity, which act as the mediating influences through which individual, situational, and organisational factors indirectly influence risk behaviour.

Beyond the strong theoretical arguments for this reconceptualized model of risk behaviour, empirical findings support the notion that decision maker's risk perception and risk propensity both serve as direct determinants of decision maker's behaviour in risky situation and mediate the impact of a variety of factors such as problem framing.

Among the variables that were proposed by Sitkin and Pablo (1992), Sitkin and Weingare (1995) have empirically tested those two frequently studied predictions of risky decision making behaviour; namely, outcome history and problem framing, whose effects were mediated by risk propensity and risk perception as shown in Figure (2.1).

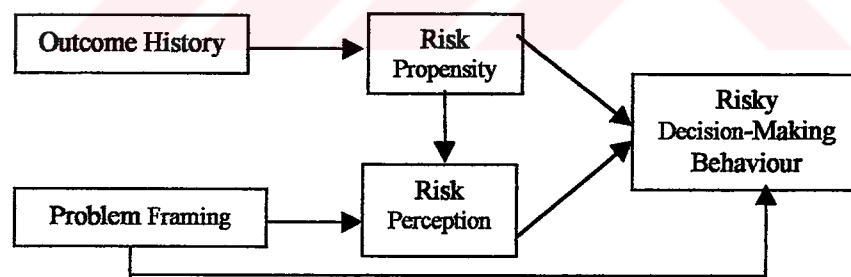


Figure (2.1) The Model of The Determinants of Risky Decision-Making Behaviour

Note: This model was proposed by Sitkin & Pablo (1992) and tested by Sitkin & Weingart (1995).

For propose of this dissertation, this model, presented in Figure (2.1), is partly adopted. Specifically, the discussion will be focused on two variables and their relationship with risky decision making behaviour. These are: problem framing and its direct and indirect effects on risky decision making behaviour, and risk perception and its mediating role between problem framing and risky decision making behaviour. While problem framing and its effects are discussed along with prospect theory in the next section, risk perception is discussed here.

2.1.3.2 Risk Perception

The way in which decision-makers define risk may differ significantly from the theoretical definitions of risk in the literature, and that difference leads to different individuals perceiving the same situation in quite different ways (Kahneman & Tversky, 1984; Thomas & Goiffin, 1995; Weber & Milliman, 1997; MacCimmon & Wehrung, 1986). Indeed, the decision-maker's perception significantly conditions the view of a given alternative (Harrison, 1995).

The term "risk perception" is somewhat of a misnomer. It carries the implication that there is some risk "out there" to be picked (Brehmer, 1987). Sitkin and Weingart (1995) define risk perception as "an individual's assessment of how risky a situation is in terms of probabilistic estimates of the degree of situational uncertainty, how controllable that uncertainty is, and confidence in those estimates."(p 1575).

The decision-maker's tendency to accept or avoid risk, therefore, depends on his or her perception of the desirability of the outcomes of a series of choices (Harrison, 1995; Cooke and Slack, 1991). Clearly, it is the way the decision-maker sees the situation that will determine how he or she acts (MacCrimmon and Wehrung, 1986). In other words, differences in risky choice should not automatically be interpreted as the result of changes in people's preference for risk. But it may also, at least partly, be the result of changes in their perceptions of the risk (Weber &

Milliman, 1997; Sitkin & Weingart, 1995; Sitkin & Pablo, 1992, Pablo, Sitkin & Jemison, 1996). The risk in a given situation is inherently subjective, varying from one individual to the next (Yates and Stone, 1992).

There are no more promising or important targets for scientific research (e.g. in psychology, economic, and political science) more than understanding how individuals solve problems and make decisions under condition of risk (Simon, 1992). A great body of literature has been found during the half century concerning this issue. The explanations that literature offers tend to fall into two categories; individual-difference explanations, and universal explanations (Larrick, 1993)

Briefly, individual-difference explanations offer no general explanations for risk preference. It is assumed that risk preference is a function of individual differences in attitudes and motivation. The most prominent individual-difference theory is expected utility theory, as a normative theory. Universal explanations, on the other hand, posit that there are basic psychological mechanisms that are true for all people. The most prominent universal theory is prospect theory, as a descriptive theory.

Expected-utility theory has come under increasing attacks by experimental and empirical evidence of systematic violations of the expected-utility principles in individual behaviour under risk (Levy, 1997). Many of these violations have been confirmed by field studies of consumer, investment, and insurance behaviour. This challenge to expected-utility theory has been reinforced by the development of prospect theory, which integrates these descriptive patterns into an alternative theory of risky choice. Prospect theory directs attention away from individual differences towards the situational context. Its central insight is that people's willingness to take risks depends on how problems are framed and not only on the characteristics of the people involved.

The current study is attempting to apply prospect theory's framing assumption to the decision-making behaviour and to test its validity cross-culturally. Therefore, prospect theory is discussed in detail in the next section (for detail on

expected utility theory, see Neumann & Politser, 1992; Klemmendorfer et al, 1993; Simon, 1992; Pitz, 1992; Zey, 1992, Robbins, 1994).

2.2. Framing Effects

Decision making is ubiquitous- in business, in public policy, in medicine, in scientific inquiry, and in our personal lives. So, it is not surprising that factors thought to bias decisions receive considerable attention. One factor that has received a substantial amount of notoriety is framing. Prospect theory is the leading theory that offers a potential explanation of framing effects.

Prospect theory is, essentially, a model of individual decision making under risk that has emerged as a leading alternative to expected utility theory (Tversky & Kahneman, 1979, 1981, 1986; Kahneman & Tversky, 1984, 1990; Klemmendorfer et al, 1993, Farnham, 1994; Boettcher, 1995; Levi & Whyte, 1997; Hogarth, 1989; Larnck, 1993; March & Shapira, 1992; Kowert & Hermann, 1997; Jou, Shanteau & Harris, 1996; Wang, 1996, Levy, 1994; Schneider & Lopes, 1986, Shafir, 1994; Hogarth, 1989).

Generally speaking, prospect theory attempts to explain the process that individuals actually use in the choice step of the decision making process, and to show how individuals systematically produce outcomes in their decision that violate a number of key assumptions of expected utility theory. Specifically, prospect theory predicts that, in making their choices, people fail to maximize expected utility assumed by expected utility theory (Tversky & Kahneman, 1979, 1981, 1986; Kahneman & Tversky, 1984, 1990). Expected utility theory, in fact, dismisses the quite robust finding of cognitive and social psychology that people often fail to use a rigorous analytic process by making the assumption that they behave “as if they were rational”. Prospect theory challenges the “as if” assumption by showing that decision-makers frequently fail to act as if they were rational. And that the ways in which they do act produce very different outcomes from those expected by rational

theory (Farnham, 1994; March & Shpina, 1992; Tversky & Kahneman, 1979, 1981, 1986; Kahneman & Tversky, 1984, 1990).

Tversky and Kahneman, the two psychologists who developed prospect theory, argue that by manipulating the framing of decision problems, decision-makers systematically violate the requirements of consistency and coherence by expected utility theory. They trace these violations to the psychological principles that govern the risk perception of decision problems and the evaluations of choices.

Prospect theory distinguishes two phases in the choice process: a phase of framing and editing followed by a phase of evaluation of outcomes and decision weight. Rather than discussing prospect theory in details, the principles of the theory that are related to present dissertation are discussed next.

2.2.1 Problem Framing

The term “framing” was originally used by Tversky and Kahneman (1981) to refer to several types of “context” effects. They described the framing of outcomes, acts, and contingencies and offered examples of each type of framing. This dissertation focuses only on the first type: the framing of outcomes. More specifically, the current study focuses on choice in response to decision problems in which the apparent domain of the outcomes can be influence by the way the outcomes are worded.

Decision problem is defined by the alternative choices among which a decision-maker must choose. It is often possible to frame any decision problem in more than one way. The term “framing” has been used loosely to describe both the presentation or wording of an alternative or a prospect and the perspective adopted by a decision maker (Highhouse & Paese, 1996; Wang, 1996). Tversky and Kahneman (1979, 1981, 1986; and Kahneman & Tversky, 1984, 1990) have argued that the frame that adopted by decision-makers is controlled partly by the formulation of the decision problem and partly by the norms, habits, and personal

characteristics of the decision-makers. It has been argued that when making choice, decision-makers are sensitive to the way in which the options are presented. Therefore, framing is an important factor that might bias decisions that decision-makers make.

Although the term “framing effects” was first generated by Tversky and Kahneman in 1979, these effects were found much earlier in some other studies. For instance, Rugg in 1941, as reported by Plous (1993), found such framing effects when he asked respondents in experimental polls one of two questions: Do you think that the United States should allow public speeches against democracy? Do you think that the United States should forbid public speeches against democracy? Even though these two questions seem as if they are asking the same thing, Rugg found that they led to very different responses. When people were asked whether the United States should allow public speeches against democracy, 62% said “No”. On the other hand, when they were asked to whether the United States should forbid speeches against democracy, only 46% of all respondents said “Yes” (the logical equivalent of not allowing such speeches). In other words, of these respondents who were included in this poll, about 20% more said would “not allow” antidemocracy speeches (“No” answer) than would “forbid” them (“YES” answer). According to prospect theory, this phenomena of preference shifting is caused by the framing of questions; that is whether the questions are framed positive (allow) or negative (forbid).

The prospect theory’s argument on framing is based on the assumption of rational choice that requires that the preference between options should not reverse with a change of frame, simply as the perceived relative height of two neighbouring mountains should not reverse with changes of vantage point. However, because of imperfections of human perception and decision, changes of perspective often reverse the relative apparent size of objects and relative desirability of choices.

Empirically, Tversky and Kahneman (1979, 1981, 1986; and Kahneman & Tversky, 1984, 1990) have obtained systematic reversals of preference by variations in the framing of acts, outcomes, or contingencies. Moreover, these framing effects

have been observed by other researchers (e.g. Bazerman et al, 1992, Wang, 1996, and Simon, 1992) in a variety of problems and in the choices of different groups of respondents.

To see how powerful these effects in risky situations, consider the two versions of the well-known Asian-disease problem that were suggested by Tversky and Kahneman

Problem 1. Imagine that the United States is preparing for the outbreak of an unusual Asian disease, which is expected to kill 600 people. Two alternative programs to combat the disease have been proposed. Assume that the exact scientific estimate of the consequences of the programs are as following:

- If program A is adopted, 200 people will be saved.
- If program B is adopted, there is 1/3 probability that 600 people will be saved, and 2/3 probability that no people will be saved.

Which of the two programs would you favour?

Problem 2. Imagine that the United States is preparing for the outbreak of an unusual Asian disease, which is expected to kill 600 people. Two alternative programs to combat the disease have been proposed. Assume that the exact scientific estimate of the consequences of the programs are as following:

- If program C is adopted, 400 people will die.
- If program D is adopted, there is 1/3 probability that nobody will die, and 2/3 probability that 600 people will die.

Which of the two programs would you favour?

In problem (1) the outcomes of the two proposed programs are stated in positive terms (lives saved). Alternatively, in problem (2) the outcomes of the other two proposed programs are stated in negative terms (lives lost). These two versions of the alternative programs, while objectively identical in content, elicited quite different responses from the participants. Specifically, on the basis of what was

losing of 400 lives, and similarly, losing 400 lives (program C) implies saving 200 lives. Thus, program A and program C are logically equivalent, as are programs B and D. Yet the preference was reversed across the two frames.

In the first problem, positive frame, the majority choice, as reported by Tversky and Kahneman (1979, 1981, 1986; and Kahneman & Tversky, 1984, 1990), was risk averse (72% of their participants chose program A). The prospect of certainty of saving lives is more attractive than the probabilistic one. However, the preference was shifted in choosing between the negatively framed programs C and D. In problem (2) the majority choice was risk taking (78% of their participants chose program D). That is, the certain death of 400 people is less accepted than the two-in-three chance that 600 people would die. Moreover, the framing effects were so robust and sizeable even when a subject was given both versions of the problem (in within-subject study design) (Kahneman & Tversky, 1986, 1990; Jou, Shanteau & Harris, 1996).

Prospect theory thus suggests a comparatively simple two-frame model of decision-making behaviour under condition of risk such as shown in Figure (2.2).



Figure (2.2) Prospect Theory's Two-Frame Model

The risk preference in both frames (positive and negative) illustrates a common preference pattern; that is, normally, when choice options are framed positively, a decision-maker tends to perceive them as gains and becomes more risk averse. In contrast, when the same choice options are framed negatively, a decision-maker tends to perceive them as losses and becomes more risk seeking. Thus, decision-makers normally perceive outcomes as gains or losses rather than as final states of wealth or welfare. In other words, problem framing effects the decision-makers' evaluation of outcomes.

2.2.1.1 Framing and Evaluation of Outcomes

An essential feature of prospect theory is that the carriers of value are changes in wealth or welfare, rather than final states. In prospect theory, as mentioned above, outcomes are expressed as positive or negative deviations (gains or losses) from a neutral reference point, which is assigned a value of zero. Prospect theory proposes that the value function is commonly S-shaped, as shown in Figure (2.3).

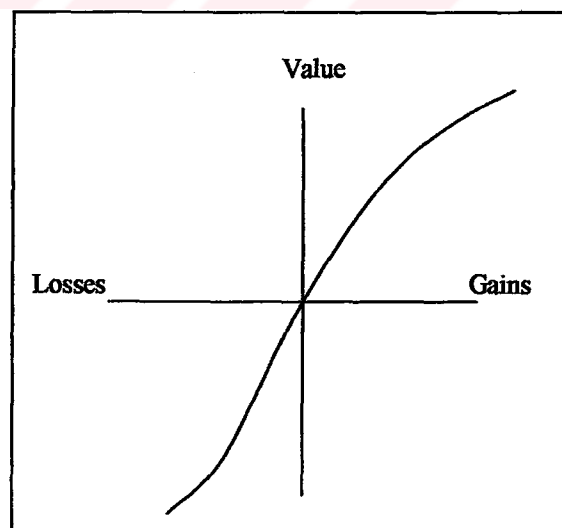


Figure (2.3) A Typical Value Function
Adopted from Tversky & Kahneman (1981, 1986)

As seen in Figure (2.3), the value function is concave above the reference point and convex below it, which suggests that the difference in subjective value between a gain of \$100 and a gain of \$200 is greater than the subjective value difference between a gain of \$1100 and a gain of \$1200. Similarly, the difference between a loss of \$100 and a loss of \$200 is greater than the difference between a loss of \$1100 and a loss of \$1200. This proposed function express the property that the effect of a marginal change decreases with the distance from the reference point in either direction, as illustrated in the following problems.

Problem 3. Assume yourself richer by \$300 than you are today. You have to choose between

A: Sure gain of \$100

B: 50% chance to gain \$200 and 50% chance to gain nothing.

Problem 4. Assume yourself richer by \$500 than you are today. You have to choose between

C: Sure loss of \$100

D: 50% chance to lose nothing and 50% chance to lose \$200

Although stated differently, these two problems are, in fact, identical. That is, in both problems, 3 and 4, decision makers faces a choice between \$400 for save in each of A and C choices and an even chance of \$500 or \$300 in each B and D choices. Thus, according to the cover story of each problem, both choices A and C has the same outcome, that is sure of \$400, as well as choices B and D, that is 50% chance of gaining \$500 or \$300. Therefore, the two problems are identical, however, participants respond to them differently.

As implied by the value function, the majority choice was risk averse in problem 3, and risk seeking in problem 4 (74% and 64% of their participants, respectively, Tversky & Kahneman, 1986). The variation of the problem framing has a substantial effect on risk preference. This evidence shows that the effective carriers of values (choices) are gains and losses, or changes in wealth, and not states of wealth as implied by the rational utility theory. In fact, the common pattern of risk preferences observed in these two problems (risk aversion in gains and risk seeking in losses) is of special interest because it violates not only expected utility theory but practically all other normatively based models of risk choice (Tversky & Kahneman, 1986).

It is important to notice that according to prospect theory attitudes toward risk are not determined by the value function alone. Rather, risk preferences are determined jointly by the value function and weighting function.

2.2.1.2 Framing and Weighting of Chance Events

The second major departure of prospect theory from expected utility theory involves the treatment of probability (Tversky & Kahneman, 1981). In expected utility theory, the utility of each possible outcome is weighted by its probability. In prospect theory, in contrast, the value of each outcome is multiplied by a decision weight. Decision weights are not themselves probabilities. Technically, as Levy (1994) states, decision weights could be influenced by factors other than probability, such as “ambiguity” or uncertainty about the level of risk.

Prospect theory proposed what is so called the weighting function which measures the impact of the probability of an event on the desirability, which is not a linear function probability. The properties of the weighting function are illustrated in Figure (2.4).

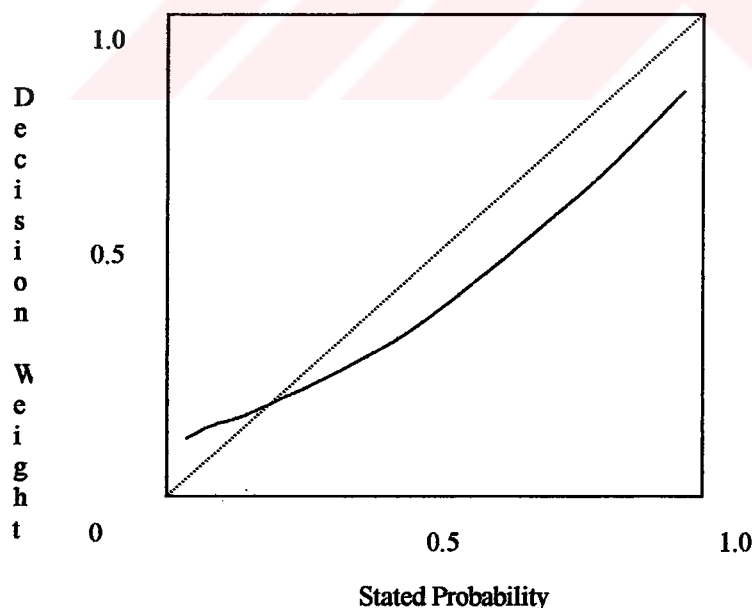


Figure (2.4) A Typical Weighting Function
Adopted from Tversky & Kahneman (1981, 1886)

According to prospect theory, in this function, large and intermediate probabilities are underweighted while small probabilities are overweighted. Because individuals are limited in their ability to comprehend and evaluate extreme probabilities, extremely large probabilities are psychologically equated with certain, whereas extremely small probabilities are ignored. The property of weight extreme function implies that risky prospects with two outcomes will usually be underweighted relative to certain prospects (Schneider and Lopes, 1986). This what is so called “subcertainty” enhances preferences for sure prospects for gains, and preferences for risky ones for losses. Consider the following problem.

Problem 5. Imagine that you face the following pair of concurrent decisions. First examine both decisions, then indicate the option you prefer.

Decision (1): Choose between

- A. Sure gain of \$240
- B. 25% chance to gain \$1000, and 75% chance to gain nothing.

Decision (2): Choose between

- C. Sure of loss of \$750
- D. 75% chance to loss \$1000, and 25% chance to lose nothing.

As implied by the value function, the majority choice in decision (1) is risk averse (84% of Tversky & Kahneman’s (1981) participants chose alternative A), while the majority one in decision (2) is risk seeking (87% of their participants chose alternative D). The value associated with a gain of \$240 is greater than 24% of the value associated with a gain of \$1000, and the value associated with a loss of \$750 is smaller than 75% of the value associated with a loss of \$1000. Moreover, and as implied by the weight function, the underweighting of moderate and high probabilities contributes to the relative attractiveness of the sure gain in decision (1) and to the relative averseness of the loss in decision (2).

Because participants had to choose one alternative for each decision, the most common pattern was A&D which was chosen by 73% of respondents, while B&C was chosen by 3%. However, the interesting thing about this problem is that choosing B&C turns out to be better than choosing A&D. Consider the next problem.

Problem 6. Choose between

- E. 75% chance to lose \$760 and
25% chance to win \$240
- F. 75% chance to lose \$750 and
25% chance to win \$250

Simply, E option is equal to A&D in problem 5. That is, a sure gain of \$240 is added to a 75% chance of losing \$1000 and a 25 % chance of losing nothing. This becomes a 75% chance of losing \$760 and a 25% chance of gaining \$240. By choosing B&C, a sure gain of \$750 is subtracted from a 25% chance of gaining \$1000 and a 75% of gaining nothing. This leaves a 25% chance of gaining \$250 and a 75% chance of losing \$750. When the E (A&D) and F (B&C) were presented, all subject chose F (B&C) option because the combination of B and C is definitely superior to the combination of A and D.

To sum up, prospect theory is an attempt to articulate some of the principles of perception and judgment that limit the rational of choice. The most significant contribution that prospect theory has made to the analysis of risky-choice behaviour is that changes in the formulation of choice problems cause significant shifts of preference. The inconsistencies are traced to the interaction of two factors; variations in framing of act, contingencies, and outcomes, and values and decision weight. The theory proposes that individuals tend to be risk averse for gains but simultaneously to be risk seeking for losses. People are loss-averse in the sense that losses loom larger than the corresponding gains.

2.2.2 Problem Framing In Past Research

Since its formulation by Tversky and Kahneman in 1979, prospect theory has, for both theoretical and practical reasons, received much research attention from psychologists, decision scientists, political scientists, and economists (Wang, 1996). Researchers have investigated a variety of types of framing effects, various dependent variables, and a variety of subject-matter areas (Fagley and Miller, 1997).

For example, researchers have studied framing's effects on negotiation and bargaining behaviours (e.g., Neale and Bazerman, 1985), escalation of commitment (e.g., Davis and Bobko, 1986), social and personal judgments (Levin, Schnittjer and Thee, 1988), social and psychological mechanism (e.g., Wang, 1996), experimental learning (e.g., March, 1996) modes of cognitive processing in decision making (e.g., Smith and levin, 1996; Dunegan, 1993), health-care behaviour (e.g., Meyerowitz and Chaiken 1987), Medical treatment decisions (McNeil, Pauker and Tversky, 1989; Siminoff and Fetting, 1989; Fagley and Miller, 1997), Business decisions (Bazerman, 1982; Schneider, 1992), international relations and political decisions (e.g., Quattrone and Tversky, 1988; Kowert and Hermann, 1997), and economic decisions (e.g., Quattrone and Tversky, 1988).

Sitkin and Pablo (1992) have noticed that the findings of prospect theory research are consistent with a negative relationship between perceived risk and making risky decisions. However, framing results have been mixed, although some authors characterized the research as uniformly positive (Schneider, 1992; Fagley and Miller, 1997). While some studies have yielded large framing effects (e.g., Tversky and Kahneman, 1981, 1986; Schoemaker, 1990; Messick and Bazerman, 1996; Svenson and Benson, 1993; Quattrone and Tversky, 1988; McNeol et al, 1989; Bless et al, 1998) with framing accounting for around 25% of the variance in choice, some others have found little or no framing effects (e.g., Siminoff and Fetting, 1989; Schneider and Lopes, 1986; Schneider, 1992) with framing accounting for less than 3% of the variance in choice. Most of the literature is somewhere between these extremes.

For instance, Levin and Chapman (1990) modified the Asian disease problem changing the number of people at risk from 600 to 6000 and changing the disease from "an unusual Asian disease" to "a new strain of AIDS." The first group of their participants was told that the new strain would affect primarily homosexual and bisexual men and intravenous drug users. The second group was told that it would affect primarily haemophiliacs needing blood transfusions. The last group was not told who would be affected by the new strain. For the second and third groups, the

findings were similar to those reported by Tversky and Kahneman (1981). In contrast, no framing effect was observed when participants were told that those afflicted would be homosexual, bisexual or intravenous drug users.

Another study by Wang (1996) has examined the mechanisms and dynamics of framing effects in risky choices across three distinct task domains (life-death, public property, and personal money). Framing effects were observed in 7 of 13 pairs of problems, showing a positive frame-risk aversion and negative frame-risk seeking relationships that are proposed by prospect theory.

Highhouse and Paese (1996) used both a threat problems (actual outcomes are losses) and an opportunity problem (actual outcomes are gains) to study framing effects among a sample of undergraduates. Framing effects were in the expected direction, but were smaller in magnitude than those reported by Tversky and Kahneman (1981 and 1986). Furthermore, no “reversal” of preference was observed. That is, although more participants chose the risky option in the negative frame than in the positive frame, only about 50% of their participants chose the risky option in the negative frame.

In their study, Bless, Betsch and Franzen (1998) found that when “Asian disease” problem was subtly framed as a medical decision problem, previous findings reported by Tversky and Kahneman (1981) was replicated. That is, participants avoid the risky choice when the problem was framed positively, but preferred the risky choice when the problem was framed negatively. This reversal of preferences was eliminated however, when the same problem was subtly introduced as a statistic problem.

These studies demonstrate that several variables affect the occurrence of this type of framing effect. Fagley and Miller (1997) have argued that one possible reason for the variability in findings is that the decision problems have involved different arenas “contexts” of outcomes (e.g., threats to human or animal lives, threats to private or public properties, threats to jobs, and threats of monetary losses).

In some contexts, framing effects appear robust and sizeable while in some others appear highly variable and erratic (Wang, 1996).

Moreover, the variability of framing effects across decision problems, as Fagley and Miller (1997) have argued, suggests that research using only one decision problem needs to be viewed very cautiously. Multiple problems are necessary to yield reliable findings. The current study assessed the consistency of framing effects across the three most commonly used arenas of outcomes; namely, threats to human lives from new disease, threats to existing jobs, and threats of monetary losses.

Another factor that might cause the variability in findings is cultural differences among the study samples that were used in past research. However, culture impacts has been fully ignored in early research. A few studies have tested the effects of framing cross-culturally. For instance, in order to test the robustness and generality of the framing effects in social context, Wang (1996) has conducted a cross-cultural study including samples from The United States and China. In general, he found that when large group sizes (6000 and 600) are involved, the results replicated Tversky and Kahneman's (1981 and 1986) findings. That is, participants chose the deterministic outcome when the life-death problem was framed in terms of saving life and the probabilistic outcome when the problem was framed in terms of losing life. However, no significant differences in choice were found when small group sizes (60 and 6) are involved. The general choice pattern emerged from both samples was similar, with one exception that no outcome framing effect was found among Chinese participants responding to the two versions of the problem when the group size of people involved in the problem was 600. However, Wang (1996) did not base his research on the cultural differences assumptions, and, therefore, he did not offer interpretations of his research results in terms of cultural differences between the two cultural groups.

In summary, it has been recognized that the effect of framing on risky choice varies as decision-makers are in different contextual situations and as they have different cultural background. The empirical studies have so far provided mixed

results. It is therefore important to know the antecedent conditions that determine framing effects' appearance and disappearance. Therefore, more tests are needed and problem context deserves more attention. Moreover, culturally distinct patterns of risk behaviour also deserve more attention. That is, different cultures may have different preference patterns responding to the same context problem.

2.3 Culture

A common question arising from any behavioural study is whether the observed behavioural patterns have a cross-cultural validity. If so, how it is manifested in another culture? Exploring the effects of cultural differences is crucial for our understanding of decision-making behaviour under risk. However, early research failed to recognize the role of culture in risky decision-making behaviour. Despite its importance, this factor has not received the attention in the literature.

Decision making is the type of behaviour that all, or almost all, managers practice around the world. However, how they practice it might differ significantly. In some societies, top level managers make important organizational decisions, in others, most decisions are diffused throughout the organizations, and all managers actively participate in and make key decisions. In some societies, decision-makers are seen as risk averse and have difficulty dealing with uncertainty. In others, risk seeking is encouraged and highly prized, and decision making under uncertainty is very common (Hodgetts & Luthans, 1994). Therefore, understanding the characteristics that are common to people within a given culture is important for managers. As trends toward the internationalization of business continue to mature, understanding the nature of cultural differences takes on added importance, especially in those circumstances where the traditions of the partner nations are widely divergent.

Over the past three decades, multinational corporations and international joint ventures have grown rapidly all over the world. As a result, people from different cultural background work together and are involved in different work

situations where decisions have to be made, such as negotiation and team work. In other words, in a global economy, the multinational operations of organizations have brought managers in a face-to-face contact with the cultures of different nations and regions that seem very different. The fact that culture can influence the way organizations do business creates a need for managers to understand cultural differences and adjust their organizations and management styles accordingly (Hofstede, 1980, 1984, 1994; Adler, 1991; Robbins, 1996; Miner, 1992; Ali & Swercz, 1986).

2.3.1 Cultural Bias in Theory Building

Both researchers and practitioners assumed, for many years, that American styles and work behaviour are universal and there was a tendency to take those management concepts and techniques that worked at home into other countries and cultures, as most American expatriates did. The oversight is perhaps due to the fact that the initial foundation of this field was mainly based on the contribution of North American scholars, psychologists, and sociologists. Until recently, much of our understanding of management theories and practices came from the American experience (Hofstede, 1980, 1984, 1994; Adler, 1991). American scholars and American trained researchers observed the managerial behaviour of Americans working in American organizations and, accordingly, developed theories and models that they believe explain and control organizational and managerial phenomena worldwide with an underline assumption that what works for Americans works for others too.

However, a grown body of research has challenged this universality assumption of American theories and has challenged Americans themselves to go beyond their parochialism and to see the world in global terms (Hofstede, 1980, 1984, 1994; Adler, 1991, Boyacigiller & Adler, 1991; Hodgetts & Luthans, 1994; Robbins, 1996). In fact, there is enough evidence, in management literature, from cross-cultural research to conclude that the universality assumption that may have

hold for American organizations and employees is not generally true in other cultures. For instance, Hofstede (1980, 1984, 1994) concluded that participative management approaches -including Theory Y, System 4, and the managerial Grid- which were strongly encouraged by American theorists and managers, were not suitable for all cultures.

Differences between countries are real and undoubted (Robbins, 1996; Miner, 1992; Adler, 1991; Daft, 1994; Hofstede, 1980,1984, 1994; Hodgetts and Luthans, 1994). The phrase “when in Rome, do as Romans do” captures the essence of why it is important to understand international diversity. Evidence shows that managers who understand such differences and can adjust their personal and managerial styles when working with different people are more effective and successful than those who assume “all people are the same.’ (Robbins, 1996). Unfortunately, it is not easier to say “ when in Rome, do as Romans do” than it is to know exactly what it is that the “Romans do”. In other words, it is easy to recognize that other people are different from us; however, what is it that makes them different is not easy to identify.

The study of the impact of cultural differences is, therefore, an indispensable part in understanding decision making behaviour patterns. Culture is found to be the concept that can explain and help to understand such differences. Therefore, it is necessary to understand the primary ways in which cultures vary.

2.3.2 What Is Culture?

Culture has been defined in many ways. Anthropology has produced a literature rich in descriptions of alternative cultural system and implications. For anthropologists culture has long stood for the way of life of people the sum of their learned behaviour patterns, attitudes, and material things (Hall, 1959). Klukhohn (1951) quotes culture, as a consensus of anthropological definitions, as reported in Hofstede (1984),

“Culture consists in patterned ways of thinking, feeling, and reacting, acquired and transmitted mainly by symbols, constituting the distinctive achievements of human groups; including their embodiments in artefacts; the essential core of culture consist of traditional (e.g. historically derived and selected) ideas and especially their attached values.’ (p 21)

Culture, in the broadest sense of the word, encompasses many different aspects of life and living. It is that complex whole which includes knowledge, belief, art, law, morals, and customs. And in its narrow sense, it refers to the acquired values, attitudes, and opinions of a group of people that they use to interpret experience and generate a common social behaviour (Adler, 1991; Matsumoto et al, 1996; Hodgetts & Luthans, 1994; Richard & Hodgetts, 1995; Lane & DisStefano, 1992;Daft, 1994; Kroeber, 1968).

Hofstede (1984,1994) refers to culture as “mental programs” that contain a component of national culture, developed in the family in the early childhood and reinforced in schools and organisations. He defines culture as “the collective programming of the mind which distinguishes the members of one group or category of people from another.”(1984, p 21, and 1994, p5). Hofstede’s theory is a simple one. Differences in attitudes are the result of the different “mental programs” that each individual carries, and by which his or her behaviour is determined.

Considering all these definitions, most scholars of culture would agree on the following characteristics of culture. That culture is; (a) shared by all or almost all members of a social group; (b) transgenerational that older members of the group try to pass it on to the younger members; and (c) patterned that shapes the members behaviour and structures their perception of the world.

Operationally, the concept of widely shared, as Carroll and Gannon (1997) argue, is central to the concept of culture, and culture allows its members to “fit in the blanks” or behaviour automatically without having to specify everything in detail. Thus, the concept of culture is, by definition, a group-based concept. Therefore, one should not project cultural values that are known to be held by a group onto an individual who is member of that group. In other words, diversity

exists both among cultures and within cultures; but within a single culture, certain behaviours are favoured and others repressed. A cultural orientation describes the attitudes of most of the people most of the time, not all the people all the time. Cultural descriptions, therefore, always refer to a norm or general stereotype and never refer to the behaviour of all people in the culture, nor do they predict the behaviour of any particular individual (Adler, 1991, Lane & Distefano, 1992; Offermann & Hellmann, 1997). For instance, if the Chinese people in general have very strong collectivist values, it does not mean that a particular Chinese individual also has such values. Similarly, if one knows a Chinese individual, one should not assume that by knowing that person, one knows everything about Chinese culture. Just as care should be taken not to project from groups to individuals, neither should cultural homogeneity within any country be assumed (Lane & DiStefano, 1992).

Moreover, culture is not a rigid static entity, instead, it is dynamic in constant flux across individuals within cultural groups, and across time within individuals (Matsumoto et al, 1996). Richard and Hodgetts (1995) have argued that culture constantly undergo change as people adopt to new environment. In most countries, culture of the 1950s is not the same as that of the 1990s. Therefore, cultures are dynamic, although culture's basic values change very slowly over time (Hofstede, 1980, 1984, and 1994).

2.3.3 Cultural Frameworks

Evidence shows that variations across cultures and their impact on organizations follow systematic, predictable patterns (Hofstede, 1980, 1984, 1994; Adler, 1991; Lane & DiStefano, 1992). Beside the common body of knowledge, international dimensions expand our understanding of people's behaviour at work to include the diversity and complexity of today's global economic environment. Literature review reveals two best-known research frameworks that explain cultural differences; these are Kluckhohn-Strodtbeck's framework and Hofstede's framework.

Kluckhohn-Strodtbeck's framework is one of the most widely referenced approaches for analysing variations among cultures. It identifies six basic cultural dimensions; relationship to the environment, nature of people, focuses of responsibility, activity orientation, times orientation, and space orientation. (For more details, see Robbins, 1995; Lane & DiStefano, 1992; Carroll & Gannon, 1997; Adler, 1991).

Greet Hofstede, a Dutch researcher, has developed a more comprehensive and managerial framework of cultural diversity. Based on the largest cross-cultural research ever conducted, Hofstede found that cultures vary on four primary dimensions: individualism versus collectivism, power distance, uncertainty avoidance, and masculinity versus femininity. After Michael Bond and his associates extending Hofstede's work, an additional dimension was added to this framework. That is time orientation.

Hofstede's dimensions overlap with those developed by Kluckhohn and Strodtbeck in such areas as individualism and time orientation. However, it is clear that Hofstede's dimensions are more comprehensive and managerially focused (Carroll & Gannon, 1997, Adler, 1991; Robbins, 1996). As a complete work-related cultural framework, Hofstede's framework is adopted in this dissertation and, therefore, is the only framework discussed in the next part of this section.

According to Hofstede (1980, 1984, 1994), the four basic problem areas that empirically found in his research represent dimensions of culture. A dimension is "an aspect of a culture that can be measured relative to other cultures." (1994, p 14). Each dimension groups together a number of phenomena in a society, which were empirically found to occur in combination. Together, the four dimensions form a four-dimensional model of differences among national cultures. The beauty of Hofstede's work, as Carroll and Gannon (1997) have mentioned, is that he was then able to rank order countries on these dimensions

Hofstede's cultural framework. It was found by a Chinese team (a team of a 24 researcher called "The Chinese Culture Connection" headed by Michael Bond in 1987). The team studied people values in 23 countries using a new questionnaire compassed by this team. The fifth dimension, labelled as time orientation or as Bond called it "Confucian dynamism", opposing a long-term orientation in life to short-term orientation.

In this section, these five cultural dimensions are discussed briefly as presented by Hofstede (1980, 1984, and 1994). While discussing these dimensions and their connotations, it is worthwhile to notice and keep in mind, as Hofstede points out, some important notes. 1) Each of these five dimensions is a continuum, so that countries are not just polarized between "high" and "low" or between "large" and "small" but may be anywhere in between. 2) Not all connotations apply with equal strength to a given country. And 3) individuals in countries vary widely around a country's norms.

Power Distance: The first dimension is power distance. It refers to the extent to which less powerful members of organizations expect and accept the unequal distribution of power. Inside organizations, inequality in power is inevitable and functional. This inequality is usually formalized in hierarchical boss-subordinates relationships. To what extent do subordinates accept that their boss has more power than they have? Is the boss right because he or she is the boss, or only when he or she knows the correct answer? Do subordinates do their work in a particular way because their boss wants it that way, or because they believe that is the best way to do it? Answers to such questions vary as cultures vary on this dimension.

In large power distance countries, such as Philippines, Venezuela and India, organizations centralise power as much as possible in a few hands at the top level of organizational hierarchy. Subordinates are expected to be told what to do. The ideal boss, in the subordinates' eyes, is a benevolent autocrat or a "good father", and expected to know everything about work. On the other hand, in small power distance

countries, such as Denmark, New Zealand and Austria, organizations are fairly decentralised. Superiors should be accessible for subordinates, and the ideal boss is resourceful democrat. Subordinates expect to be consulted before a decision is made which effects their work, but they accept that the boss is the one who finally decides.

Uncertainty Avoidance: Uncertainty about the future is a basic fact of human life with which we all try to cope through the domains of technology, law, and religion that different societies have adapted to uncertainty in different way. Uncertainty avoidance dimension measures the extent to which people in a society feel threatened by ambiguous situations and the extent to which they try to avoid these situations by providing greater career stability, establishing more formal rules, rejecting deviant ideas and behaviour. This feeling of threatened is, among others, expressed through nervous stress, a need for predicability and a need for written and unwritten rules.

Ways of coping with uncertainty belong to the cultural heritage of societies and they are transferred and reinforced through basic institutions like family, school and work place. In high uncertainty avoidance cultures, such as Japan, Portugal and Greece, lifetime employment is very common, whereas high job mobility more common occur in low uncertainty avoidance, such as Singapore, Hong Kong and Denmark. The United States with its very high job mobility ranks relatively low on uncertainty avoidance dimension.

Individualism versus Collectivism: This cultural dimension describes the relationship between the individual and the collectivity, which is common in a given society. Simply, it is reflected in the way people live together. Individualism exists when people define themselves as individuals. It implies loosely knit social frameworks in which people are supposed to take care only of themselves and their immediate families. Tight social frameworks in which people distinguish between their own group, such as family, friends, organisations, and other groups, on the other hand, characterise collectivism.

In collectivist cultures people from birth onwards are integrated into strong, cohesive in-groups, which throughout people's lifetime continue to protect them in exchange for unquestioning loyalty. People believe that the will of the group should determine members' beliefs and behaviour. By contrast, self-determination characterises individualist cultures, as such the United States, where individuals believe that each person should determine his or her own beliefs and behaviour. This individualistic orientation is interpreted as a major contribution to the greatness of the United States. Members of collectivist cultures place importance on fitting in harmoniously and saving face, where as members of individualistic cultures place more emphasis on self-respect.

Therefore, differences exist between cultures on individualism-collectivism dimension. Hofstede (1984,1994) has argued that "collectivism is the rule in our world, and individualism the exception."(1994, p 54).

Masculinity versus Femininity: The fourth dimension to be discussed is masculinity with its opposite pole femininity. Masculinity refers to the extent to which the dominant values in society emphasise assertiveness and the acquisition of money and things (materialism), while not particularly emphasising concern for people. Femininity, by contrast, refers to the extent to which the dominant values in society emphasise relationships among people, concern for others, and the overall quality of life. Masculinity pertains to society in which social gender roles are clearly distinct. For instance, men are supposed to be assertive, tough, and focused on material success, whereas women are supposed to be more modest, tender, and concerned with the quality of life. Femininity, on the other hand, pertains to societies in which social gender roles overlap, for instance, men and women are supposed to be modest, tender, and concerned with quality of life.

The Scandinavian countries are found to be the most feminine countries, while Japan and Austria are the most masculine countries. In Japan and Austria, people generally expect women to stay at home and take care of children without working outside the home. In Sweden women are expected to work, parents are

given the options of paternity or maternity leave work to take care of newborn children.

Time Orientation: The fifth dimension that recently added to Hofstede's framework is time orientation or "Confucian dynamics." It refers to a long-term orientation versus short-term orientation in life. The values on long-term orientation side are more dynamic, and more oriented towards the future, whereas values on opposite side are more static and more oriented towards the past and the present. Long-term oriented cultures, such as China, characterised by persistence (perseverance), ordering relationships by status and observing this order, thrift, and having a sense of shame. On the other pole, personal steadiness and stability, protecting one's "face," respect for tradition, and reciprocation of greetings, favours, and gifts characterise short-term oriented cultures, such as Canada and Philippines.

East Asian countries take the top five positions on the long-term orientation side: China, Hong Kong, Taiwan, Japan, and South Korea. While United States, Canada, and United Kingdom are among the short-term oriented countries. North American business people focus on the present and near future. They may talk about achieving five- or ten-year plans, but they work toward achieving the quarter's results. Similarly, North American employment practices also a short-term, especially in performance appraisal. In American organizations, employees are evaluated every six months or once a year. Managers who do not perform well during their first year on a new job are fired or at least not promoted. By contrast, Japan has a long term and future-oriented time horizon. When a large Japanese organization hires employees, the commitment of both parties is for life, and employees are given ten years or more to prove their worth. Therefore, Japanese organizations invest in years of training for each employee. North American organizations, in contrast, invest less on training because such a life commitment is not assumed (Adler, 1991).

2.3.4 Critique of Hofstede's Research

In his big research, Hofstede collected his data from about 160,000 managers and employees working with one of the largest American multinational corporation; IBM, in 50 countries and 3 regions. As a result, Hofstede's research has been criticised for focusing on only one company that known as having strong corporate culture that might biases Hofstede's findings. For instance, Triandis (1982) has pointed out that the representativeness of Hofstede's sample is questionable, therefore, one can doubt the generalizability of findings based on a sample drawn from a large multinational corporation such IBM. It is assumed that such a company may tend to hire similar persons worldwide reducing national differences, and its corporate culture may exert homogenising influence on the values of its members.

However, Hofstede's model of national cultural differences is one of the most significant contributions in this area of research (Lane and diStefano, 1992; Shackleton and Ali, 1990; Adler, 1991). Triandis (1982) himself points out that Hofstede has produced a most elaborate study, and despite of its limitations, Hofstede's model seems to "make sense" and his "work will stand as one of the major landmarks of cross-cultural research for many years to come." (p 92). In fact, Hofstede's cultural framework is the most comprehensive managerial focused framework (Carroll & Gannon, 1997; Adler, 1991; Robbins, 1996; Hodgetts & Luthans, 1994; Shackleton & Ali, 1990; Lane & DiStefano, 1992; Hofstede, 1980, 1984, 1994; Hofstede & Bond, 1984). It is believed that Hofstede's research is a unique one for many reasons:

First, instead of being a weak point of his research, Hofstede has argued that using such sample is a significant and an important feature of his research. In his recent book "Cultures and Organizations: Software of the Mind" in 1994, Hofstede has countered this criticism. He is aware of

“The amazement of some people about how employees of a very specific corporation like IBM can serve as a sample for discovering something about the culture of their countries at large. “We know IBMers,” they say, “they are very special people, always in a white shirt and tie, and not at all representative for our country.” The people who say this are quite right: IBMers do not form representative samples from national populations. , However, samples for cross-national comparison need not be representative, as long as they are functionally equivalent. IBM employees are a narrow sample, but very well matched. Employees of multinational companies in general and of IBM in particular form attractive sources of information for comparing national traits, because they are so similar in respects other than nationality: their employer (with its common corporate culture), their kind of work, and -for matched occupations- their level of education. The one thing that can account for systematic and consistent differences between national groups within such a homogeneous multinational population is nationality itself -the national environment in which people were brought up before they joined this employer. Comparing IBM subsidiaries therefore shows national culture differences with unusual clarity.”(1994, p 251-252)

Moreover, Laurent (1984), a French researcher, found that cultural differences more pronounced among foreign employees working within the same multinational corporation than among employees working for organization in their home. Laurent conducted three studies, in the first study, he observed managers from nine western European countries and United States who were working for firms in their native countries. In the second one, Laurent replicated his research in one multinational corporation with subsidiaries in each of the ten original countries. In the third study, he replicated the research in two other multinational corporations each with subsidiaries in the same countries. He conducted these three studies with assumption in mind that employees working for the same multinational corporation would be more similar than their domestically employed colleagues. Instead, he found that people maintaining and even strengthening their culture differences. Laurent conclude that corporate culture do not reduce or eliminate national differences, instead it maintains and enhances such differences. This conclusion made by Laurent supports Hofstede’s assumption that IBM employees provide sufficient sample for studying cultural differences.

Second, Hofstede's cultural model is the largest organizationally based study that ever conducted. He obtained his data from 50 countries and three regions, including both oriental and occidental cultures, which made the dimensions within their differences, stand out quite clearly. The database was unusually extensive, covering employees in 72 national subsidiaries, 38 occupations, 20 languages, and at two points in time; around 1963 and around 1972. Therefore, this research, as Hofstede has argued, can serve as a useful anchoring framework for showing synergy among cross-cultural studies.

Third, the most significant feature of Hofstede's work is that it provides a complete cultural model explaining the cultural difference on work-related values. His work and model are more managerial focused work not only because of the nature of the type of cultures that were examined but also because of the cultural dimensions he found. For instance, uncertainty avoidance is a dimension of culture that focus upon the degree of risk that individuals are willing to take and the degree to which they want to be aggressive and materialistic. Power distance and individualism-collectivism dimensions must be taken into consideration when designing and constructing organizations that are suitable for different types of cultures (Carroll and Gannan, 1997). Furthermore, the usefulness and relevance of the cultural dimensions to the understanding of some organizational processes has been frequently pointed out, including the underlying values of organization development, and the cooperativeness and advancement of managers (Shackleton and Ali, 1990).

Fourth, a numerous researchers from different countries have replicated Hofstede's research in different time. Most of these replications provide empirical supports for Hofstede's findings. For instance, a study conducted by Offormann and Hellmann (1997), including 39 countries found significant support for Hofstede's framework. Bochner and Hesketh (1994) conducted a cross-cultural research including two hundred sixty-three workers from 28 different countries employed in the information services branch of a large Australian bank. Hofstede's work concerning power distance and individualism /collectivism was confirmed and

supported. Hofstede's cultural framework also was partly supported by Trompenaars, Smith, and Dugan's (1996) cross-cultural research. They surveyed eight thousand eight hundred fourth-one (8,841) managers and organization employees from 43 countries. Three dimensions from Hofstede's framework were confirmed by this research; namely, individualism, power distance, and confucian work dynamism (time orientation).

Another cross-cultural research conducted by Shackleton and Ali (1990) has provided empirical support for Hofstede's dimensions of power distance and uncertainty avoidance. These two dimensions were tested using samples from seven different organizations: four Sudanese, two British, and a Pakistani organization in Britain, in an attempt to replicate and extend Hofstede's work.

Therefore, Hofstede's cultural framework has been theoretically and empirically tested and the results are evident overall. It is a unique one and one the most recognisable frameworks and has been applied in many cross-cultural studies. It has great value and significance for future research and for the development of theories of organisational behaviour (Shackleton and Ali, 1990). Hofstede's cultural framework is adopted and emphasising throughout this dissertation.

2.3.5 Risky Decision-Making Behaviour in Cross-Cultural Research

Exploring the effects of cultural differences is crucial for our understanding of decision-making behaviour under risk. Yet cross-cultural research on risky behaviour is a relatively new and undeveloped field of inquiry (McDaniels and Gregory, 1991). Despite its importance, this factor has not received enough attention in the literature. Moreover, early research failed to recognise the complete role of culture in risky decision-making behaviour. Hofstede (1984) has argued that cross-cultural studies proliferate in all the social sciences, but they lack a theory of the key variable: culture itself.

Specifically, cross-cultural studies that have been conducted so far were devoted to test the cultural impacts only on two aspects of risky decision making behaviour: risky choice and the preference for decision making styles. Literature reveals that even these two aspects of risky decision making behaviour have not received enough attention and a few cross-cultural studies were conducted concerning them. As the cross-cultural research on risky choice has been discussed earlier (section 1.3.2, p. 41), the following section will focus on the cross-cultural research on the preference for decision making style.

Ali (Ali, 1989; Ali & Schaupp 1992; Ali, 1993; Ali, Toqi & Krishman, 1997) conducted several empirical studies to explore the relationship between decision-making style and individualism in Arab Gulf region. In general, he found that Arab executives display a high tendency toward collectivism, a weak commitment to individualism, a strong preference for consultative and participative decision-making styles, and a weak preference for autocratic and delegative. His findings concerning the preference for decision making style provide strong support for the conceptual and empirical findings reported by Muna (1980) that the Arab culture nurtures consultative and participative tendencies. He interpreted his findings partly by cultural background of Arab executives and partly by the Western influence through educational and business contacts and mass media.

In terms of attitude toward risk, Ali (1993) reported that individualism is associated positively with attitude toward risk. Furthermore, he found that risk taking is related to delegation, which may indicate that people who are risk taker display a quality of trust and confidence in their subordinates.

More recent work by Offermann and Hellmann (1997) has examined the impact of cultural background on leadership behaviour. The study sampled 425 midlevel managers of a multinational organization representing 39 countries. Their study provided a significant support for the impact of cultural values of power distance and uncertainty avoidance. Power distance dimension was significantly and negatively associated with leader communication and delegation whereas uncertainty

avoidance dimension was significantly associated with leader control and negatively associated with leader delegation. Moreover, no association was found to link individualism and masculinity with leadership behaviour.

Generally speaking, although a few studies have been conducted cross-culturally to figure out the influence of the cultural differences on decision-making behaviour especially under the condition of risk, the results were supportive. In other words, variations exist among various countries and cultures in people's preference for decision making style and attitude toward risk.

2.3.6 Critique of the Cross-Cultural Research

A valid and sound risky decision-making behaviour theory must be able to pass the test of time and space. Various contingences, including cultural-value systems, therefore, should be specified. Cross-cultural research on risky decision-making behaviour has become the new focus in recent years and some progress has been achieved. Yet some serious weaknesses have been noted.

Unclearly identified cultural values: Some differences in risky decision-making behaviour across countries have been found. Unfortunately, researchers have failed to explain such differences exist. For instance, Wang (1996) did not offer cultural-based explanations of why and how that his American subjects and Chinese subjects are similar or different in their risky-choice behaviour. The question that in what way and to what extent culture causes the variation in risky decision making behaviour remains unanswered.

Unmeasured cultural values: Among the studies that tried to link risky choice behaviour to culture, cultural values were not actually measured. For example, Wang (1996) did not measure the cultural values of American culture and Chinese culture. He took the differences between them for granted and assumed that they are distinct cultures. Therefore, findings reported in such studies may be

confusing. Without measuring the relevant cultural values, differences in decision-making behaviour can not be explained or interpreted.

Focusing on one cultural value: Most studies in cross-cultural comparison (Ali, 1989; Ali & Schaupp 1992; Ali, 1993; Ali, Toqi & Krishman, 1997) have focused on the individualism-collectivism dimension of culture. Individualism-collectivism value has been considered as a factor that causes the variations among cultural groups' decision-making behaviour. However, culture is much more complex than a single dimension. Culture is found to be a multi-dimensional (Hofstede, 1984, 1994; Trompenaars, Smith, and Dugan, 1996). The influence from other dimensions that are not included in the existing literature, therefore, remained unknown.

Including similar Cultures: Most studies in cross-cultural comparison have been conducted in very similar cultures. For example, in his studies of cultural effects on the preference for decision-making style and attitude toward risk, Ali (Ali, 1989; Ali & Schaupp 1992; Ali, 1993; Ali, Toqi & Krishman, 1997) included only Arab executives. Although his participants come from different Arab countries, most of Arabic people share the same cultural background especially those who live in the same region such Arab Gulf states. Therefore, generalibility of the findings of such research can not be assumed. Distinct cultures need to be included in cross-cultural research in order to test the impact of cultural values on decision makers' risky behaviour and to test the validity of any proposed model explaining such impacts.

2.4 Conclusion

Decision-makers have been found to display different behavioural patterns especially under the condition of risk. So it is not surprising that factors thought to influence decision-making behaviour receive considerable attention. The question that under which circumstances a behavioural pattern is adopted and by whom has directed the research efforts toward three factors.

The first factor that has received a considerable attention is risk behaviour. Under condition of risk, decision-makers can be categorized as either risk averse or risk seeking. Literature dealing with risky choice behaviour assumes that decision-makers are risk averse and they prefer to avoid risk when it is possible. It has been assumed that decision-makers prefer the smaller risks to larger ones. Therefore, decision-makers' perception on how risky the problem is causes the adoption of either risky behaviour. The research findings on this factor have been consistent.

The second factor that has received a substantial amount of notoriety is framing in which the problem is worded and presented. It is often possible to frame any decision problem in more than one way. Different versions or frames of one problem cause differences in decision makers' risk perception, and; in turn, differences in decision making behaviour. Based on framing effect assumption, prospect theory assumes that positively framed problems lead to risk-averse behaviour, whereas negatively framed problems lead to risk-seeking behaviour. However, research findings on this factor remain inconclusive. One possible reason for the variability in findings is that the decision problems have involved different arenas "contexts" of outcomes (e.g., threats to human or animal lives, threats to private or public properties, threats to jobs, and threats of monetary losses). In some contexts, framing effects appear robust and sizeable while in others appear highly variable and erratic. Few studies systematically tested the framing-context relationship. This issue is left open for further investigation.

The third factor is culture. Differences in decision-making behaviour under risk have been noted and empirically found. Yet cross-cultural research on risky decision-making behaviour is relatively new and undeveloped area of inquiry. A few cross-cultural studies have been conducted. However, the inquiry remains inconclusive, since most cross-cultural studies have focused on one cultural aspect; namely, individualism-collectivism dimension. It is evident that culture is much more complex and multi-dimensional. This evidence, however, does not seem to have been fully taken into consideration in the cross-cultural research on risky decision-making behaviour. Consequently, the findings of cross-cultural research can

not be interpreted on cultural basis due to the fact that culture is very unlikely to function only along a single dimension. Possibly there are other dimensions exerting strong influence on decision-makers' risky behaviour. This issue is also left open for further investigation.

In the next chapter, a proposed model that addresses some of these issues raised in the literature review will be presented.



CHAPTER THREE

A CULTURAL MODEL OF RISKY DECISION-MAKING BEHAVIOUR

Decision making is one of the most important roles that managers play in management. For some managers, managing and decision making are equivalent. Scholars and researchers have argued for years on how, theoretically and empirically, managers make decisions. While some believe that decision-makers are rational in their decision-making behaviour, others believe that decision-makers can be irrational in some circumstances especially under condition of risk. However, what is rational and what is not is a doubtful issue. What seems rational to some people might seem irrational to others. Culture is found to be an important factor that causes such diversity (Hofstede, 1980, 1984, 1994; Adler, 1991). Managers from different cultures perceive things differentially. Their subjective rationality, therefore, is different (Adler, 1991), and, accordingly, their decision-making behaviours are different.

In this chapter, the culture influence on the decision-making behaviour under risk is discussed. In other words, under the condition of risk, this dissertation is tracing the magnitude of cultural effects on decision-making behaviour. Literature on cross-cultural risky decision making is relatively new and lacks such research that put the combination of culture, problem framing, and decision-making behaviour under serious investigation. It is believed that this combination makes this dissertation unique.

In this chapter, the proposed cultural model of risky decision making behaviour is presented and hypotheses are formulated. The chapter is organised in four sections. Section 3.1 provides an overview of the proposed model including its variables definition. Section 3.2 presents the first set of the proposed relationships that

is between cultural values and risky decision-making behaviour. Section 3.3 presents the second set of the proposed relationships that is between risk perception and creativity, risky choice and decision-making style preference. Last section discusses and presents the third set of the proposed relationship concerning the effects of problem framing on both decision-making process and decision-making style preference.

3.1 An Overview of the Model

In this model, it is proposed that risky decision-making behaviour is cultural contingent. Culture that causes decision makers to favour a certain risky behaviour over alternatives. While in one culture dealing with risk is very common and individuals are willing to take risk and see themselves as risk seeking, individuals from another culture try to avoid risk as possible as they can and tend to be risk averse (Hofstede, 1980, 1984, 1994). Preferences for risk behaviours are attitudes that dispose a culture group or an individual to favour certain behaviour. Such attitudes are constructed through learning and experience that provide opportunities to acquire basic cultural assumptions and general cultural values. These assumptions and values in turn shape people's specific attitudes toward risky decision making. Decision making, therefore, is culturally contingent; that is, what makes this way to be perceived as the "best way" in decision making depends on the cultural background of the people involved (Adler, 1991). The study of the impact of cultural value is, therefore, an indispensable part in understanding decision making behaviour patterns.

Therefore, the first set of relationships in the proposed model is regarding how various cultural dimensions – assumptions and values- influence decision-making behaviour. The investigation here is beyond the scope of previous research in two ways. First, it adopts a multi-dimensional perspective of culture and incorporates more cultural dimensions. Second, it actually measures the five cultural dimensions, instead of, as most studies did, distinguishing cultures based on cultural profiles found in the literature.

The second set of relationships in the proposed model is reflecting the relationships among decision-making behaviour variables. It proposed that while risk perception influences creativity and risky choice, it also has a great influence on the preference for decision making style. The linkage between risk perception and decision making style preference has never been assumed or proposed in the past research.

When making decisions in risky situations, culture depicts only part of the picture of how decision-makers behave. Whether a problem is framed in positive or negative terms causes an important influence on decision-maker's risk perception, and, consequently, on their risky behaviour. (Tversky & Kahneman, 1979, 1981, 1986; Kahneman & Tversky, 1984, 1990; Sitkin & Pablo, 1992; Sitkin & Weingart, 1995). Therefore, problem framing is another factor that causes decision-makers to perceive situations or problems differently. The study of the impact of problem framing, therefore, is another indispensable part in understanding decision-making behaviour patterns under risk.

Problem framing is included in the proposed model as an important factor influencing risky decision making behaviour. Therefore, the third set of relationships in the proposed model is regarding how various frames -positive or negative- influence decision-making behaviour. The investigation here is beyond the scope of previous research in two ways. First, it attempts to explore the frame effects not only on choice step of decision making, as most studies did, but also on all aspects of decision-making behaviour including perception, creativity, and the preference of decision-making style. Second, it examines the framing effects cross-culturally, which was totally neglected in the past research.

In sum, the proposed cultural model is reflecting three sets of relationships among four sets of variables. While each of these sets of relationships and their hypotheses are discussed in the following sections, the four sets of variables that are included in the proposed model are discussed here. These are culture, decision-making process, preference for decision-making style, and problem framing.

3.1.1 Culture

In the last few decades, researchers have approached culture from diverse perspectives, and, consequently, a number of culture frameworks have been proposed. Yet the most influential framework is that of Hofstede. Hofstede's cultural framework, as mentioned in chapter one, is regarded as a landmark in cross-cultural research and has been extensively cited in both empirical research and theoretical development (Traindis, 1982; Lane and DiStefano, 1992; Adler, 1991; Shackleton and Ali, 1990; Carroll and Cannon, 1996; Offermann and Hellman, 1997).

Based on his big research, Hofstede (1980, 1984, and 1994) suggests a cultural framework that includes five dimensions (including the one that found by Michael Bond). These are power distance, uncertainty avoidance, individualism versus collectivism, masculinity versus femininity, and time orientation. These five dimensions capture the important differences between cultures regarding work-related attitudes including those toward risk and decision making.

To explore the culture influence on risky decision making behaviour, Hofstede's cultural dimensions are adopted. In this dissertation, it is proposed that these five cultural dimensions play very important role in determining risky decision making behaviour by effecting both decision making process and the preference for decision-making style.

3.1.2. Decision Making Process

Decision-making process, in literature, is broken down into a series of steps. Although there is no agreement on how many steps that decision maker would go through to arrive to his or her decision, there is no doubt that there are three basic and logical steps that any decision-making process must include. These are problem recognition, alternative construction, and choice. However, when conducting empirical research, most researchers focus only on the last step; that is choice. In this

dissertation, decision-making process is viewed as a process including these three steps, instead of, as most previous studies did, merely a choice to be made.

To investigate decision-making process under risk, this dissertation examines specific aspects of these three steps. In the problem recognition step, the focus has been made on the risk perception of the decision problems. Concerning alternative construction step, this dissertation is focusing merely on how creative the decision-makers are in responding to risky situations. In other words, creativity is treated here as an important aspect of the risky decision-making behaviour. Regarding choice step, the risk-taking behaviour is determined by the choice that decision-makers make. In other words, decision-makers are classified as either risk averse or risk seeking based on the decisions they make in this step of decision making process.

3.1.3 Preference for Decision-Making Style

Decision-making style is found to be an important factor that explains why decision makers make different decisions when faced with identical problems (Luthans, 1995). The term decision-making style, in this dissertation, is viewed as the degree of participation in decision-making process, as Vroom and Yetton (1973) have defined it. Literature suggests that there are four most common decision-making styles that managers exhibit when making their decisions. These are; autocratic style (when a manager makes his/her own decision with no communication with others), consultative style (when a manager consults others before making his/her decision), participative style (when a manager allows others to participate in making decisions), and delegative style (when a manager delegates the decision to be made to others). These four styles are adopted in this dissertation to distinguish and identify which style is preferred by who.

The preference for decision-making style is proposed to be affected by a specific set of cultural values. It is also proposed that there is a relationship between the preference for decision-making style and decision-making process. Specifically, the decision making style preference is proposed to be affected by risk perception

3.1.4 Problem Framing

Problem framing refers to whether a problem is phrased or presented to decision-maker as an opportunity or as a threat or in terms of gains or losses. It is, usually, possible to present a problem in a generally positive or negative frame. Problems in the current study are presented in either positive frame or negative frame.

In this dissertation, it is proposed that problem framing has direct and indirect effects on each step of decision-making process as well as on the preference for decision-making style.

Risky Decision-Making Behaviour, for many years, has been characterized by the degree of risk associated with the decisions (Sitkin & Pablo, 1992, Sitkin & Weingart, 1995). Accordingly, the risky decision-making behaviour that decision-makers adopt is either risk averse, if riskless alternatives are chosen, or risk seeking, if risky alternatives are chosen. However, in this dissertation, risky decision-making behaviour is only partly defined by the type of the decision made. It is proposed that both creativity and the preferred decision-making style are also important aspects of risky decision-making behaviour. Therefore, risky decision-making behaviour in this dissertation is characterised by; 1) how creative decision-makers are (creative versus tradition), 2) how much risk they can take (risk averse versus risk seeking), and 3) which decision-making style they prefer.

3.2 The Relationship Between Cultural Values

And Risky Decision-Making Behaviour

This section presents the first set of the proposed relationships that is between cultural dimensions and decision-making behaviour. Specifically, it presents the influence of cultural values on both risk perception and the preference for decision-making style. Cultural dimensions are named using the terminologies of Hofstede (1980, 1984, and 1994).

3.2.1 Cultural Values-Risk Perception Relationships

The recognition of the problem is the first step or stage in the decision-making process (Daft, 1994; Luthans, 1995). No doubt that this step has a great influence on the steps to follow. Past research reveals that problem recognition is influenced by the perception of the situation (Daft, 1994; Robbins, 1994; Adler, 1991). The situation as perceived is the important fact to decision-makers. That is, while some decision-makers perceive a given situation, as a serious problem must be solved, some others may perceive the same situation as a little problem or no problem at all. Moreover, decision-makers are different in their perception of the degree of risk involved in a given situation. This argument raises an important question: what makes decision-makers perceive the same problem differently? One important factor has been argued that causes such differences is culture.

According to cultural differences, decision-makers from different cultures do not perceive situations in the same way (Adler, 1991; Hofstede, 1980, 1984, 1994; Robbins, 1994). Adler (1991) has argued that “perceptual patterns are neither innate nor absolute. They are selective, learned, culturally determined, consistent, and inaccurate.”(p 68). Therefore, we learn to see the world in a certain way based on our cultural background. In other words, people perceive things according to what they have been trained to see, according to their cultural map.

The phenomenon is powerfully illustrated in Adler’s (1991) example. If a manager from United States receives a notice that a prime supplier will be three months late in delivering needed construction materials, he or she will perceive this delay as a serious problem needed to be solved immediately by, for example, attempting to speed up delivery or finding an alternative supplier. By contrast, if a manager from Bahrain receives the same notice of delay, he or she might see no problem at all and simply accept that the project would be delayed.

Thus, it has been recognised that culture influences the way people perceive problems. However, the mechanism through which culture influence people's perception was not fully empirically investigated in the past research. This dissertation is expected to fill in such missing litterateur. In the proposed model, three culture's basic assumptions or values guide perception. These are uncertainty avoidance, individualism-collectivism, and time orientation. While uncertainty avoidance has received considerable attention in the past research, the other two cultural values have not.

Based on cultural framework, uncertainty avoidance dimension differentiates cultures based on people's attitudes toward risk. Hofstede (1980, 1984, and 1994) found that the level of uncertainty avoidance is negatively associated with the risk preference. In low uncertainty avoidance cultures decision-makers are more willing to take risk than decision-makers from high uncertainty avoidance cultures. Therefore, the extent to which decision-makers feel willing to accept risk depends on their cultures' level of uncertainty avoidance. Thus, decision makers from low uncertainty avoidance cultures, such as United States, are assumed to have higher risk propensity (willing to take risk) than decision makers from high uncertainty avoidance cultures, such as Japan.

Sitkin and Weingart (1995) and Sitkin and Pablo (1992) have argued that risk propensity (willing to take risk) is negatively related to risk perception. That is, decision-makers with a low-risk propensity (a propensity to avoid risk) perceive higher level of risk inherent in the problem than decision-makers with a high-risk propensity (a propensity to take risk).

Based on this discussion, it is assumed that decision-makers from high uncertainty avoidance culture with a low risk propensity are expected to perceive high risk involved in the problem. By contrast, decision-makers from low uncertainty avoidance culture with a high-risk propensity are expected to perceive low risk involved in the same problem. Therefore, it is hypothesised.

Hypothesis A.1.1 Decision-makers from strong uncertainty avoidance cultures are more likely to perceive higher risk inherent in a problem than those from weak uncertainty avoidance cultures do. Specifically, the higher the level of uncertainty avoidance of decision-makers' culture, the higher the level of risk perception.

The second related cultural dimension to influence people's attitude toward risk is individualism versus collectivism. The relationship between individualism and risk attitude, however, was not clearly identified or empirically examined in the past research. Among the few studies that have directly addressed this relationship is the one conducted by Ali (1993). In examining decision-making style, individualism, and attitudes toward risk of Arab executives, Ali (1993) found that risk attitude is positively related to individualism. His finding provides support for Hofstede's (1980) suggestion that individualistic people tend to score high on tolerance for ambiguity. Therefore, one can assume that people from high individualistic cultures have higher attitude toward risk than people from low individualistic cultures do.

As mentioned above, decision-makers with a low-risk propensity or low attitude toward risk (a propensity to avoid risk) perceive higher level of risk inherent in the problem than decision-makers with a high-risk propensity or a high attitude toward risk (a propensity to take risk). Based on these assumptions and research findings, the following relationship between the value of individualism and risk perception was hypothesized:

Hypothesis A.1.2 Decision-makers from high individualistic cultures are more likely to perceive lower risk inherent in a problem than decision-makers from low individualistic cultures do. Specifically, the higher the level of individualism of decision-maker's culture, the lower the risk perception.

Finally, the third related cultural dimension to risk taking behaviour and risk perception is time orientation. In fact, this dimension is relatively new and was added recently to Hofstede's cultural framework, as mentioned in chapter one. Therefore, it has not received enough attention, and no research has been conducted to investigate

the effects that time orientation dimension might have on risk attitude and behaviour. Therefore, literature provides no suggestions to guide research efforts.

However, based on Hofstede's (1994) suggestion that people from short-term oriented cultures have more initiative and are risk seeking, one can assume a negative relationship between time orientation dimension and risk attitude and behaviour. That is, people from short-term oriented cultures are more risk seeking, and, by contrast, people from long-term oriented cultures are more risk averse. Since risk perception, as mentioned above, is found to be negatively related to risk behaviour, the following is hypothesized:

Hypothesis A.1.3 Decision-makers from long-term oriented cultures are more likely to perceive higher risk inherent in problems than decision-makers from short-term oriented cultures do. Specifically, the higher the level of time orientation of decision-maker's culture, the higher the level of risk perception.

3.2.2 Culture Values -Preference for Decision Making Style Relationships

Do decision-makers from different cultures prefer different decision-making styles? No doubt that who makes decisions or which decision-making style is preferred is a very crucial concern. Offermann and Hellmann (1997) have pointed out that decision-making style preference is likely to be affected by cultural values. For instance, whereas in some countries delegative style might be seen as positive leader behaviour, high use of delegation might be viewed in other countries as a weak leadership. They have argued that there is no such "best style" for all managers. The fact that leadership theories have been created by and for the United States, it is, therefore, critical that these theories and practices be increasingly re-examined through the lens of culture.

Cross-cultural literature is very poor regarding this topic. Besides, all efforts that have been devoted to investigate the culture-preference for decision making style relationship have treated culture as an uni-dimensional and focused only on the effect of one dimension; namely, individualism-collectivism. The effects of the other dimensions of culture remain unknown. To advance our understanding of decision-making behaviour, this dissertation adopts different approach and views culture as multi-dimensional, and investigates all possible effects that culture might have on the preference for decision-making style.

Because literature is very poor regarding this topic, the current study is struck by the limitation and scarcity of research findings that directly address this issue. Since Hofstede's research is the most comprehensive and recognisable one, all assumptions that are made in this section are heavily based on this research's findings.

Four cultural dimensions are found to be related to decision-making style preference. These are; power distance, uncertainty avoidance, individualism-collectivism and masculinity-femininity. In this section, the influence of each dimension on preference for decision-making style is discussed separately.

3.2.2.1. Power Distance

The first cultural dimension that is directly related to the preference for decision making style is power distance. Hofstede (1980,1984, 1994) found that managers from small power distance cultures, such as Denmark and New Zealand, advocate participation in decision-making process, while in large power distance cultures, such as India, autocratic fashion in making decisions is more favourable. Generally speaking, in small power distance cultures, organisations are fairly decentralised, decisions are delegated to lower levels and subordinates expect to be consulted, and the ideal boss is a resourceful democratic. By contrast, in large power distance cultures, decisions are centralised, top level managers make decisions,

subordinates expect to be told what to do, and the ideal boss is a benevolent autocratic. Based on these findings, therefore, it is hypothesised that:

Hypothesis A.2.1. Decision-makers from small power distance cultures are more likely to prefer delegative style than decision-makers from large power distance culture do. And decision-makers from large power distance cultures are more likely to prefer autocratic style than decision-makers from small power distance cultures do.

3.2.2.2 Uncertainty avoidance

Uncertainty avoidance dimension is also strongly related to the preference for decision making style. In high uncertainty avoidance cultures, there is a strong belief that group decisions are better than individual decisions and are interpreted as a way of avoiding risk for the individual decision maker. Thus, consensus and consultative style are more likely to be preferred in such situation. On the other hand, in low uncertainty avoidance cultures, there is more sympathy for individual and authoritative decisions, thus, delegations to subordinates can be complete (Hofstede, 1980, 1984, 1994). Accordingly, it is hypothesised that:

Hypothesis A 2.2. Decision-makers from strong uncertainty-avoidance cultures are more likely to prefer the consultative style than decision-makers from weak uncertainty avoidance cultures do.

3.2.2.3 Individualism versus Collectivism

While individual-decision orientation is one of most important characteristics of individualistic cultures, group-decision orientation is one of most important characteristics of collectivistic cultures. It has been found out that in individualistic cultures, such as United States and Canada, individuals usually make decisions and hold primary responsibility of their decisions. By contrast, in collectivistic cultures, such as, Japan and China, groups usually make decisions. Japanese, as collectivist

oriented, found it inconceivable for a decision-maker to make a decision without consulting his or her immediate colleagues and subordinates and gain their agreement (Adler, 1991).

Generally speaking, people from collectivistic cultures are group oriented, and, therefore, group decisions are considered better than individual decisions, whereas people from individualistic cultures are individualistic and weak in working in groups and teams, and, therefore, individual decisions are considered better than group decisions (Hofstede, 1980, 1984, 1994; Adler, 1991).

Therefore, it is assumed here that while decision-makers from individualistic cultures prefer delegative style, decision-makers from collectivistic cultures prefer participative style and consultative style. The hypothesis is as following:

Hypothesis A 2.3. Decision-makers from high individualistic cultures are more likely to prefer delegative style than decision-makers from low individualistic cultures do. And decision-makers from low individualistic cultures are more likely to prefer participative style than decision-makers from high individualistic cultures do.

3.2.2.4 Masculinity versus Femininity

Feminine cultures emphasise relationship among people and concern for others, whereas masculine cultures put more emphases on assertiveness and materialism. Specifically, people from feminine cultures, such as Netherlands, believe in group decisions, whereas in masculine cultures, such as United States, people believe in the independent decision maker. Therefore, it is hypothesised

Hypothesis A 2.4. Decision-makers from low masculine cultures are more likely to prefer participative style than decision-makers from high masculine cultures do.

The above proposed and predicted relationships between cultural values and decision-making style preferences are summarised in the following Table (3.1). Note that the sign “+” indicates a positive relationship while the sign “-” indicates a negative relationship.

Table (3.1) The Culture-Preference relationships

Cultural Dimensions	Preference for			
	Autocratic	Consultative	Participative	Delegative
Power distance	+			-
Uncertainty avoidance		+		
Individualism			-	+
Masculinity			+	

3.3 The Relationships between Risk Perception and Creativity, Risky Choice, and Decision-Making Style Preference

While risk perception-risky choice relationship has received very little attention, both risk perception-creativity relationship and risk perception-preference for decision-making style relationship were fully neglected in past research. Most past research did not directly and systematically assess whether the decision-makers are effected by their risk perception when making risky decisions. Moreover, the past research findings were not cross-culturally tested or replicated. The current study recognizes the effects of risk perception on creativity, risky choice, and decision-making style preferences, and attempts to test them cross-culturally.

In this section, the proposed linkages between risk perception and creativity, risky choice, and preference are discussed and hypotheses are presented.

3.3.1 Risk Perception-Creativity Relationship

For many years, creativity has been considered as an important characteristic that most successful decision-makers have and all decision-makers should have. However, when investigating decision-making process, past research failed to consider creativity as an important aspect of decision making process' output. This, in fact, questions the importance of creativity for decision-makers.

Generating good solutions is an essential part of making good decisions. Generally speaking, in generating alternatives, decision-makers follow one of two strategies. First, drawing on one's past experience and the experience of others, such colleagues, peers and followers. This strategy is found to be a good technique to generate good alternatives (Easten, 1973). However, in responding to rapidly changing and ambiguous environment, following this strategy is not a sufficient way and solutions generated by this strategy do not work often. Second, generating alternatives in novel and creative way is another strategy that can be used in responding to such ambiguous environment.

However, no research has been conducted to investigate the situation characteristics that lead to the adaptation of either strategy. Which strategy is adopted under which circumstance? Such question needs to be answered. Literature, in fact, lacks such research. This is left open for further investigation.

Making decisions under special circumstances, such as risky situations, creative solutions often resolve problems when traditional solutions can not. In the current study, it is assumed that risky situations stimulate decision makers' creativity to generate and adopt creative alternatives. In other words, generating and adopting creative alternatives depends on decision makers' perception of how risky the situation is. This argument suggests the following hypothesis:

Hypothesis B.1. When problems are perceived as being high risky, decision-makers become less creative than they would be when problems are perceived as being less risky. Specifically, the higher the risk perception, the less creative the decision-makers would be.

3.3.2 Risk Perception-Risky Choice Relationship

Why do some decision-makers adopt a set of alternative and make their decision accordingly while some others adopt a different set? It has been argued that the attractiveness of an alternative depends upon its full set of relevant positive and negative consequences (Fischhoff et al, 1983), and the perceived risk involved in the choice (Sitkin and Pablo, 1992; Pablo, Sitkin and Jemison, 1996; Sitkin and Weingar, 1995). Deciding which of a set of options is most attractive; therefore, is inherently situation specific.

However, when investigating risky choice, most past studies did not directly and systematically assess whether the decision-makers are effected by their risk perception when making risky decisions. To fully extend our understanding of risky decision making behaviour, it would be very useful to explore more directly such relationship between risk perception and risky choice.

In a few studies in which risk perception role was assessed, the findings supported the assumption that risky choices that decision-makers make are effected by their risk perception. For example, Sitkin and Weingart (1995), found that the degree to which individuals make risky decisions is negatively associated with their level of perceived risk. Based on these findings, it is hypothesized

decision-makers are less likely to make risky choices than they would do when problems are perceived as being less risky problems. Specifically, the higher the risk perception, the less risky choices to be made.

3.3.3 Risk Perception-Preference For Decision-Making Style Relationship

In discussing this relationship it is important to note that such linkage between decision-making process and decision-making style has never been assumed or tested in the past research. Therefore, it is not surprising that the proposed linkage in this dissertation has no theoretical support or empirical evidence.

Tannenbaum and Schmidt (see Daft 1994) and Vroom and Yetton (1973) have challenged the “best style” assumption by introducing the concept of “each style is effect under a special conditions”. Tannenbaum and Schmidt, as reported in Daft (1994), developed a decision-making style model that reflects different amount of participation. They argued that the best style that decision-makers should adopt depends on organizational circumstances. Likewise, Vroom and Yetton (1973) developed a contingency model of leadership style and argued that the selection of the best style to be adopted depends on several situational variables.

Since people are assumed to be risk averse and they try to avoid risk when it is possible (Fiegenboun & Thomas, 1988; McDougal, 1995; March & Shapira, 1987; Warneryd, 1996; Fischhoff, 1992), one can also assume that decision makers try to avoid the risk of making risky decisions by sharing the responsibilities with other. Therefore, it is hypothesized:

Hypothesis B.3. When problems are perceived as involving high risk, decision-makers are more likely to prefer participative style and consultative style than they would do when problems are perceived as involving low risk.

3.4 The Effects of Problem Framing

It has been commonly accepted that problem framing within which decision problems are presented influences the risky decision-making behaviour that decision makers exhibit. It has been argued that when making a choice, decision-makers are sensitive to the way in which the options are presented (Tversky and Kahneman, 1981, 1986; Schnieider, 1992; Fagley and Miller, 1997). Therefore, problem framing is an important factor that might bias decisions that decision-makers make.

However, literature in general did not view risky decision-making behaviour as having three aspects, as the current study does. Instead, past research viewed risky decision-making behaviour only as the choices that decision-makers make. The effects of problem framing on the other two aspects (creativity and preference for decision making style), therefore, remain unknown.

The model proposed in this dissertation recognises two types of problem framing effects on risky decision-making behaviour. On one hand, problem framing could have direct and main effects on all steps of decision making process as well as on decision-making style preferences. On the other hand, problem framing could also have indirect effects on all aspects of decision-making behaviour through the influence that problem framing has on risk perception. In this section both types of framing effects proposed in the model are discussed and hypotheses are presented.

3.4.1 The Framing Effects on Decision-Making Process

An important influence on a decision-maker's risk perception is whether a problem is framed in positive or negative terms. Prospect theory assumes that positively framed situations led to the making of risk-averse decisions, whereas negatively framed situations led to the making of risk-seeking decisions. Although a number of succeeding studies (e.g. Tversky and Kahneman, 1979, 1981, 1986;

Kahneman and Tversky, 1984,1990; Sitkin and Weingart, 1995) have found the influence of problem framing on risky-choice behaviour to be robust, none of these studies has directly examined the causal mechanisms underlying the observed behaviour effects posited in prospect theory ((Sitkin and Pablo, 1992; Sitkin and Weingart, 1995).

Weber and Milliman (1997) have argued that if different people can perceive risk differently in the same situation, than it may also be possible for a given individual to perceive the risk of the same problem differently at different time or different context. Sitkin and Weingart point out that “if perceptions and other omitted mechanisms are left unexamined, it remains unclear how problem framing comes to affect decisions” (1995; p1577). In examining the role of risk perception on risky decision-making behaviour, they found that positively framed problems are perceived as involving higher risk than negatively framed problems. That is, problem framing directly affects how risky a situation is perceived to be, which in turn leads to the decision behaviour they observed. Such finding, as they argue, extends prospect theory by suggesting the cognitive mechanism through which observable behavioural responses occur. Based on these findings, the following is hypothesized:

Hypothesis C.1 Positively framed problems are more likely to be perceived as involving higher risk than negatively framed problems.

Although framing effects that are proposed by prospect theory, as mentioned earlier, have been widely accepted and examined in the past few decades, no attempts were made to extend these effects to other aspects of risky decision-making behaviour; namely, creativity and the preference for decision-making style. Literature lacks research findings to guide further investigation. The effects of problem framing on the other aspects, therefore, remain unknown.

Nevertheless, the proposed model recognizes the direct and indirect effects of problem framing on creativity. In the current study, it has been proposed that problem framing directly affect decision-makers’ creativity. Moreover, problem framing indirectly affects decision-makers’ creativity through their risk perception. That is,

when perceiving problems as involving high risk (positive frame), decision-makers become less creative in generating and adopting alternatives and rely heavily on their past experience and the experience of the others, whereas they become more creative when problems are perceived as involving low risk (negative frame). Therefore, risk perception partially mediates the relationship between problem framing and creativity.

The above argument leads to the following hypotheses concerning the direct and indirect effects of problem framing on decision-making process.

Hypothesis C.2.1 When problems are positively framed, decision-makers are less likely to be creative than they would be when problems are negatively framed.

Hypothesis C.2.2 Risk perception partially mediates the effects of problem framing on creativity.

Sitkin and Weingart (1995) found that beside the indirect effect of problem framing on risky choice via risk perception, it has also direct effect on risky choice as proposed by prospect theory. These findings offer support for the following hypotheses that problem framing while directly influencing risk perception and risky choice, it influences risky choice indirectly as well.

Hypothesis C.3.1 When problems are positively framed, decision-makers are less likely to make risky choices than they would do when problems are negatively framed.

Hypothesis C.3.2 Risk perception partially mediates the effects of problem framing on risky choice.

3.4.2 The Framing Effects on the Preference For Decision-Making Style

Concerning decision making style preferences, it is assumed that problem framing directly and indirectly influences the patterns of decision-making style preferences that decision-makers exhibit. It has been argued that in general decision-makers prefer different styles under different situations (Yroom and Yetton, 1973; Daft, 1994). Risky situation is one of the situations where decision-makers exhibit different patterns of preferences for decision-making style. However, how risky is the situation varies from one decision-maker to another based on their risk perception. Thus risk perception plays a mediation role in the relationship between problem framing and the preference for decision-making style. Therefore, it was hypothesised the follows:

Hypothesis C.4.1 When problems are positively framed, decision makers are more likely to prefer different decision-making style patterns from those they would prefer when problems are negatively framed.

Hypothesis C.4.2 Risk perception partially mediates the effects of problem framing on the preference for decision-making style.

Figure (3.1) in next page depicts the complete model proposed in this dissertation containing the three sets of proposed relationships; 1) between cultural-value dimensions and both decision making process and preference for decision making style; 2) between risk perception and decision making style preferences; and 3) the direct and indirect effects of problem framing on risky decision making behaviour.

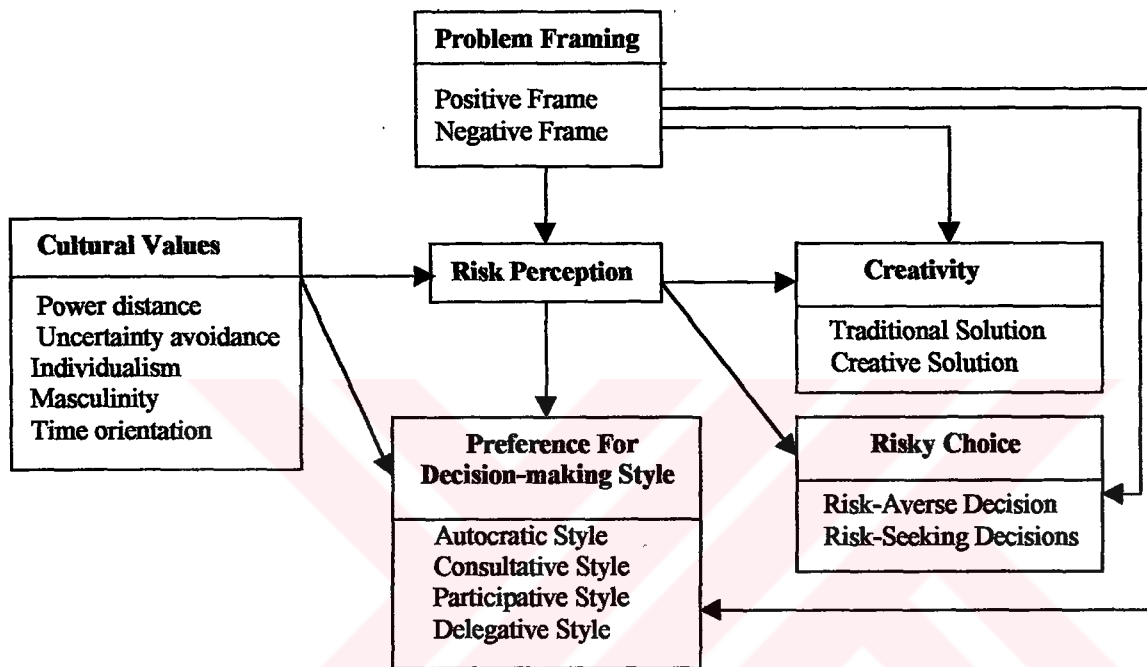


Figure (3.1) The Proposed Cultural Model of Risky Decision-Making Behaviour

CHAPTER FOUR

RESEARCH METHODOLOGY

The proposed model was empirically tested using a primary data collecting for the purpose of this dissertation. A questionnaire containing all variables was designed including three sections. Section one was designed to measure the five cultural variables (power distance, uncertainty avoidance, individualism, masculinity, and time orientation). Section two was designed to manipulate the problem framing (positive frame and negative frame). As a between-participants design, each participant was asked to make a number of choices based on either positive or negative frame. Finally, section three contains questions concerning participants' background information including demographic data. Therefore, while all participants received the same versions of section one and three, randomly distributed, each participant received either positive or negative versions of section two. (See appendix B, C, D and E).

In this chapter, the research methodology that was used in this dissertation is discussed in detail. Section 4.1 describes the selection of the five cultures included in this dissertation. Section 4.2 reports how this research was administrated including description of the participants and the procedures. Finally, section 4.3 describes the measurements used to measure each variable in the proposed model.

4.1 The Selection of Cultures

A valid and sound behaviour model must be able to pass the test of time and space. The model proposed in this dissertation was empirically and cross-culturally tested using samples drawn from five countries, namely; Turkey, Libya, Japan, China, and Canada. Attention had been given to the selection of these countries. The reason behind the selection of these five countries is fourfold.

First, Ideally, any proposed cultural model should be empirically tested using many countries, culturally as different as possible (Hofstede, 1984 and 1994). To make sampling practical, the current research included and compared five culturally different countries. These are Libya and Turkey from Middle East, Japan and China from Far East, and Canada from Far West. Second, Hofstede and Bond (1984) have argued that five cultures is a practical minimum for finding significant support for any proposed model or theory. Although more countries were planned to be included, data was collected only from these five countries because of time limitation. Third, few studies, In fact, have included and compared these five countries' culture together on the five cultural dimensions. Forth, there is no study analysing Libyan culture along these dimensions except Hofstede's research. However, Hofstede analysed Libya only as a part of Arab countries region, which he called Arab-speaking countries, including Libya, Egypt, Iraq, Kuwait, Lebanon, Saudi Arabia, and United Arab Emirates. Therefore, Hofstede's findings concerning Arab-speaking countries are applied to Libyan Culture, although there are some differences among Arabs (Hofstede 1994: Buda and Elsayed-Elkhoully 1998).

Libyan culture, as being a part of Arab culture, and Turkish culture have been documented as being similar in some aspects of their cultural profiles (Hofstede, 1994; Bjerke and Al-Meer, 1983). While they are different from Libyan and Turkish cultures, Japanese culture and Chinese culture are also found to be similar in some aspects of their culture profiles. On the other hand, Canadian culture is found to be different from that of Libya, Turkey, Japan and China in many aspects (Hofstede, 1980, 1984, 1994; Adler, 1991). As discussed below, there are similarities and differences among the five cultures included in this dissertation.

Therefore, these five cultures provided a cross-cultural basis to test the proposed model. In this section, similarities and differences among the five selected cultures on the five cultural dimensions are discussed based on the past research's findings.

4.1.1 Power Distance

According to Hofstede's findings of his large research, Arab-speaking countries were found to be among large power-distance countries. They scored 80 (where the highest score is 104 and the lowest is 11) which places them in the seventh position comparing to the other 53 countries and regions that were included in Hofstede's research. Replication of Hofstede's research in some Arab countries showed similar findings to Hofstede's. For instance, Bjerke and Al-Meer (1983) replicated the research in Saudia Arabia and analysed its culture along the four cultural dimensions developed by Hofstede. They found very similar findings to Hofstede's. On power distance dimension, Saudia Arabia scored 73 at the high end of the range. This score is very close to 80 the score found by Hofstede, given the fact that Hofstede's score is the average score of seven Arab countries including Saudia Arabia and Libya as well. In another replicated study including Sudan, Britain, and Pakistan, Shackleton and Ali (1990) also found very similar finding of Hostede's. Sudan, in their study, scored 80 on power-distance dimension. These replications and their findings support Hofstede's research.

Turkey in Hofstede's research was also found as a large power-distance country. Turkey scored 66 and ranked 18/19 among 53 countries and regions. Not very far from Turkey, Japan scored 54, just around the mean and ranked 33 among 53 countries and regions in Hofstede's research. Therefore, Japan was considered as a medium to large power-distance country.

In Hofstede's research, the People's Republic of China was not included. However, there were three other Chinese cultures included in Hofstede's research: Singapore, Hong Kong, and Taiwan. The three cultures scored high on the power distance dimension (74, 68, and 58 respectively). Chong, Cragin, and Scherling (1983) administered the Hofstede survey to a wide variety of managerial groups in the People's Republic of China and found a result compatible with the three Chinese cultures in Hofstede's research. Therefore, China is considered to be a large power distance country. On the opposite side of the power-distance continuum, Canada was found as a

low-power distance country. It scored 39 and ranked 38 among the 53 countries and region included in Hofstede's research.

Therefore, Libya, Turkey and China are characterised as large power-distance countries, Japan as a large to medium power distance country, whereas Canada is characterised as a low power-distance country

4.1.2 Uncertainty Avoidance

Hofstede (1984 and 1994) characterised Turkey as a high uncertainty-avoidance country. In his research, Turkey scored 85 and ranked as 16/17, among the 53 countries and regions, sharing the same position with South Korea. Not very far from Turkey, Arab-speaking countries ranked 27 by scoring 68, just around the 53 countries and regions' mean score of 65. Therefore, this region can hardly be characterised as either high or low power distance.

Bjerke and Al-Meer (1983) found that Saudi Arabia scored 74 which it firmly among high power-distance countries and much closer to Turkey. On the other hand, Shackleton and Ali (1990) found that Sudan scored 45 on the power-distance dimension, which places it among low uncertainty avoidance countries. Although their findings are inconsistent, both claimed that their findings are very similar to Hofstede's. This contradiction can be explained by the fact that Hofstede's score for Arab-speaking countries is the average score of seven Arab country scores.

Japan, according to Hofstede's findings, scored 92 that replaced Japan among the very high uncertainty avoidance countries included in his research and ranked 7. In the case of China, it is hard to consider it as high or low on this dimension because of the different positions that were obtained for the three Chinese cultures; Taiwan, Hong Kong, and Singapore. In Hofstede's research, while Taiwan scored 69 and ranked 26 just one position higher than Arab-speaking countries, Hong Kong and Singapore, in contrast, scored very low. Hong Kong scored 29 and ranked 49/50 sharing this position with Sweden, whereas Singapore scored 8 as the lowest index score and ranked 53 as the

last index country. Thus, China's position on this dimension can not be estimated. As the case of power distance dimension, Canada scored 48 and ranked 41 to 42, sharing the same position with Indonesia. This is far from the mean score of 65 toward the low uncertainty avoidance side of the scale.

Therefore, Turkey and Japan can be characterised as high uncertainty avoidance countries, Libya as a medium uncertainty- avoidance country and Canada as a low uncertainty-avoidance country.

4.1.3 Individualism-Collectivism

Canada, in Hofstede's research, relative to the other countries, was among the highest countries on this dimension. Not far from the USA, as usual, Canada scored 80 and ranked 4 to 5, sharing this position with the Netherlands. Since the mean score of 53 countries and regions was 43, therefore, there is no doubt that Canada is characterised as a high individualistic country. Japan scored 46 just around the mean score of 53 countries and regions, and ranked 22/23 sharing this position with Argentina. Therefore, Japan can be considered as medium individualistic country.

On the other side of individualism scale, both Arab-speaking countries and Turkey scored very similar, if not the same. Among 53 countries and regions, Arab-speaking countries ranked 26 to 27 sharing the same position with Brazil, while Turkey ranked 28. They scored 38 and 37, respectively, which are not far from the mean score of 43. Therefore, according to Hofstede's research, both Arab countries and Turkey can be characterised as medium to low individualism countries. In other words, Arab countries and Turkey can be cited as medium to high collectivist countries.

Other researchers have found similar findings. For instance, Buda and Elsayed-Elkhoully (1998) investigated the cultural differences between Arabs and Americans. They found that the Arabs are significantly more collectivist than Americans are. Furthermore, in deep analysis, they found that within Arab culture, Egyptians are significantly more individualistic than Gulf Arab states' participants. In another

research, Ali and Taqi (1997) found that Kuwaitis and Arab expatriate working in Kuwait displayed a high tendency toward collectivism, and a weak commitment to individualism. Likewise, Bjerke and Al-Meer (1983) found that Saudi Arabia as a low individualistic country.

Goregenli (1997) found that Turkish culture could not be placed on one or the other side of the individualism/collectivism scale. However, she argues that “this does not mean that the Turkish culture does not exhibit any collectivist tendencies or does not hold a position closer to the collectivism side of the dichotomy.”(p 791).

The three Chinese cultures, in Hofstede’s research, scored very low on this dimension. Hong Kong scored 25 and ranked as 37, Singapore scored 20 and ranked 39/41 sharing this position with West African region countries and Thailand. Finally, Taiwan scored 17 and ranked as 44 among the 53 countries and regions included in Hofstede’s research. These three scores are very similar and close to each other, thus one can predict that China to be a collectivist country. In other words, China is predicted to be a low individualistic country.

4.1.4 Masculinity-Femininity

Japan ranked number one as the champion of masculinity, and, therefore, considered as the highest masculine country among the 53 countries and regions. Arab-speaking countries and Canada were found to be on the masculinity side of this dimension. Arab-speaking countries scored 53 and ranked 23 followed by Canada which scored 52 and ranked 24. Hofstede considered both as moderately masculine countries. However, according to Bjerke and Al-Meer (1983)’s replicated study, Saudi Arabia scored 43 that places it, definitely, on the feminine side. Again, these differences in findings can be explained by the fact that Bjerke and Al-Meer’s (1983) score was obtained only from Saudi Arabia’s data whereas Hofstede (1994)’s score was the average score of seven scores obtained from seven Arab countries’ data. Therefore, on masculinity/ femininity dimension, both Libya and Canada are very similar as

moderately masculine countries. Turkey, on the other hand, was found to be on the feminine side of masculinity/femininity scale. It ranked 32 to 33 sharing this position with Taiwan, and scored 45, just around the mean score of 48. In other words, Turkey is hardly characterised as either a masculine or feminine country, although Hofstede (1984 and 1994) considered Turkey as a moderately feminine country.

As in the case of uncertainty avoidance, the three Chinese cultures scored differently on the masculinity dimension. While Hong Kong scored 57 and ranked 18 to 19 sharing this rank with Greece as a moderately masculine country, Singapore and Taiwan scored 48 and 45, respectively, as moderately feminine countries. Therefore, China is hardly characterised as either a masculine or feminine country.

4.1.5 Time Orientation

Concerning time-orientation dimension, in fact, there is no empirical research directly comparing all five countries included in this dissertation. The pioneer research on this dimension was conducted by The Chinese culture connection (1987), a team of 24 researchers headed by Michael Bond. They found that the top four positions on this dimension were taken by China, Hong Kong, Taiwan, and Japan respectively, and, therefore, were considered as long-term oriented countries. Canada, on the other hand, was found to be among the short-term oriented countries. Canada scored, in their research, 23 and ranked 20 among 23 countries included in that research. Similarly, Adler (1991) and Robbins (1996) argue that North American businesspeople (Americans and Canadians) are short time oriented. They focus on the present and near future in their work and plans. They may talk about achieving five- or ten years plans, but, actually, they work toward achieving the quarter's results. Neither Libya nor Turkey was included in The Chinese culture connection's (1987) research. By other researchers, however, Arab executives have been found and documented as future oriented (Muna 1980; Bjerke and Al-Meer, 1983). Concerning Turkey, no research was found on time orientation dimension including Turkey. This dissertation is assumed to fill in such missing literature.

To summarise the relevant aspects of the five selected cultures' profiles, first, Turkey is high on both power distance and uncertainty avoidance dimensions, medium to low on individualism dimension, and low on masculinity dimension. Second, Libya, also, is high on both power distance and uncertainty avoidance, medium to low on individualism dimension, but medium to high on masculinity dimension, and high on time orientation dimension. Third, Japan is medium to high on power distance dimension, high on three dimensions: uncertainty avoidance, masculinity and time orientation, and medium to high on individualism dimension. Forth, Canada is low on three dimensions: power distance, uncertainty avoidance and time orientation, but high on individualism dimension, and medium to high on masculinity dimension. Finally, China is high on both power distance and time orientation dimensions, and low on individualism dimension. However, it is very worthwhile to mention, as Hofstede (1984, 1994) points out, that these positions of these countries on these dimensions are relative and not absolute, and are subject to change over time.

Therefore, it seems that the five selected cultures: Libya, Turkey, Japan, China and Canada are different from each other in most dimensions. Thus they provide an adequate basis for testing the proposed cultural model in this dissertation.

4.2 Administration of the Survey

This section is devoted to discuss the administration of the survey of the current study including the total sample and sub-samples size and characteristics and the procedures that were followed in conducting the survey and collecting data.

4.2.1 Participants

To ensure matched and comparable samples in terms of education, sex, age and experience, students enrolled in undergraduate and postgraduate programs from different universities in the five countries participated in the current research and constituted its

sample. A total of 554 participants participated in this research. 320 (57,8%) participants were males and 234 (42,2%) were females. The average age of the total sample was 27,6 years, with the oldest being 61 years and youngest 19 years. Their mean working experience was 5,6 years. Participants were both full-time and part-time students.

The total sample contained five sub-samples; namely, Turkish, Libyan, Japanese, Chinese, and Canadian samples. Description of each sub-sample is reported next. First, the Turkish sample was drawn from six universities located in Istanbul, the biggest city in Turkey. The total of the Turkish sample was 198 participants. 116 (58,6%) participants were male and 82 (41,4%) were female. Participants' average age was 27,3 years ranging from 25 to 51 years, and average working experience was 5,2 years ranging from six months to 30 years. Second, the Libyan sample of 128 participants was drawn from the Academic institute for managerial postgraduate studies located in Tripoli, the capital city of Libya. Of the total sample, 100 (78,1%) participants were male and 28 (21,9%) were female. Their average age was 30,4 years ranging from 26 to 50 years, and their mean working experience was 6,6 years ranging from one year to 25 years. Third, the Japanese sample of 66 participants was drawn from a big university located in Tokyo. 14 participants (21,2%) of the Japanese sample were male and 52 participants (78,8%) were female. Participants' average age was 20,5 years ranging from 19 to 30 years, and their working experience mean was 1 year ranging from 0 to 5 years. Forth, the Chinese sample was drawn from two universities in Beijing. Out of this sample, 38 (73,1%) participants were male and 14 (26,9%) participants were female. Their average age was 30,7 years ranging from 25 to 44 years, and their working experience average was 8,4 years ranging from 2 to 25 years. Finally, The Canadian sample of 110 was drawn from two universities located in the city of Montreal, Quebec. 52 (47,3%) participants were male, and 58 (52,7%) participants were female. Their average age was 27,8 years ranging from 19 to 61 years, and their working experience average was 6,8 years ranging from no-experience to 33 years.

Table (4.1) below summarises the characteristics of the total sample and of each of the sub-samples.

Table (4.1) Total Sample and Sub-samples' characteristics

Country	Subject	Males		Females		Mean age	Mean Work-experience
		no	%	no	%		
Turkey	198	116	(58,6)	82	(41,4)	27,3	5,2
Libya	128	100	(78,1)	28	(21,9)	30,4	6,6
Japan	66	14	(21,2)	52	(78,8)	20,5	1,0
China	52	38	(73,1)	14	(26,9)	30,7	8,4
Canada	110	52	(47,3)	58	(52,7)	27,8	6,8
Total	554	320	(57,8)	234	(42,2)	27,6	5,6

4.2.2 Procedures

To test the proposed model and its hypotheses, a questionnaire containing all variables was designed and administered. A total of 800 questionnaires were handed down to the participants during the class hours or during break time, but still within regular class time. Only 620 questionnaires were returned initially making a response rate of 77,5%. Out of those returned, 66 (10.6%) questionnaires were discarded either because 1) participants were not from the target cultures, or 2) invalid responses such as blank answers or double answers (more than one answer checked for a question for which only one is allowed). These questionnaires were excluded for any analyses, and, therefore, all analyses and results are reported in this dissertation are based on valid responses only.

First, participants received an explanations by the cover letter, and orally (where possible), that this survey was for a cross-cultural doctorate research where general conclusions, rather than individual results, were the primary concern. Participants were asked to answer the entire survey individually. It was emphasised that their participation was entirely voluntary and that the information they provided would be treated

confidentially and used only for research purposes. Next, the questionnaires were handed down randomly to the students with an attached cover letter reiterating what the participants had just been told. The cover letter was as follows:

Thank you for participating in this study. This research is about cultural differences in decision making. As you know not all people are the same. They may hold different values and believes and, therefore, may act differently. Your answers to this questionnaire will provide me a great help to discover such differences.

This is not a test and there are no right or wrong answers. However, your true thoughts and feelings are the best answers. So please answer all the questions independently. I will personally guarantee that your responses will be anonymous, kept strictly confidential, and used only for academic research.

I sincerely thank you for your time and cooperation.

For each sub-sample, the survey took place in the participants' home country. Moreover, participants received the questionnaire in their mother tongue except the Chinese participants who received the questionnaire in English. Thus, the questionnaire and the cover letter were in English for Canadian participants and Chinese participants. The Arabic, Turkish, and Japanese versions of the questionnaire were translated from English by professional translators using parallel methods. The questionnaire lasted about 15 to 20 minutes to be completed. Participants handed the questionnaire back when they finished. After collecting the questionnaires, students and their lectures were thanked for their participation and cooperation.

4.3 Research Design

The design of this dissertation was 5x3x4x2 that yielded 120 factors. These are as follows: five cultural variables (power distance, uncertainty avoidance, individualism, masculinity, and time orientation), three decision-making steps (risk perception,

creativity, and risky choice), four decision-making styles (autocratic, consultative, participative, and delegative), and two problem frames (positive vs. negative).

The design of this dissertation was also primarily between-subject design. Each subject, by random distribution, received either a positive or negative version of the questionnaire. Participants were not aware of the experimental manipulation carried out in the questionnaire.

4.4 Measurements

For selecting the appropriate measurements to measure the variables involved in this dissertation, scales that had been used previously by other researchers were considered first. In the case where no appropriate scales were available, special measurements were developed by the author of this dissertation. All scales had been pre-tested using university-student sample from Turkey to assess reliabilities. The measurements that were used in this research are discussed next in detail.

4.4.1 Cultural Variables

The values survey module (VSM) developed by Hofstede (1980, 1984, and 1994) was adopted to measure the four cultural dimensions: power distance, uncertainty avoidance, individualism versus collectivism, and masculinity versus femininity. To measure the fifth dimension, time orientation, part of Chinese-value survey (CVS) developed by The Chinese Culture Connection (a team of 24 researchers headed by Michael Bond in 1987) concerning this dimension was adopted.

Power Distance: Based on extensive literature review, Hofstede (1980, 1984, and 1994) developed a 3-item scale to exploring power distance differences between countries. The first item (question 16) is “How frequently, in your environment, are subordinates afraid to express disagreement?” With a five-point answer scale range from “very frequently” to “very seldom” As seen, participants were not directly asked how

frequently they themselves are afraid to disagree with bosses, but their answers can be expected to reflect a projection of their own feelings (Hofstede, 1984, and 1994).

The other two items to measure the power distance differences focus on the boss-subordinates relationships. First, participants were given descriptions of four types of decision-making behaviour (style) by managers, and then were asked to indicate their preferred manager type (question 18) and their perception of their boss' actual type (question 19). The four decision-making styles provided by Hofstede's VSM are; autocratic (manager 1), paternalistic (manager 2), consultative (manager 3), and participative (manager 4). The first three styles were originally taken from Tannenbaum and Schmidt's (1958) work while the fourth style was taken from Likert's (1967) "system 4" (see Table 1.1 p.18). Because the most common four decision-making styles in literature were adopted in this dissertation, as mentioned in chapter two, the description of manager 2 (paternalistic) is eliminated. Instead, a description of delegative type of manager is added. Therefore, the questionnaire included the four types of decision-making styles that managers usually adopt. These are autocratic (manager 1), consultative (manager 2), participative (manager3), and delegative (manager 4). The descriptions of the four types given to the participants with opening statement are as follows:

The descriptions below apply to four different types of managers. First, please read through these descriptions.

Manager1. Usually makes his/her decisions and expects his subordinates to carry out the decisions loyally and without raising difficulties.

Manager 2. Usually consults with his/her subordinates, listens to their advice, and considers them, and then he/she makes his/her decision, which may or may not reflect the subordinates' advice.

Manager3. Usually calls a meeting of his/her subordinates when there is an important decision to be made to discuss the problem together. He/she accepts the majority viewpoint as the decision.

Manager 4. Usually delegates the decision to be made to the right person of his/her subordinates to make the decision on his/her own.

After reading these descriptions, participants were asked to answer the following two questions. The answers range from (1) "Manager 1" to (4) "Manager 4" for question 18, whereas ranges from (1) "Manager 1" to (5) "None of them" for question number 19.

Now, for the above types of managers, please mark the one, which you would prefer to work under.

And, to which one of the above four types of managers would you say your own superior most closely corresponds?

Following Hofstede's (1984 and 1994) work, the actual formula used in this dissertation to compute power distance index (PDI) for each country was as following:

$$\text{PDI} = 135 - 25 (\text{mean score of employees afraid question}) + (\% \text{ perceived manager 1}) \\ - (\% \text{ preferred manager 2}).$$

Uncertainty Avoidance According to Hofstede's VSM, three questions refer to three components of national levels of uncertainty avoidance. These are rule orientation (question 15), employment stability (question 17), and stress (question 14). The "rule orientation" item, with a five-point Likert-type scale ranges from "strongly agree" to "strongly disagree", was "Company rules should not be broken – even if the employee thinks it is in the company's best interest."

The "employment stability" item was "How long do you think will you continue working for this company?" The answer of this question included four options ranging from "two years at the most" to "until I retire". Finally, the "stress" item was "How often do you feel nervous or tense at work?" The answers range, on five-point scale, from "I always feel this way" to "I never feel this way".

To calculate uncertainty avoidance index (UCI) of each country, Hofstede's (1984) formula for this dimension was adopted. This is:

$$\text{UAI} = 300 - 30 (\text{mean score of rule orientation}) - (\% \text{ intending to stay less than 5 years}) \\ - 40 (\text{mean stress score}).$$

Individualism-Collectivism. Degrees of individualism obviously, as Hofstede (1984, 1994) argues, vary within countries as well as between them, so it is again very important to base the country scores on comparable samples from one country to another. The current study's samples offered this comparability.

Individualism versus collectivism dimension in Hofstede's survey was measured based on a set of six "work goals". Participants were asked: "Please think of an ideal job –disregarding your present job. In choosing an ideal job, how important would it be to you to..." following by the "work goals" items. On five-point Likert type scale, the answer for each item ranges from 1 "of utmost importance" to 5 "of very little or no importance".

Three of the six "work goals" measured the individualistic side of participants' culture whereas the other three "work goals" measured the collectivistic side. For the individualistic pole, three "work goals" personal time orientation (question 1), freedom (question 6), and challenge (question 2) were measured as follows:

- Have a job which leaves you sufficient time for your personal or family life.
- Have considerable freedom to adopt your own approach to the job.
- Have challenging work to do –work from which you can achieve a personal sense of accomplishment.

For the collectivist pole, three other "work goals"; training (question 12), physical conditions (question 4), and use of skills (question 8), were measured as follows:

- Have training opportunities to improve your skills or learn new skills.
- Have good physical working conditions (good ventilation and lighting, adequate workspace, etc.)
- Fully use your skills and abilities on the job.

As Hofstede (1994) argues, If participants in a country scored the first three work goals as relatively important, they generally would score the second three work goals as relatively unimportant. Such a country was considered individualist. On the other hand, if participants in a country scored the first three work goals as relatively unimportant, they would score the second three work goals as relatively important. Such a country was considered collectivistic.

The actual calculation of the individualism score for each country was not, as in the case of power distance and uncertainty avoidance, based on Hofstede's calculation. First, to make the higher score the higher individualism, the answers were given to the first three items were reversed. Second, the mean score of the six items was obtained for each country. For the combined 6-item measurement, an alpha of ,84 had been obtained from a pre-test, using a Turkish student sample. When this scale was administered in the current research, the Turkish data has a reliability alpha of ,84, Libyan data has a reliability of ,73, Japanese data has a reliability alpha of ,71, Chinese data has a reliability of ,72, and Canadian data has a reliability of ,82. Finally, the total sample has a reliability of ,87.

Masculinity-Femininity As the case of individualism-collectivism dimension, masculinity versus femininity dimension was associated most strongly with the importance attached to eight "work goals". The importance of "earning", "recognition", "advancement" and "challenge" stood for masculinity, and the importance of "manager", "cooperation", "living area", and "employment security" stood for femininity. For the masculine pole, the four items were (questions 9,3,11, and 2 in the questionnaire, respectively):

- Have an opportunity for high earnings.
- Get the recognition you deserve when you do a good job.
- Have an opportunity for advancement to higher level jobs.
- Have challenging work to do –work from which you can get a personal sense of accomplishment.

For the opposite, feminine, pole, the four items were (questions 5,7,9 and 13 in the questionnaire, respectively):

- Have a good working relationship with your direct superior.
- Work with peoples who cooperate well with one another.
- Live in an area desirable to you and your family.
- Have the security that you will be able to work for your company as long as you want to.

While “challenge” as a “work goal” was also associated with the individualism dimension, all the other seven “work goals” were associated only with masculinity versus femininity dimension.

As in the case of individualism, as Hofstede (1994) argues, if participants in a country scored the first four work goals as relatively important, they generally would score the second four work goals as relatively unimportant. Such a country was considered masculine. On the other hand, if participants in a country scored the first four work goals as relatively unimportant, they would score the second four work goals as relatively important. Such a country was considered feminine.

The actual calculation of the masculinity for each country was the same as in individualism case. The mean score of the eight items was obtained for each country after reversing the answers given to the first four items. The reliability alpha of this scale obtained from the pre-test was ,82. The reliability alpha of Turkish, Libyan, Japanese, Chinese, and Canadian samples were ,78, ,72, ,76, ,81, and ,71 respectively, while the total sample had a reliability of ,82.

Time Orientation. The Chinese Culture Connection researches developed an instrument called the Chinese values survey (CVS) to measure Chinese values. Among other dimensions, time orientation or “Confucian dynamism” was measured by eight items. These items were adopted by the current study.

Participants were asked to indicate on a nine-point scale “how important each of these concepts are to you personally?” the answer ranges reversely from “of no importance at all” to “of supreme importance”. The question followed by eight Chinese values.

On the “long-term orientation” pole, there were four items (questions 24, 21, 23 and 25 in the questionnaire):

- Persistence (perseverance).
- Ordering relationships by status and observing this order
- Thrift
- Having a sense of shame

On the opposite pole “short-term orientation”, there were four items (questions 22, 26, 27 and 20 in the questionnaire (reverse scale)):

- Personal steadiness and stability
- Protecting your “face”
- Respect for tradition
- Reciprocation of greetings, favours, and gifts.

As in the case of individualism and masculinity, if participants in a country scored the first four work goals as relatively important, they generally would score the second four work goals as relatively unimportant. Such a country was considered long-term country. On the other hand, if participants in a country scored the first four work goals as relatively unimportant, they would score the second four work goals as relatively important. Such a country was considered short-term country.

The actual calculation of time orientation for each country was the same as in individualism and masculinity case. The mean score of the eight items was obtained for each country after reversing the answers given to the second four items.

For time-orientation measurement, an alpha of ,72 had been obtained from a pilot study. For the current research, the Turkish data has a reliability alpha of ,75, Japanese data has a reliability alpha of ,80, Chinese data has a reliability of ,72, and Canadian data has a reliability of ,71. The lowest alpha was obtained from Libyan data of .60, which may be due to translation.

4.4.2 Problem Framing

Although framing effects are widely accepted, past research revealed mixed findings. Fagley and Miller (1997) have argued that one possible reason for the variability in findings is that the decision problems have involved different arenas “contexts” of outcomes (e.g., threats to human or animal lives, threats to private or public properties, threats to jobs, and threats of monetary losses). In some contexts, framing effects appear robust and sizeable while in others they appear highly variable

and erratic (Wang, 1996). Moreover, the variability of framing effects across decision problems, as Fagley and Miller (1997) have argued, suggests that research using only one decision problem needs to be viewed very cautiously. Multiple problems are necessary to yield reliable findings.

Based on these arguments, the current study assessed the consistency of framing effects across the three most commonly used arenas of outcomes in literature; namely, business-related, endangered-life, and monetary. Each problem was presented with the same cover story to all participants.

Problem framing was manipulated after reading the cover story of the three problems and before reading the question following each problem. Specifically, the two alternatives of each problem were presented either in positive or negative frame carrying equivalent outcomes. In the case of positive frame, the first alternative for each problem was labelled as A and the second one as B. In the case of negative frame, the first alternative for each problem was labelled as C, and the second alternative as D.

As being a between-subject designed research, a randomly assigned half of the participants read either positive or negative frames of the three problems and answered the questions individually. Participants; therefore, were not aware of the experimental manipulation

The first problem, was adopted from Messick and Bazerman (1996), was a business-related problem with a cover story as follows:

Problem (1) A large car manufacturer has recently been hit with a number of economic difficulties. It appears that it needs to close three plants and lay off 6,000 employees. The vice president of production, who has been exploring alternative ways to avoid the crisis, has developed two plans.

Participants in the positive-frame sample were given A and B positive-framed alternatives while participants in the negative-frame sample were given C and D negative-framed alternatives. After reading the same cover story and either positive or

negative-framed alternatives, all participants were asked to answer this question: “Which plan would you select?”(question 28). The alternatives were presented as the following:

- Plan A will save one of the three plants and 2,000 jobs.
- Plan B has a one-third probability of saving all three plants and all 6,000 jobs, but has a two-third probability of saving no plants and no jobs.
- Plan C will result in loss of two of the three plants and 4,000 jobs.
- Plan D has a two-third probability of resulting in the loss of all three plants and all 6,000 jobs, but has a one-third probability of losing no plants and no jobs.

The second problem, endangered-life problem, was adopted from Tversky and Kahneman (1981), well known as Asian-disease problem. Its cover story as follows:

Problem (2) Imagine that USA is preparing for the outbreak of an unusual Asian disease, which is expected to kill 6,00 people. Two alternative programs to combat the disease have been proposed. Assume that the exact scientific estimates of the consequences of the programs are as follows:

Again, the problem was presented to the participants in two frames. Positive-frame participants received A and B positive-framed alternatives while negative-frame sample received C and D negative-framed alternatives. After reading the same cover story and either positive- or negative-framed alternatives, all participants were asked “Which of the two programs would you favour?” (question 34) the alternatives were presented as the following:

- If program A is adopted, 2,00 people will be saved.
- If program B is adopted, there is 1/3 probability that 6,00 people will be saved, and 2/3 probability that no people will be saved.
- If program C is adopted, 4,00 people will die.
- If program D is adopted, there is 1/3 probability that nobody will die, and 2/3 probability that 6,00 people will die.

To make participants act more seriously, the name of the country was changed from USA to Libya, Turkey, Japan, China and Canada for Libyan, Turkish, Japanese, Chinese and Canadian participants respectively.

The third problem, which was also adopted from Tversky and Kahneman (1986), was monetary problem. To make the alternatives in both positive and negative frames equal in their consequences, little change was made in the cover story in both frames. The cover story was followed by either A and B positive-framed alternatives or negative-framed alternative. After reading the cover story and the given alternatives, all participants were asked to answer this question: "Which choice would your favour?" (question 35). Both, cover stories and alternatives were as follows:

Problem (3) Assume that you are richer by \$300 than you are today. You have to choose between

- A. A sure gain of \$100
- B. 50% chance to gain \$200 and 50% chance to gain nothing

Assume that you are richer by \$500 than you are today, you have to choose between

- C. A sure loss of \$100
- D. 50% chance to lose nothing, and 50% chance to lose \$200.

As mentioned above, immediately after reading the cover story and alternatives of each of the three problems included in the questionnaire, participants were asked to indicate their choices by choosing one of the two alternatives provided in each problem. That is, participants who received the positive-framed problems had to choose either A or B alternative for each problem, whereas participants who received the negative-framed problems had to choose either C or D alternative for each problem.

As can be seen, across the three problems (problem 1,2 and 3) and the two frames, alternatives were designed differently and; therefore, considered differently. On one hand, alternatives A and D were deterministic and designed to carry sure outcomes and considered; therefore, as riskless choices. On the other hand, B and C alternatives were probabilistic and designed to carry uncertain outcomes and considered; therefore, as risky choices. Therefore, participants who chose alternative A over B in the positive-frame sample or alternative D over C in the negative-frame sample were considered as risk-averse decision-makers. Likewise, participants who chose alternative B over A in the positive-frame sample or alternative C over D in the negative-frame sample were considered as risk-seeking decision-makers.

It is worthwhile to mention that while these three problems were used in examining the problem framing effect on risky choice, only business-crisis problem was used in testing the framing effects on risk perception and preference for decision-making style. The other two problems were included for further examination for prospect theory, which is one of the major objectives of this dissertation.

To examine the framing effects on creativity and to measure how creative the participants were in generating and adopting alternatives and trying new ideas in solving risky problems, a endangered-life scenario was developed by this author, however, the two alternatives to solve this problem were adopted from Adler (1991). Unlike the three problems described above, the cover story in this problem was framed in either positive or negative way whereas the two alternatives followed both versions were the same. The problem's cover story in both versions were as follow:

Problem (4) Istanbul is very crowded city. To minimise the urban congestion in this city for helping its residents to be on time for their work, and schools, two alternatives are suggested:

Istanbul is very crowded city and has very high rate of death that is caused by car accident every year that put people's lives in risk every day. To minimise the risk that people face in this city, two alternatives are suggested:

Each of these two frames were followed by these two alternatives:

- A. Improving traffic control mechanisms.
- B. Using "flying cars" and monorails

After reading either positive frame or negative frame, participants were asked, "which of the two alternatives would you favour?" (question 36). Choice A was considered as a tradition solution or past-experienced solution, while choice B is considered as a creative solution. Thus, participants who chose B over A alternative were considered as more creative than those who chose A over B.

As in the case of Asian-disease problem, to make participants think seriously, the name of the city was changed from Istanbul to Tripoli, Tokyo, Beijing, and Montreal for the participants from Libya, Japan, China, and Canada respectively.

4.4.3 Risk Perception

As reported by Sitkin and Weingart (1995), a four-item scale was developed by MacCrimmon and Wehrung (1985 and 1986) and Wehrung, lee, Tse, and Vertinsky (1989) to measure the amount of perceived risk associated with the decision to be made. In their study, Sitkin and Weingart (1995) found the scale to be reliable and reported an alpha of ,75. This scale was adopted in the current study too to measure the participants' perception of the risk inherent in the business-related problem (car-manufacturer crisis). To fit this problem, some changes had been made to the measurement.

The first three items reflected responses to the following question: "How would you characterise the decision faced by the car manufacturer?" followed by these three items (questions 39, 30 and 31, respectively):

- Significant opportunity	1	2	3	4	5	6	7	significant threat.
- Potential for loss	1	2	3	4	5	6	7	potential for gain
- Positive situation	1	2	3	4	5	6	7	negative situation

The fourth item designed to measure how confident the participants were in their estimations. It was a response to the following question: "What is the likelihood of the car manufacturer succeeding in avoiding the crisis?" followed by a reverse-item scale (question 32):

- Very unlikely	1	2	3	4	5	6	7	very likely
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The reliability of this 4-item scale obtained from the pre-test was ,72. In the current study, the reliability alpha was ,74 for the Turkish sample, ,81 for the Libyan sample, ,80 for the Japanese sample, ,86 for the Chinese sample, and ,75 for the Canadian sample. For the total sample, the reliability alpha was ,88.

4.4.4 Preference For Decision-Making Style

To identify the preferred decision-making style under risky situation, a scale includes four statements indicate four decision-making styles: autocratic, consultative, participative, and delegative, was adopted from Hofstede (1984 and 1994) with some changes, made by the author, to fit the problem.

After reading the first problem (car-manufacturer crisis), participants were asked to indicate their preferences for the decision-making style that the president of the car manufacturer should apply to reach his/her decision. Participants were not asked directly how they would make such decision, but their answers can be expected to reflect their own behaviour in such risky situation.

Specifically, participants were asked this question: “what is your advice to the president of this manufacture to make his/her decision to avoid the crisis?” (question 33 in the questionnaire) followed by these four styles:

- He/she should consider and analyse both plans and then make his/her choice and announce his/her decision.
- He/she should consult his/her subordinates before reaching his/her decision. Listen to their advice and consider it. Then he/she makes his/her decision and announces it.
- He/she should call a meeting to discuss and analyse the two plans together with his/her subordinates. Then together make the majority decision.
- He/she should delegate the problem to the right person (eg. Vice president of production) to make his/her own decision.

4.4.5 Demographic Information

Questions concerning participants’ background information. Including demographic data, were asked at the end of the questionnaire. Although they were surveyed in their original countries, participants were asked to identify their nationality.

This helped for identifying participants and eliminating who were not from the target cultures.

Appendix A summarises all measurements reported in this chapter and refers to the question numbers as they appear in the questionnaire. The complete questionnaire in both versions: positive and negative and in four languages; English, Turkish, Arabic, and Japanese is provided in appendices B, C, D, and E, respectively.



CHAPTER FIVE

DATA ANALYSIS

A cultural model of risky decision-making behaviour with its cultural-value antecedents and behavioural consequences proposed in this dissertation was presented in chapter two. The hypotheses were tested using primary data collected from surveys conducted for the purpose of this research in Turkey, Libya, Japan, China, and Canada. The data were coded into a computer file and analysed using SPSS 9.0 statistic package.

The tests of the hypotheses and results are presented in this chapter. The chapter contains seven sections reporting the test results in details. Section 5.1 reports the comparison of cultural profiles of the five countries included in this dissertation based on the five cultural dimensions. Section 5.2 presents the results of the tests of the proposed cultural value- risk perception linkage. Section 5.3 reports the results of testing the effects of problem framing on risk perception. Section 5.4 presents the results of testing risk perception- and framing- creativity linkages. Section 5.5 reports the results of testing risk perception- and framing- risky choice linkages. Sections 5.6 and 5.7 both report the results of the tests of cultural value- and risk perception-preference for decision making style linkages. A conclusion is provided at the end of each section summarising the results discussed in that section.

5.1 Comparison of Cultural Profiles

Essentially, to ensure any cross-cultural comparison in this dissertation to be meaningful, the five countries must be culturally as different as possible. The section reports the results of comparing the cultural profiles of the five countries included in this dissertation based on the data collected from participants. The means of cultural values of the five countries on the five cultural dimensions were compared, employing

ANOVA technique. Below, Table (5.1) reports the results and Figure (5.1) illustrates the five country positions on the five dimensions.

Table (5.1) Cultural Profiles

Cultural value	Turkey	Libya	Japan	China	Canada	F-test
Power distance	69,26	80,81	53,86	50	35,73	55,106 **
Uncertainty avoidance	110,78	64,89	70,98	136,63	30,72	60,712 **
Individualism	2,23	2,03	2,79	1,39	3,79	118,804**
Masculinity	1,85	2,58	3,70	3,36	2,41	127,378**
Time orientation	6,91	7,11	5,87	6,38	4,38	152,958**

** p< ,001

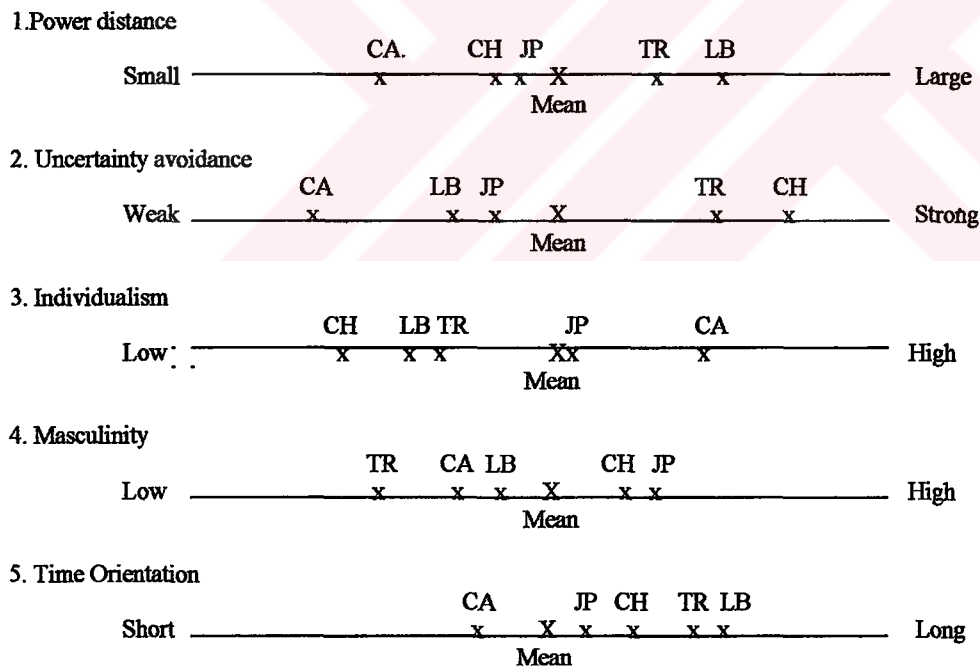


Figure (5.1) Plot of The Five Cultures

Note: The culture abbreviations denote:
TR: Turkey , LB: Libya, JP: Japan, CH: China, CA: Canada

5.1.1 Power Distance Dimension

Based on Hofstede's (1984) power distance formula (see p. 99), the means of each country was calculated. The mean scores were 80,8 for Libya, 69 for Turkey, 53,8 for Japan, 50 for China, and 35,7 for Canada ranking from the largest to the smallest power distance country, as shown in figure (5.1).

According to one way ANOVA analysis, a significant difference was found across the five countries, $F = 55.106$ and $p < .001$. Post Hoc, scheffe, multiple comparisons tests showed that the five countries were significantly different from each other on power distance dimension except the difference between Japan and China. Therefore, Turkey, Libya, and Canada were significantly different from each other and from both Japan and China which were not significantly different from each other.

5.1.2 Uncertainty Avoidance Dimension

As in the case of power distance, uncertainty avoidance was calculated based on Hofstede's (1984) formula (see p. 99). The mean scores obtained were: 136,6 for China, as the highest uncertainty avoidance country, followed by Turkey 110,8, Japan 70,9, Libya 64,9, and Canada 30,7, as the lowest uncertainty avoidance country, as shown in Figure (5.1).

One-way ANOVA analysis showed that there was a significant difference across the five countries, $F = 60,712$ and $p < ,001$. By running Post Hoc tests to allocating the differences, it was found that all the differences between the five countries were statistically significant except the difference between Libya and Japan. Therefore, the five countries were culturally different from each other on uncertainty avoidance dimension except two of them. Libya and Japan were not significantly different from each other while statistically different from the others.

5.1.3 Individualism-Collectivism

The mean scores of the five countries on this dimension were obtained. They were, ranging from the highest individualistic country to the lowest one, 3,8 for Canada, 2,7 for Japan, 2,2 for Turkey, 2 for Libya, and 1,39 for China. The plots of the five cultures are shown in figure (5.1).

One-way ANOVA analysis indicated a significant difference across the five countries, $F = 118,804$ and $p < ,001$. Multiple comparisons of Post Hoc showed that, as expected, only the difference between Turkey and Libya was not statistically significant while the other differences between the other countries were all significant.

5.1.4 Masculinity-Femininity

To compare the five countries to each other on this dimension, again the mean scores were obtained. They were: 3,7 for Japan, as the highest masculine country, 3,3 for China, 2,6 for Libya, 2,4 for Canada, and 1,8 for Turkey, as the lowest masculine country as shown in figure (5.1). According to one-way ANOVA analysis, a significant difference was found between the five countries, $F = 127,378$ and $p < ,001$. Multiple comparisons of Post Hoc showed that all the differences between the five countries were significant except one. That is, the difference between Libya and Canada was not statistically different.

Therefore, as seen in figure (5.1), while the China's mean score was leaned more on the external side of masculinity, Japan's mean score was around the mean of the scale on the masculinity side. On the other side of the scale, Libya's mean score and Canada's mean score were around the mean of the scale on femininity side. As being the highest femininity score, Turkey's mean score was leaned more to the external side of femininity.

5.1.5 Time Orientation Dimension

Finally, based on nine-point scale, the mean score was obtained of each country. Surprisingly, Libya and Turkey, scoring 7,1 and 6,9 respectively, took the top two positions on this dimension. Not far from Libya and Turkey, China scored 6,4 and ranked as third country on this dimension followed by Japan, which scored 5,8, and the lowest country on this dimension was Canada scoring 4,3. Libya and Turkey mean scores, in fact, were unexpected to be the highest scores among the other countries although literature lacks such information concerning both countries. The five country positions on this dimension are shown in figure (5.1).

One-way ANOVA analysis indicated a significant difference across the five countries, $F = 152,958$ and $p < ,001$, and Post Hoc tests revealed significant differences between all countries except the one between Libya and Turkey. Thus, while Libya's, Turkey's and China 's mean scores were leaned more to the extern side of long time orientation, Japan 's mean score was just around the mean of the scale on the long time orientation side. On the other side of the scale, Canada took a position as a short oriented culture.

In conclusion, test results revealed significant differences in cultural values among the five countries on all five cultural dimensions. In fact, it should kept in mind that all cultural values found by this writer were estimations and all positions given to the five countries are relevant and not absolute. Moreover, all findings by this writer are constant with Hofstede's (1984, 1994) findings and provide additional support for his cultural model.

As seen in the Table (5.1) and Figure (5.1) above, cultural profiles show that Turkish, Libyan, Japanese, Chinese, and Canadian cultures were found significantly different from each other on at least four out of five dimensions. This finding sets the stage where the cultural model and its hypotheses may be further tested.

5.2 Cultural Values-Risk Perception Linkages:

This section reports the results from the tests of the following three hypotheses:

Hypothesis A.1.1. Decision-makers from strong uncertainty avoidance cultures are more likely to perceive higher risk inherent in a problem than those from weak uncertainty avoidance cultures do. Specifically, the higher the level of uncertainty avoidance of decision-makers' culture, the higher level of risk perception.

Hypothesis A.1.2. Decision-makers from high individualistic cultures are more likely to perceive lower risk inherent in a problem than those from low individualistic cultures do. Specifically, the higher level of individualism of decision makers' culture, the lower the risk perception.

Hypothesis A.1.3. Decision-makers from long-term oriented cultures are more likely to perceive higher risk inherent in a problem than those from short-term oriented cultures do. Specifically, the higher the level of time orientation of decision makers' culture, the higher the level of risk perception.

The purpose behind testing these three hypotheses is finding out whether culture has significant effects on the magnitude of risk perception and in which way and which of cultural values might cause such effects. Specifically, these three hypotheses based on extensive literature review, testing the impacts of the most related cultural values on risk perception; namely, uncertainty avoidance, individualism, and time orientation.

5.2.1 Results From ANOVA Analyses

By obtaining the mean score of risk perception for each country, it was found that Canada scored 2,31, as the lowest risk perception mean, followed by Japan, Libya, Turkey, and finally China as the highest mean. Their mean scores were 3,18, 3,45, 4,9, and 5,61, respectively. One-way ANOVA test revealed a significant difference across the five countries, $F = 129,892$ and $p < ,001$. According to Post Hoc multiple comparisons tests, all differences between countries were found statistically significant except one. This was the difference between Libya and Japan ($p > ,600$). Table (5.2) below summarised all these results and Figure (5.2) illustrates the risk perception scores across the five countries.

Table (5.2) Results From ANOVA and Scheffe Tests

Country	Subset for alpha = .05			
	1	2	3	4
Canada	2,3149			
Japan		3,1888		
Libya		3,4524		
Turkey			4,9053	
China				5,6108

Note: ANOVA: $F = 129,892$ and $p < ,001$

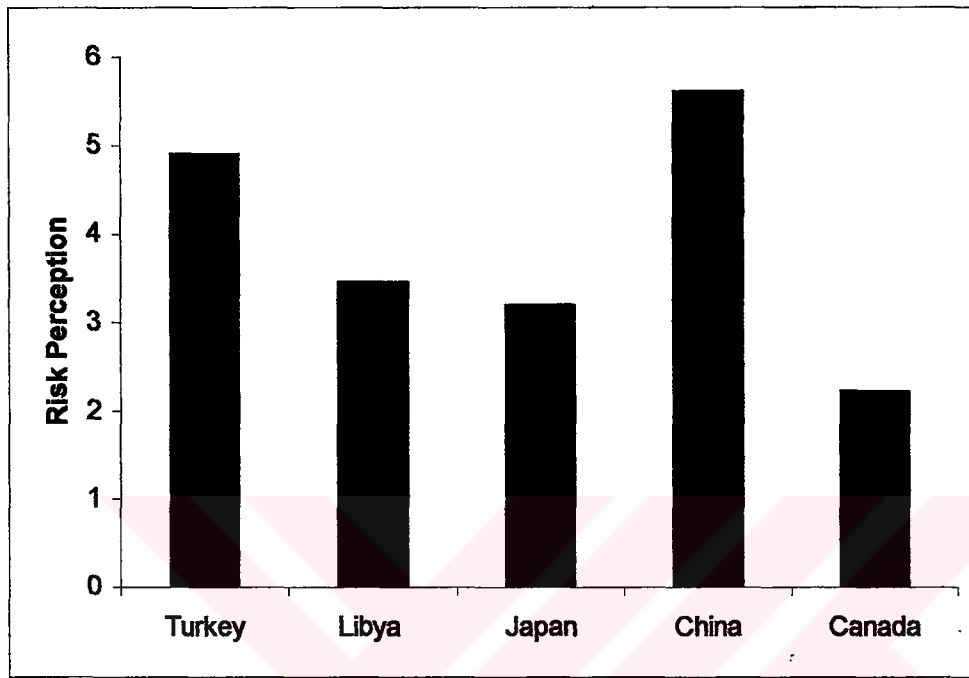


Figure (5.2) Risk perception scores across the five countries

5.2.2. Results From Correlation Matrix

It was predicted by the above three hypotheses that risk inherent in a problem is more likely to be higher perceived in a cultural with strong characteristics of uncertainty avoidance, collectivism, and time orientation. Low risk perception, on the other hand, is more likely to exist in a culture with strong characteristic of individualism, and weak characteristics of uncertainty avoidance and time orientation.

Correlation matrix was employed to test the correlation between the three cultural values and risk perception. As seen in the correlation matrix Table (5.3) below,

the three cultural value-risk perception connections implied by the hypotheses A1.1, A1.2, and A1.3 were found significant and in the expected directions.

Table (5.3) Correlation Matrix

	Mean	SD	1	2	3	4	5	6
1. Risk perception	3,917	1,59	-					
2. Power distance	61,63	30,09	,14**	-				
3. Uncertainty avoidance	81,97	61,74	,40**	,14**	-			
4. individualism	2,48	1,07	-,42**	-,23**	-,35**	-		
5. masculinity	2,49	,902	-,11*	-,12*	-,05	-,008	-	
6. time orientation	6,28	1,41	,34**	,32**	,25**	-,45**	-,14**	-

* $p < ,005$, ** $p < ,001$

Specifically, risk perception was positively correlated with both uncertainty avoidance, $r = ,40$ and $p < ,001$, and time orientation, $r = ,34$ and $p < ,001$. Whereas individualism was negatively correlated with risk perception, $r = -,42$ and $p < ,001$.

Other Findings: To exploring other relationships, if there is any, between risk perception and the other two cultural values, namely, power distance and masculinity, these two cultural values were entered into the correlation matrix along with the others. As seen in the correlation matrix Table (5.3) below, both cultural values were found significantly correlated with risk perception. Specifically, power distance was found significantly positively correlated with risk perception ($r = ,14$ and $p < ,001$) while masculinity was correlated negatively ($r = ,11$ and $p < ,005$).

Multiple regression was also employed for the same purpose. All five cultural values were interred to the regression model. Stepwise method revealed that risk perception could be predicted by those three cultural value hypothesised in hypotheses A1.1, A1.2, and A1.3; namely, uncertainty avoidance, individualism, and time orientation. Table (5.4) below reports the determination coefficients of the regression model for predicting risk perception.

Table (5.4) Regression analysis:
Cultural values effects on risk perception

	standardized coefficients	F	R	R ²
<u>Risk perception</u>		66,430**	,614	,377
Uncertainty avoidance	,287**			
Individualism	-,318**			
Time orientation	,200**			
Masculinity	-,085*			
Power distance	-,005			
Problem framing	-,325**			

Note: *: $p < .01$, **: $p < .001$

According to Table (5.4), uncertainty avoidance, individualism, and time orientation were significant variables for predicting risk perception. While both uncertainty avoidance and time orientation values positively affected risk perception, individualism value affected it negatively

Other findings: again to exploring any other unpredicted predictors, if there is any, all cultural values were interred to the regression equitation. This procedure produced another finding. While masculinity was found to be another significant predictor for risk perception ($b = -.085$ and $p < .005$), power distance was not significant. Therefore, power distance's correlation with risk perception that reported earlier might be due to its correlation with other cultural values. Masculinity affected risk perception

negatively. That is, the less masculine the decision-maker, the higher the risk perception. Thus, risk perception might be predicted by one more cultural value.

In conclusion, uncertainty avoidance, individualism, time orientation and masculinity values were found to be significant predictors for risk perception, and accounting for about 61% of its total variance.

Multicollinearity: Inter-correlations between the cultural values may cause the problem of multicollinearity because these values may have laid claim to largely the same portion of risk perception variance. Therefore, collinearity between variables was checked. Correlation matrix shown in Table (5.3) above showed that, statistically, inter-correlations were between $-.45$ to $.32$, which were medium to low. And in the regression model analyses, it was found that there was no sign of collinearity between these variables; all VIF values were lower than 10, and condition index values were lower than 30, as reported in Table (5.5) below.

Table (5.5) Multicollinearity Analyses:
Cultural Values

Variables	VIF	Condition Index
Power distance	1,141	4,151
Uncertainty avoidance	1,164	6,140
Individualism	1,391	3,758
Masculinity	1,030	22,153
Time orientation	1,344	9,765

In conclusion, all these results, from ANOVA analyses, correlation matrix, regression analyses, and multicollinearity analyses reported here, revealed supportive findings for hypotheses A1.1, A1.2, and A1.3.

5.3 The Problem Framing-Risk Perception Linkage

This section reports the results from the testing of hypothesis C.1, which was as following:

Hypothesis C.1. Positively framed problems are more likely to be perceived as involving higher risk than negatively framed problem.

The essence of this hypothesis was to point out that problem framing directly effects how risky a problem is perceived to be.

5.3.1 Results From Independent-Samples Tests

To test the problem framing effects, two independent samples were drowning from each country; positive-frame sample and negative-frame sample, as mentioned in chapter three. After obtaining the mean scores for both samples from each country, independent-samples tests were applied to compare the two means from each country. They yielded support for the hypothesis. The results are detailed in Table (5.6) and Figure (5.3) below

Table (5.6) Independent-Sample Test Results:
Problem Framing Effects on Risk Perception

Country	Positive-frame sample's Mean & SD		Negative-frame sample's Mean & SD		t- Value
Turkey	5,73	,98	4,27	1,21	9,34**
Libya	3,97	1,32	3,06	1,01	4,212**
Japan	3,55	,88	2,84	,98	3,07**
China	6,33	,71	5,15	,91	5,23**
Canada	2,46	,74	1,60	,43	6,753**

Note: **: $p < ,005$.

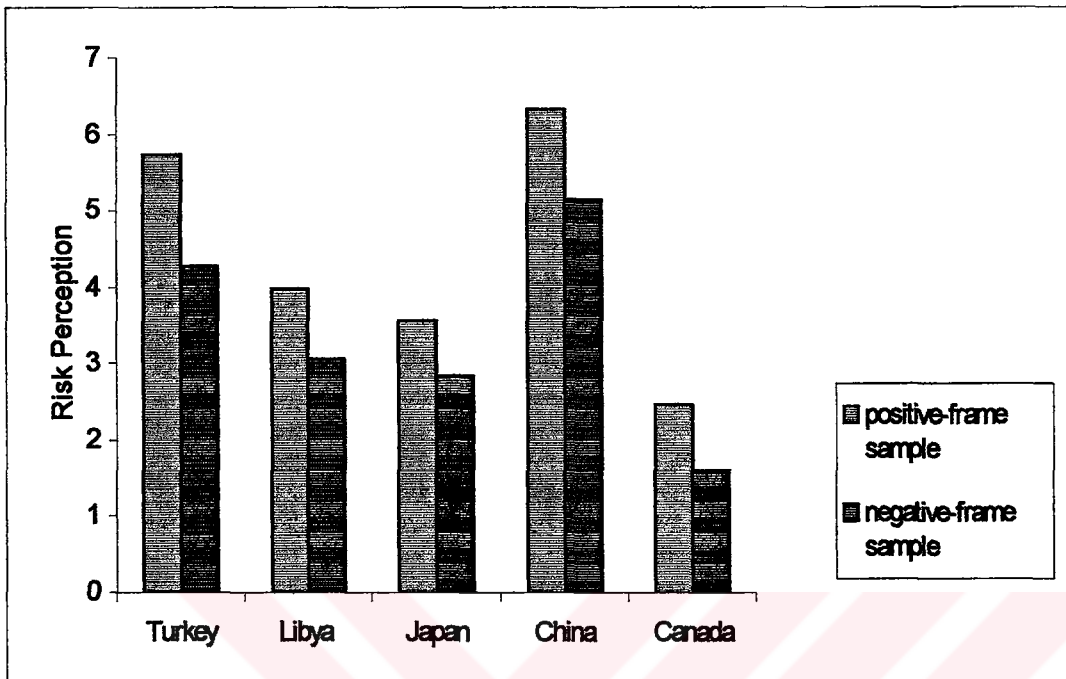


Figure (5.3) Problem Framing Effects on Risk Perception across the Five Countries

As Table (5.6) and Figure (5.3) report, across the five countries, positively framed problem was perceived as involving higher risk than the negative frame of the same problem. The positive-frame sample's mean scores were 5,73 for Turkey, 3,97 for Libya, 3,55 for Japan, 6,33 for China, and finally, 2,46 for Canada. The negative-frame sample's mean scores were 4,27 for Turkey, 3,06 for Libya, 2,84 for Japan, 5,15 for China, and finally, 1,60 for Canada. Independent-sample tests showed that all differences between risk perception mean scores obtained from both samples in each country were statistically significant. Thus, problem framing has a significant direct effect on how risky a problem perceived to be in the predicted direction. Therefore, hypothesis C.1 was strongly supported.

5.3.2 Results From Regression Analyses

To regressing problem framing on risk perception, problem framing, as dummy variable, was coded as 0 and 1, where 0 stands for positive frame and 1 stands for negative frame. Multiple regression, including problem framing and cultural variables, reported earlier in section 5.2.3 and Table (5.4), revealed that problem framing was a significant predictor for risk perception. Its b coefficient, -.325, showed its strong effect on risk perception as it would be expected. Therefore, this result provided additional evidence supporting hypothesis C.1.

In conclusion, results from independent-samples tests and regression analyses were supportive, and, therefore, hypothesis C.1 was strongly supported.

5.4 Risk Perception- and Problem Framing- Creativity Linkages (Direct and Indirect Framing Effects on Creativity)

This section reports the results from the testing of the following three hypotheses:

Hypothesis B.1. When problems are perceived as being high risky, decision-makers are less likely to be creative than they would be when problems are perceived as being less risky. Specifically, the higher the risk perception, the less creative the decision-makers would be.

Hypothesis C.2.1. When problems are positively framed, decision-makers are less likely to be creative than they would be when problems are negatively framed.

Hypothesis C.2.2. Risk perception partially mediates the effects of problem framing on creativity.

The essence of these three hypotheses is to examine the direct and indirect effects that problem framing might have on decision-makers' imagination and creativity. Therefore, problem framing may be employed to predict to which extent decision-makers use their creativity and imagination to solve problems they face.

5.4.1 Results From Chi-square and Cramer's V Tests

Chi-square and Cramer's V tests were applied to test the direct effect of problem framing on decision makers' creativity as predicted in hypothesis C.2.1. They yielded support for the causal relationship between these two variables. The results are details in Table (5.7) below.

Table (5.7) Chi-square & Cramer' V Test Results:
Problem Framing Effects on Creativity

Country	Problem Framing	A "Tradition Solution"	B "Creative Solution"	X ² Value	Cramer's V values
Turkey	1	60,5% (52)	39,5% (34)	34,636**	,418**
	2	19,6% (22)	80,4% (90)		
Libya	1	92,6% (50)	7,4% (4)	78,397**	,783**
	2	13,5% (10)	86,5% (64)		
Japan	1	78,1% (25)	21,9% (7)	15,705**	,488**
	2	29,4% (10)	70,6 % (24)		
China	1	90% (18)	10% (2)	17,093**	,573**
	2	31,3% (10)	68,7% (22)		
Canada	1	79,1% (72)	20,9% (19)	13,882**	,355**
	2	36,8% (7)	63,2% (12)		
Total	1	76,7% (217)	23,3% (66)	166,944**	,549**
	2	21,8% (59)	78,3% (212)		

Note: **: p< .000, Problem Framing: 1= positive frame, 2= negative frame

Numbers in parentheses refer to the subject number

As seen in the Table (5.7) above and Figure (5.4) below, problem framing effected participants' creativity across the five countries. When given positive frame, the majority choice was A, which implies the traditional solution to solve the problem. Of the total positive-frame sample of 283, 76,7% (217) participants chose alternative A

over B, and 23,3% (66) chose B over A. In contrast, when given the negative frame of the same problem, the majority choice was alternative B over A. 78,2% (212) of the total negative-frame sample of 271, chose B over A, and only 21,8% (59) chose alternative A over B.

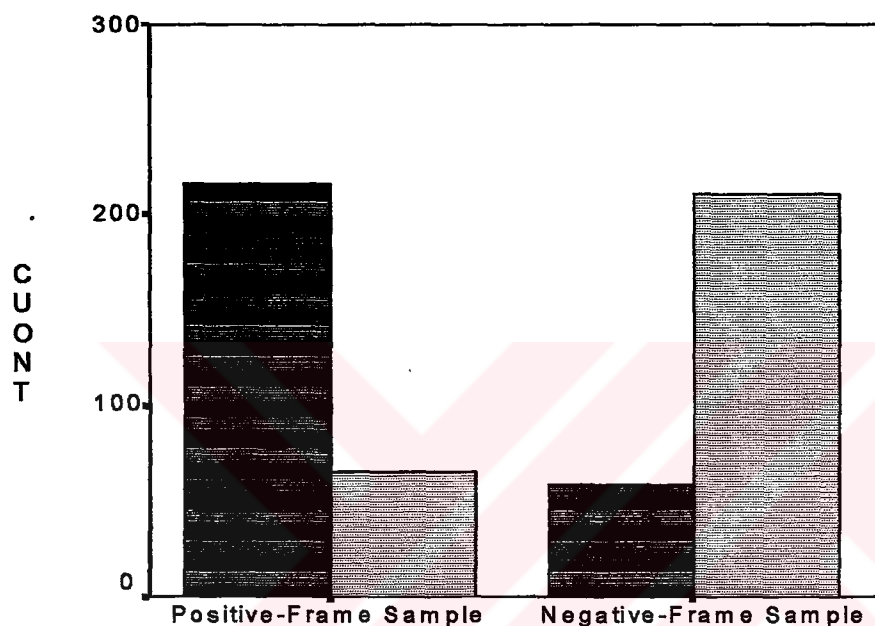


Figure (5.4) Problem Framing Effects on Creativity

In terms of sub-samples, when given a positive frame, 60,5% of Turkish participants chose A over B, and 39,5% chose B over A. From Libyan sample, 92,6% of the participants chose A over B, and only 7,4% chose B. 78,1% of Japanese participants chose A while only 21,9% chose B. Concerning the Chinese sample, 90% of the participants chose A over B, and only 10% chose B over A. Finally, 79,1% of Canadian participants chose A over B, and 20,9% chose B over A. Figure (5.5) below shows the effects of the positive frame on creativity across the five countries.

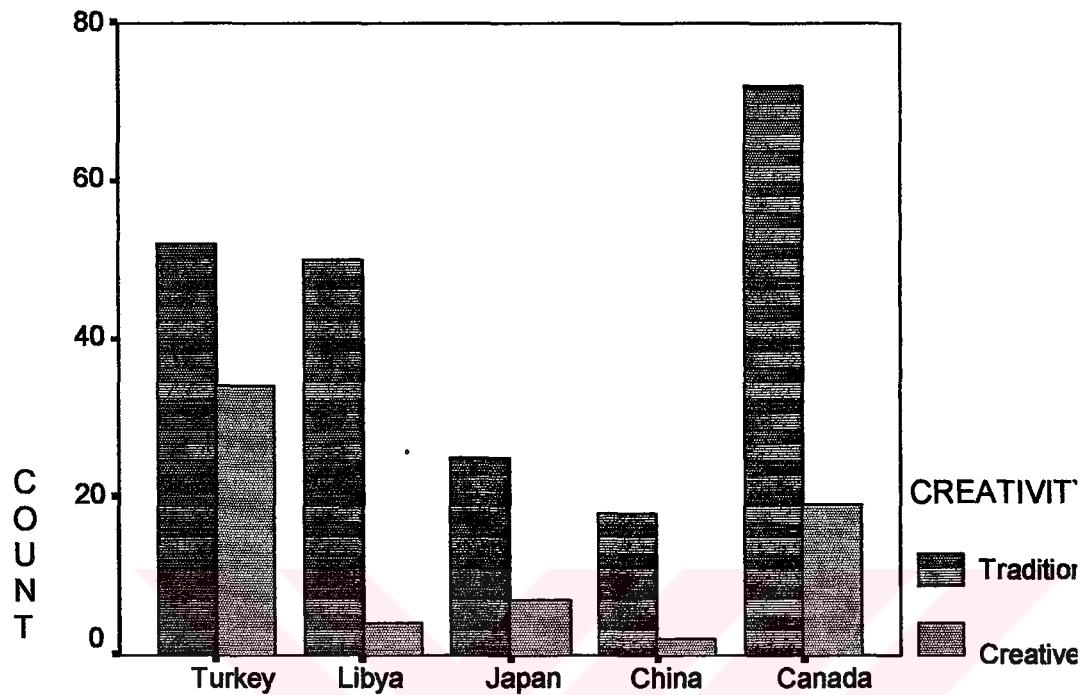


Figure (5.5) Positive-Frame Effect on Creativity

On the other hand, when given the negative frame, 80,4%, 86,5%, 70,6%, 68,7%, and 63,2% of Turkish, Libyan, Japanese, Chinese, and Canadian participants, respectively, chose alternative B over A, while only, 19,6%, 13,5%, 29,4%, 31,3%, and 36,8% of the same samples, respectively, chose A over B. Figure (5.6) shows the negative-frame effects on creativity across the five countries.

Chi-square tests for independency and Cramer's V tests for measuring the association between creativity and problem framing as reported in Table (5.7) yielded supportive results. Their values all were significant, and revealed that problem framing were a significant stimulator for decision-makers' creativity and imagination. Therefore, hypothesis C.2.1 was supported.

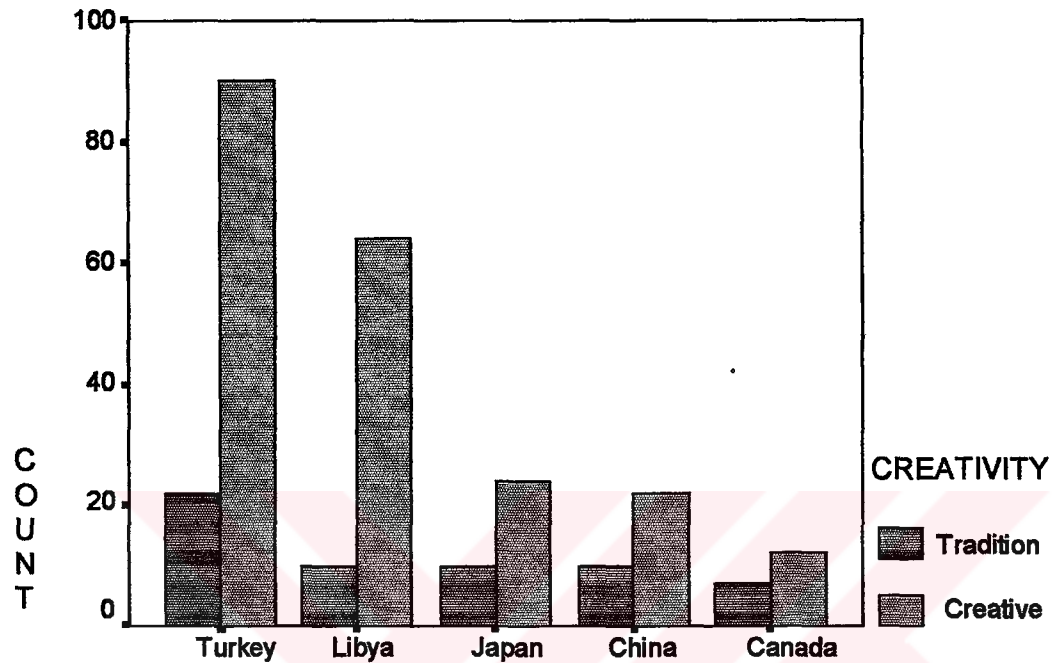


Figure (5.6) Negative-Frame Effect on Creativity

In hypothesis B.1 it was predicted that when a problem is perceived as being risky participants would be less creative than would they when it is perceived as being less risky and the higher the risk perception, the less creative participants will be. As discussed in section 4.3, positively framed problem was perceived as involving higher risk than negatively framed problem. Table (5.3) shows that when given positive frame, participants across the five countries preferred the tradition solution to the creative one to solve the problem. On the contrary, when given the negative frame of the same problem, participants across the five countries preferred the creative solution to solve this problem. In both cases, the differences between the two groups were strongly significant. However, Chi-square tests for independency and Cramer's V tests for association revealed mixed results across the five countries and showed that while

creativity was dependent on participants' culture for positive-frame samples ($X^2 = 22,615$ and Cramer's $V = ,283$ and $p < ,001$ for both), it was not the same case for negative-frame samples ($X^2 = 8,648$ and Cramer's $V = ,179$ and $p < ,07$ for both values).

5.4.2 Results From Proportion Tests

When proportion tests were applied to test hypothesis B.1 again, mixed results were also found. When given the positive frame, Canadian participants who scored the lowest on risk perception were significantly less creative than Turks who scored very high on risk perception. And Libyans who scored also low on risk perception were not significantly different from Chinese who scored the highest on risk perception. When given the negative frame, there was no significant difference found between Canadians and Chinese participants who scored the lowest and the highest on risk perception respectively. Libyans participants were significantly more creative than Japanese ($Z = 1,976$ and $p < ,05$), Chinese ($Z = 2,139$ and $p < ,05$) and Canadians ($Z = 2,345$ and $p < ,005$), while not significantly different from Turks. All these findings, however, were found to be contradictory to the prediction. Therefore, hypothesis B.1 was rejected. Consequently, hypothesis C.2.2, which states that risk perception partially mediates the effects of problem framing on creativity, was rejected since no relationship was found between risk perception and creativity.

4.4.3 Results From Logistic Regression Analyses

To ensure the earlier results concerning the direct and indirect effects of problem framing via the mediating role of risk perception, logistic regression was applied in hierarchal fashion. Again, the results of this regression yielded support for hypothesis C.2.1, while failed to support hypothesis B.1 and C.2.2. Results are detailed in Table (5.8) below.

Table (5.8) Logistic Regression Results:
Effects of Risk Perception and Problem Framing on Creativity

		Coefficient (B)	Equations -2 LL	X ² value	% correct
	<u>Creativity</u>				
Step 1	Problem Framing	-2,4693*	591,419	176,580*	77,44%
Step 2	Problem Framing	-2,4693*	591,419	176,580*	77,44%
	Risk perception	,653			

Note: *: $p < .000$

Again, After coding it as dummy variable to 0 and 1, where 0 stands for positive frame and 1 stands for negative frame, problem framing dummy variable along with risk perception variable was entered into the logistic regression equation in a hierarchal fashion. Logistic regression showed that the direct effects of framing was significant ($B = -2,4693$ and $p < .001$) when examines in isolation. The model chi-square value was 176,580 and $p < .001$, while -2 log likelihood was 591,419. Moreover, the logistic regression indicated that 77,44% of the total variance in creativity was explained by problem framing. When risk perception was added to the equation in step 2, risk perception was not found significantly related to creativity, and the model remained the same as in step 1. In other words, only problem framing variable was found as a significant predictor for creativity.

Therefore, the logistic regression results provided additional support for the direct effects of problem framing on creativity, while did not provide any evidence to support its indirect effects. Thus, hypothesis C.2.1, again, was supported, while hypothesis B.1 and C.2.2 were rejected.

5.5 Risk Perception- and Problem Framing –Risky Choice Linkages

(Direct and Indirect Framing Effects on Choice)

This section reports the results from the testing of the following three hypotheses:

Hypothesis B.2. When problems are perceived as being high risky, decision-makers are less likely to make risky choices than they would do when problems are perceived as being less risky. Specifically, the higher the risk perception, the less risky choices to be made.

Hypothesis C.3.1. When problems are positively framed, decision-makers are less likely to make risky choices than they would do when the problems are negatively framed.

Hypothesis C.3.2. Risk perception partially mediates the effects of problem framing on risky choice.

The purpose of these three hypotheses was testing the direct and indirect effects of problem framing on decision-makers' risky choices. They implied that positive frame may make the risk inherent in a problem more salient and, therefore, induces risk-averse behavior. Negative frame, in contrast, may make the risk less visible and therefore, induces risk-seeking behavior. Thus, hypothesis C.3.1 tests the direct effect of problem framing, which is the basic assumption of prospect theory, whereas hypothesis B.2 tests the indirect effect of problem framing on decision makers' choices through risk perception. Hypothesis C.3.2 tests the mediating role of risk perception between problem framing and risky choice.

5.5.1 Results from Chi-square and Cramer's V Tests

As in the case of creativity, both chi-square and Cramer's V tests were employed here to test hypothesis C.3.1, the direct effects of problem framing on risky choice. They revealed supportive results for the causal relationship between the two variables. The results of both chi-square and Cramer's V tests are shown in Table (5.9) below.

Table (5.9) Chi-square & Cramer's V Test Results:
Framing Effect on Risky Choice

Country	Framing	A & C "Riskless Choice"	B & D "Risky Choice"	X ² Values	Cramer's V values
Turkey	1	90,7% (78)	9,3% (8)	57,662**	,540**
	2	37,5% (42)	62,5% (70)		
Libya	1	79,6% (43)	20,4% (11)	38,279**	,547**
	2	24,3% (18)	75,7% (56)		
Japan	1	78,1% (25)	21,9% (7)	21,849**	,575**
	2	20,6% (7)	79,4% (27)		
China	1	95% (19)	5% (1)	15,375	,544**
	2	40,6% (13)	59,4% (19)		
Canada	1	60,4% (55)	39,6 % (36)	15,684**	,378**
	2	10,5% (2)	89,5% (17)		
Total	1	77,7% (220)	22,3% (63)	125,859**	,477**
	2	30,3% (82)	69,7% (189)		

Note: **: p< ,001, Framing: 1= positive frame and 2= negative frame

Numbers in parentheses refer to the number of participants

As seen in the Table (5.9) and Figure (5.7), the results revealed supportive evidence for problem framing effect on the risky choices that participants made as predicted by hypotheses C.3.1.

That is, when given the positively framed problem, the majority choice was A (riskless choice) over B (risky choice). In other words, across the five countries, participants made more riskless choices than risky choices. In contrast, when given the negative frame of the same problem, the majority choice was D (risky choice) over C (riskless choice). That is, participants made more risky choices than riskless choices across the five countries.

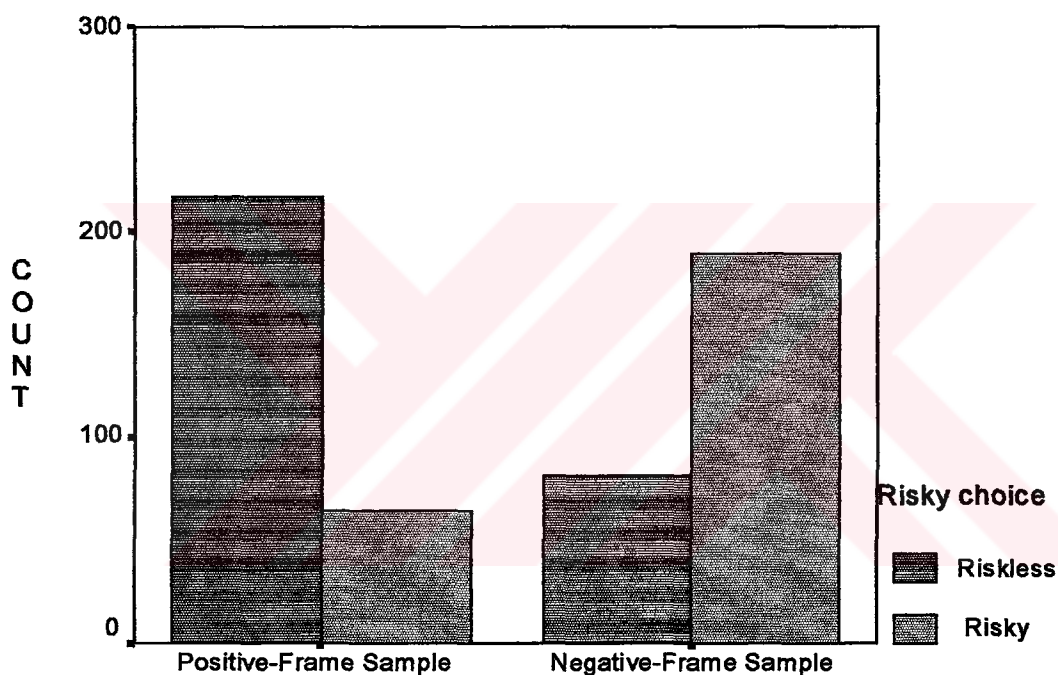


Figure (5.7) Problem Framing Effects on Risky Choice

Figure (5.8) below shows that when given positive frame, 90,7%, 79,6%, 78,1%, 95%, and 60,4% of participants from Turkey, Libya, Japan, China, and Canada, respectively, chose A(riskless choice) over B (risky choice). In terms of the total sample of 283 (who received the positive frame), 77,7% (220) of the participants chose A over B, and 22,3% (63) chose B over A.

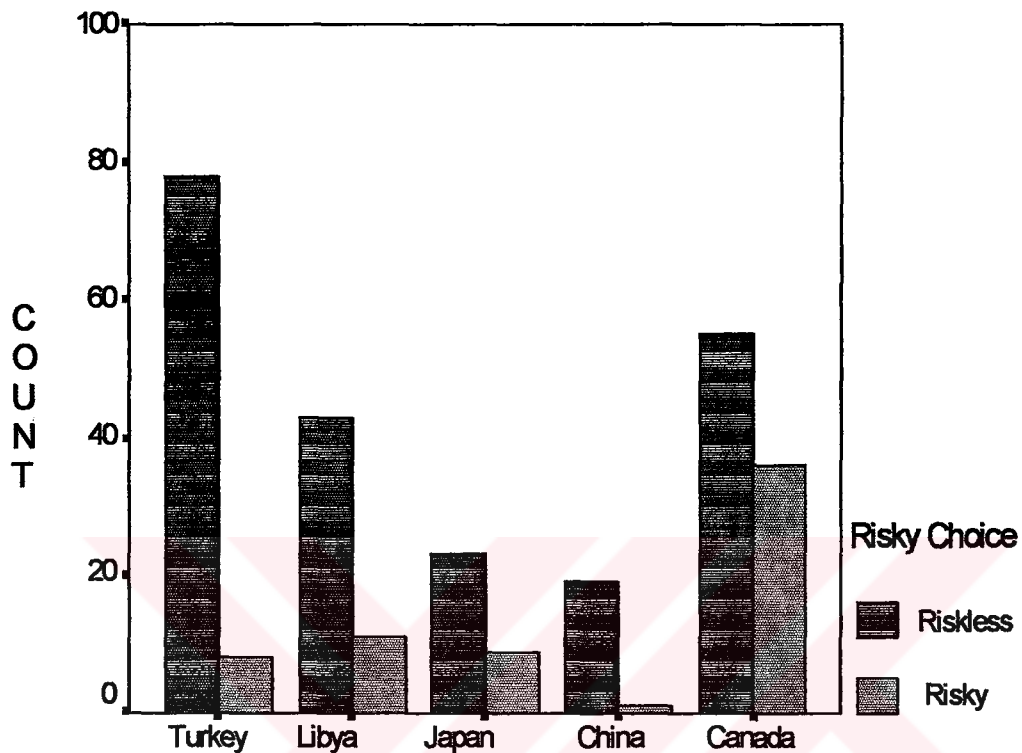


Figure (5.8) Positive-Framing Effects On Risky Choice

On the other hand, when given negative frame, as shown in Figure (5.9), 62,5% of participants from Turkey, 75,7% from Libya, 79,4% from Japan, 59,4% from China, and 89,5% from Canada chose D (risky choice) over C (riskless choice). Again, concerning the total sample of 271 (who received the negative frame), 69,7% (189) of the participants chose D over C, and 30,3% chose C over D.

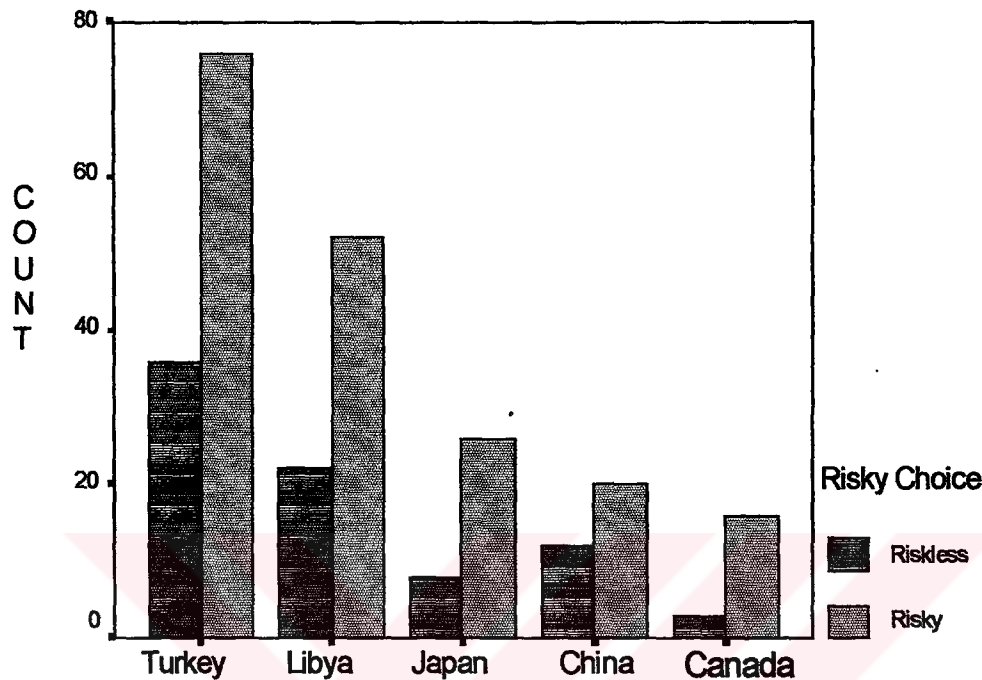


Figure (5.9) Negative-Frame Effect on Risky Choice

According to Table (5.9), the values of chi-square tests for independency and Cramer's V tests for association all were significant, and revealed that problem framing has a significant direct effects on decision-makers' risky choice. Therefore, hypothesis C.3.1 was strongly supported.

Moreover, Chi-square, Cramer's V and proportion tests were applied for testing hypothesis B.2. They yielded support for this hypothesis. According to hypothesis B.2, It was predicted that when a problem is perceived as being high risky, participants would make less risky choices than they would when it is perceived as being less risky problem, and, specifically, the higher the risk perception, the less risky choices to be made.

As discussed in section 4.2, positively framed problem was perceived as involving higher risk than negatively framed problem. Consequently, participants when given the positive frame perceived higher risk and they become risk-avoiders and significantly made more riskless choices than risky choices. And when given the negative frame, participants perceived less risk and become risk-takers and significantly made more risky choices than riskless choices.

When chi-square and Cramer's V tests were applied again to test the independency of, and association between, choice and one's culture, their results were strongly significant support of these findings across the five countries and showed that choice was dependent on participants' culture. For positive-frame sample, $X^2 = 27,639$ and Cramer's $V = ,313$ and $p < ,001$ for both values. For negative-frame sample, $X^2 = 10,660$ and Cramer's $V = ,198$ and $p < ,05$ for both values.

5.5.2 Results From Proportion Tests

Proportion tests were also applied to the test the mean part of hypothesis B.2 which states that the higher risk perception, the less risky choices to be made. Again, they yielded support for this hypothesis. The results are shown in Table (5.10) and Table (5.11).

Concerning the positive-frame samples, although participants across the five countries made more riskless choices than risky once, some differences between samples' choices were found. It was found that both Chinese and Turks who scored the highest means on risk perception were the most risk-avoiders participants and made significantly less risky choices than all other participants. On the other hand, Canadians who scored the lowest mean of risk perception were the most risk-seeking and made significantly more risky choices than all other participants. Libyans and Japanese, with no significant difference in both risk perception means and choices, made significantly less risky choices than Canadians and more risky choices than both Turks and Chinese. Proportion tests results are reported in Table (5.10) below.

Table (5.10) Results from Proportion Tests (Z values):
Effect of Risk Perception on Risky Choice in Positive-Frame Samples

Country	Turkey	Libya	Japan	China	Canada
Turkey	-				
Libya	1,878*	-			
Japan	2,586**	,817	-		
China	-,621	-1,595*	-2,057*	-	
Canada	4,661**	2,387**	1,678*	2,971**	-

Note: *: $p < .05$ **: $p < .005$

Negative-frame samples showed very similar results. Based on participants' choices, the five samples were grouped into two groups. First group included Chinese and Turks with no significant difference. They made significantly less risky choices than the others did. The second group included Libyans, Japanese and Canadians with no significant differences. They made significantly more risky choices than the first group participants did. Although significant differences were found on risk perception means between each pairs of countries in this group except between Libya and Japan, such differences were not found on risky choice. However, hypothesis B.2 can not be rejected since significant difference on risky choice was found between the first group of participants who scored high on risk perception and made less risky choices and the second group of participants who scored low on risk perception and made more risky choices. Table (5.11) below reports Z values of proportion tests.

Table (5.11) Results from Proportion Tests (Z values):
Effect of Risk Perception on Risky Choice in Negative-Frame Samples

Country	Turkey	Libya	Japan	China	Canada
Turkey	-				
Libya	-1,885*	-			
Japan	-1,828*	-,423	-		
China	,318	1,694*	1,767*	-	
Canada	-2,304*	-1,307	-,939	-2,281*	-

Note: *: $p < ,05$

To summarize, results from chi-square, cramer's V and proportion tests reported in this section were all supportive. Therefore, both hypotheses C.3.1 and B.2 were fully supported.

5.5.3 Results From Logistic Regression Analyses

Logistic regression was employed to test the mediating role of risk perception that was stated in hypotheses C.3.2. Both variables: risk perception and problem framing were entered into the logistic regression equation in a hierarchal fashion. This procedure revealed that both variables were significant in the regression model, as shown in Table (5.12) below

Table (5.12) Logistic Regression Results:
Effects of Problem Framing and Risk Perception on Risky Choice

		Coefficient (B)	Equation -2 LL	X ² value	% correct
<u>Risky Choice</u>					
Step 1	Problem Framing	-2,9021**	632,358	131,130**	68,855
Step 2	Problem Framing	-2,0650**	605,112	158,376**	73,818
	Risk perception	-,3369**			

Note: **: $p < ,001$

Logistic regression results indicated that both variables were significant predictors for choice. In step 1, the regression results showed that the effects of problem framing on choice was significant ($B = -2,9021$, $p < .001$) and explained a significant portion of the variance in choice (68,855%) when examined in isolation. When risk perception was added to the equation in step 2, risk perception was significantly related to the choice ($B = -.3369$ and $p < .001$), and the strength of the effect of problem framing was reduced but remained significant ($B = -2,0650$, $p < .001$). These findings indicate that risk perception partially mediates the effects of problem framing on risky choice. For the second model, chi-square value was (158,376) much stronger than in the first model which was (131,130), and $-2 LL$ value was reduced from 632,358 to 605,112. The two variables together explained 73,838% of the total variance in choice.

In sum, logistic regression results provided additional supportive evidence for the direct effect of problem framing on choice, and provided supportive evidence for its indirect effects through the mediation role of risk perception. Therefore, hypotheses B.2 C.3.1 and C.3.2 were fully supported.

5.5.4 Additional Test of Risky Choice

One of main aims of this dissertation is testing the validity of prospect theory cross-culturally. And since prospect theory is known as a choice theory, two other problems, in both positive and negative frame, were included. Participants across the five countries were given two extra problems to make decisions for solving them.

The first one was Asian disease problem (question 34 in the questionnaire). As shown in Table (5.13) and Figure (5.10), the results were very powerful and supportive. That is when given a positive frame, the majority choice was A (riskless choice) over B (risky choice). And when given a negative frame of the same problem, the majority choice was D (risky choice) over B (riskless choice).

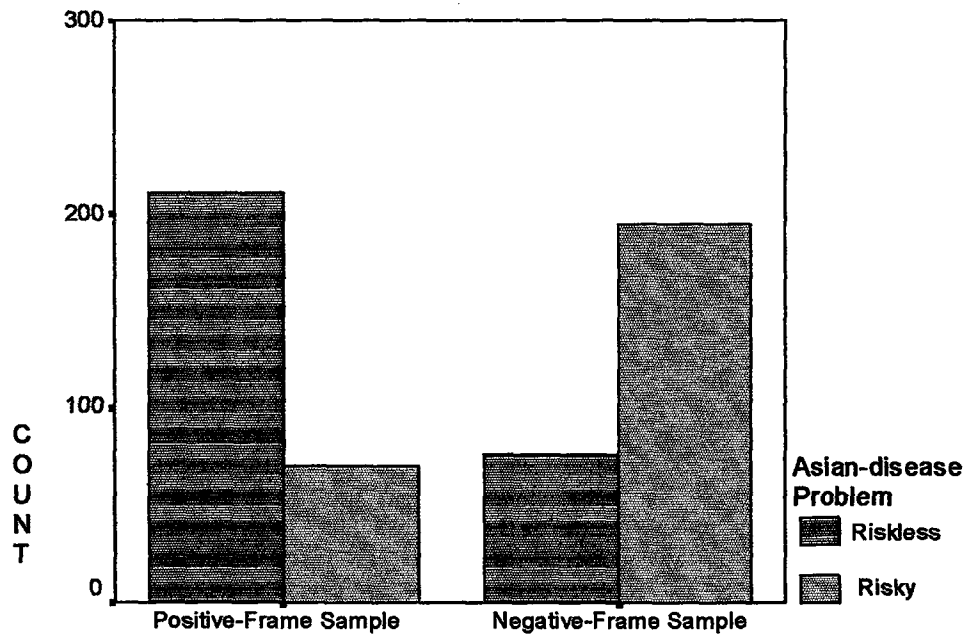


Figure (5.10) Problem-Framing Effect On Risky Choice (Asian-Disease Problem)

Table (5.13) Chi-square & Cramer's V Test Results:
Framing Effects on Risky Choice (Asian -Decease Problem)

Country	Problem Framing	A & C "Riskless Choice"	B & D "Risky Choice"	X ² Values	Cramer's V values
Turkey	1	84,9% (73)	15,1% (13)	54,684**	,526**
	2	32,1% (36)	67,9% (76)		
Libya	1	63% (34)	37% (20)	11,743**	,303**
	2	32,4% (24)	67,6% (50)		
Japan	1	78,1% (25)	21,9% (7)	17,610**	,517**
	2	26,5% (9)	73,5% (25)		
China	1	85% (17)	15% (3)	24,269**	,683**
	2	15,6% (5)	84,4% (27)		
Canada	1	69,2% (63)	30,8% (28)	22,409**	,451**
	2	10,5% (2)	89,5% (17)		
Total	1	74,9% (212)	25,1% (71)	121,824**	,469**
	2	28% (76)	72% (195)		

Note: **: p< ,001, Problem Framing: 1= positive frame and 2= negative frame

Numbers in parentheses refer to the number of participants

In sum, when given a positive frame, as shown in Figure (5.11) below, 84,9%, 63%, 78,1%, 85%, and 69,2% of Turks, Libyans, Japanese, Chinese, and Canadians, respectively, chose alternative A over alternative B.

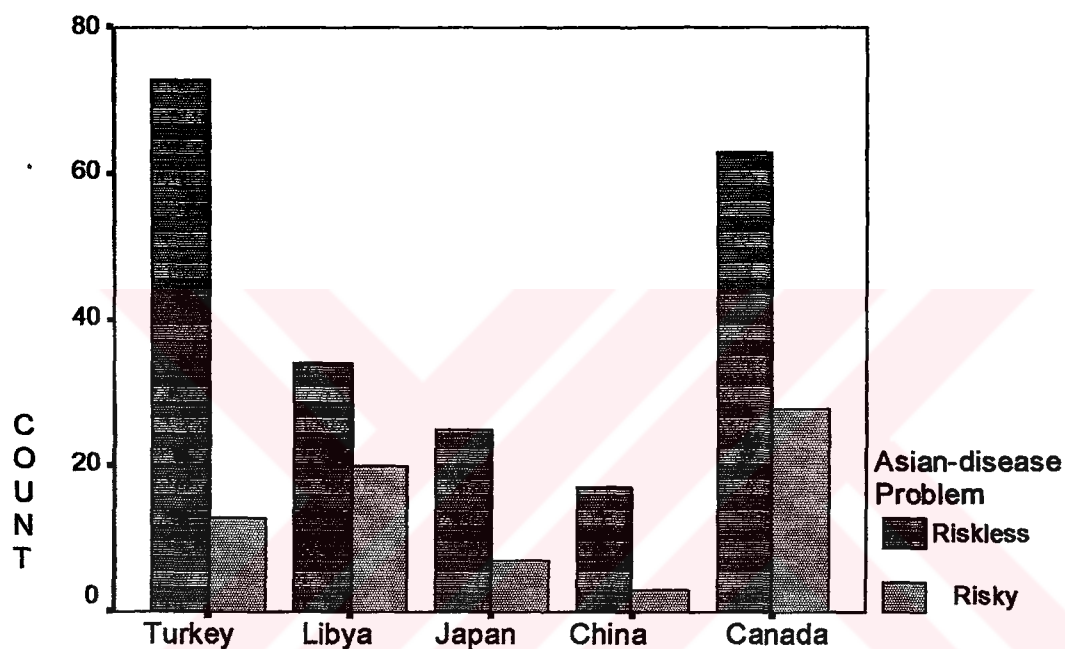


Figure (5.11) Positive-Frame Effect on Risky Choice (Asian-Disease Problem)

However, the negative-frame samples, as seen in Figure (5.12) below, showed a different pattern of preference. The majorities across the five countries chose D, the risky alternative. 67,9% from Turkey, 67,6% from Libya, 73,5% from Japan, 84,4% from China, and 89,5% from Canada. As shown in the Table (5.13) above, Cramer's V tests values all were significant at $\alpha = ,005$.

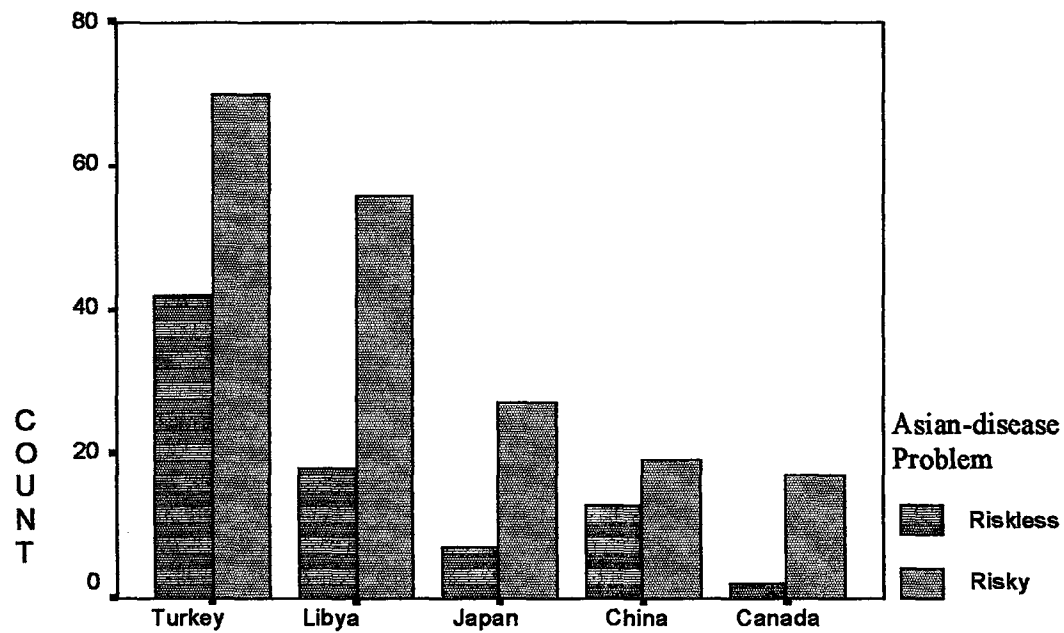


Figure (5.12) Negative-Frame Effect on Risky Choice (Asian-Disease Problem)

The second problem was a gambling problem (question 35 in the questionnaire). As shown in Table (5.14) and Figure (5.13) below, the majority choice of the positive-frame sample again was alternative A (riskless choice) over alternative B (risky choice). 71,4% of the total sample chose A, while only 28,6% chose B

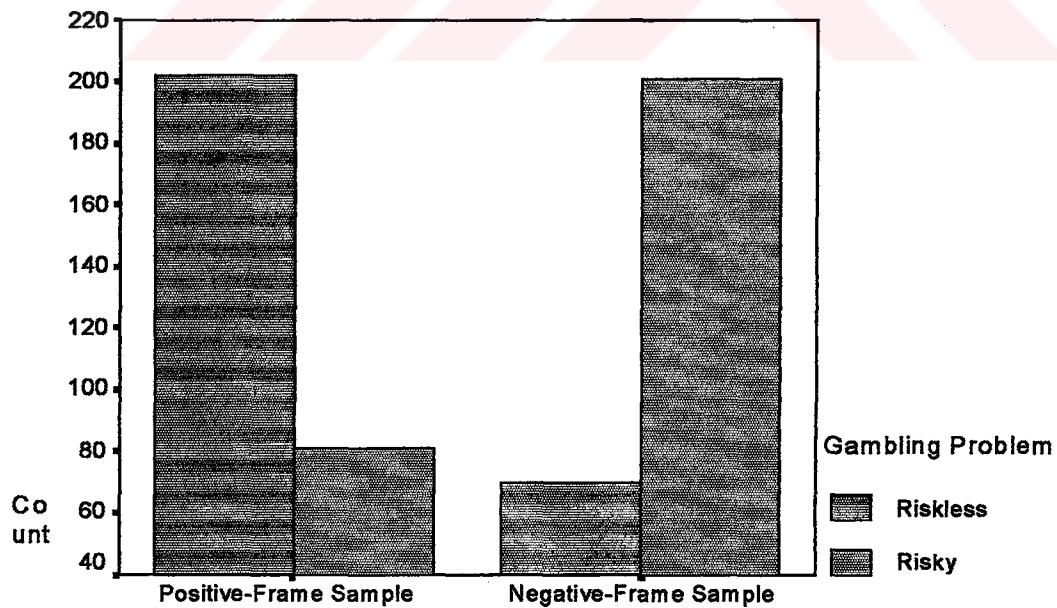


Figure (5.13) Effect of Problem Framing on Risky Choice (Gambling Problem)

Table (5.14) Chi-square & Cramer's V Tests Results:
Framing Effects on Risky Choice (Gambling Problem)

Country	Problem Framing	A & C "Riskless Choice"	B & D "Risky Choice"	X ² Values	Cramer's V Values
Turkey	1	73,3% (63)	26,7 % (23)	45,610**	,480**
	2	25% (28)	75% (84)		
Libya	1	70,4% (38)	29,6% (16)	26,897**	,458**
	2	24,3% (18)	75,7% (56)		
Japan	1	71,9% (23)	28,1% (9)	7,524*	,338*
	2	38,2% (13)	61,8% (21)		
China	1	70% (14)	30% (6)	11,840**	,477**
	2	21,9% (7)	78,1% (25)		
Canada	1	70,3% (64)	29,7% (27)	16,170**	,383**
	2	21,1% (4)	78,9% (15)		
Total	1	71,4% (202)	28,6% (81)	114,917**	,455**
	2	25,8% (70)	74,2% (201)		

Note: * p<,05 **; p< .005, Problem Framing: 1= positive frame and 2= negative frame

Numbers in parentheses refer to the number of participants

In terms of sub-samples, as shown in Figure (5.14), alternative A was chosen by 73,3% of Turks, 70,4% of Libyans, 71,9% of Japanese, 70% of Chinese, and 70,3% of Canadians. On the other hand, the majority choice of negative-frame sample, as shown in Figure (5.15), was alternative D (risky choice) over C (riskless choice). 74,2% of the total sample chose D, while only 25,8% chose C. Concerning sub-samples, alternative D was chosen by 75% of Turks, 75,7% of Libyans, 61,8% of Japanese, 78,1% of Chinese, and 78,9% of Canadians.

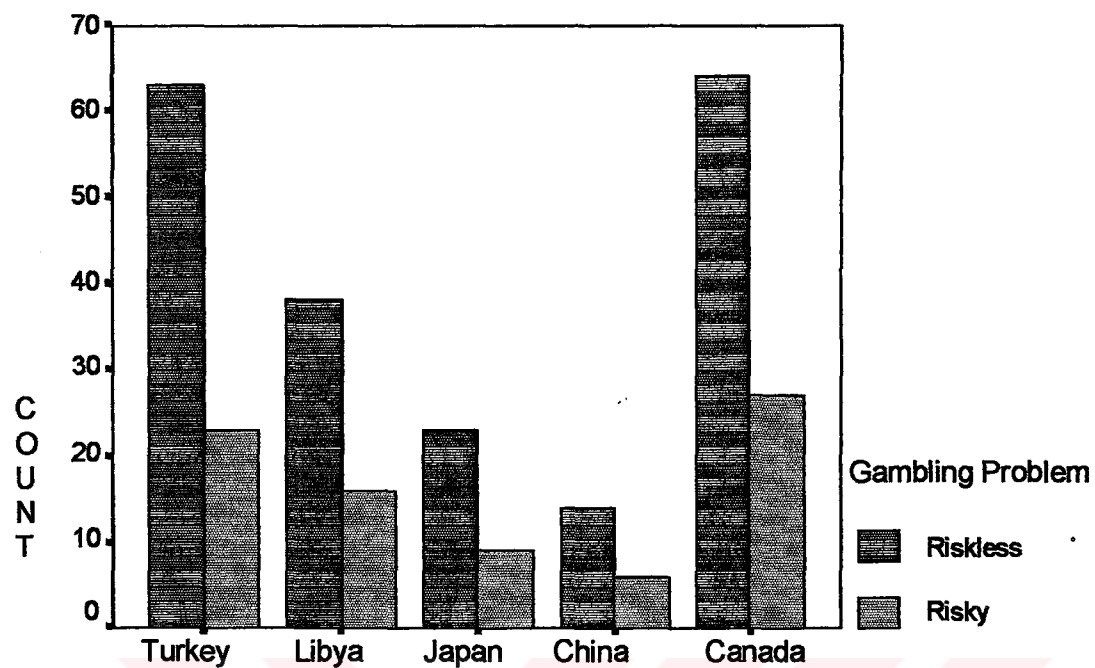


Figure (5.14) Positive-Frame Effect on Risky Choice (Gambling Problem)

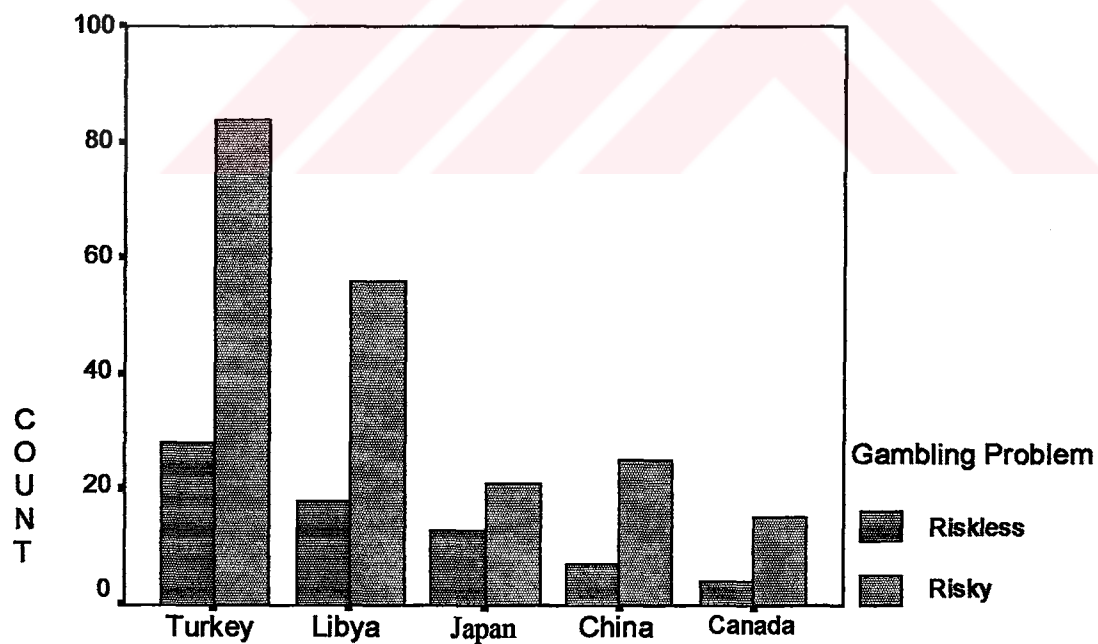


Figure (5.15) Negative-Frame Effect on Risky Choice (Gambling Problem)

Again, Cramer's V tests, as reported in Table (5.14), revealed that the choice was significantly depended on problem framing and all their values were significant.

In conclusion, the results of testing these two additional problems were supportive for both prospect theory and hypothesis C.3.1.

5.6 Cultural Values-Preference for Decision-Making Style Linkage

This section reports the results from the testing of the following four hypotheses

Hypothesis A.2.1. Decision-makers from small power distance cultures are more likely to prefer delegative style than those from large power distance cultures do. And decision-makers from large power-distance cultures are more likely to prefer the autocratic style than those from small power distance cultures do.

Hypothesis A.2.2. Decision-makers from strong uncertainty avoidance cultures are more likely to prefer the consultative decision making style than decision-makers from weak uncertainty avoidance cultures do.

Hypothesis A.2.3. Decision-makers from high individualistic cultures are more likely to prefer delegative styles than those from low individualistic cultures do. And decision-makers from low individualistic cultures are more likely to prefer participative styles than those from high individualistic cultures do.

Hypothesis A.2.4. Decision-makers from low masculine cultures are more likely to prefer participative style than those from high masculine cultures do.

The basic purpose of testing these four hypotheses is to provide evidence, if there is any, supporting the cultural effects on decision makers' choice of managerial decision making style in risky situation.

5.6.1 Results from Chi-square & Cramer's V Tests

In general, the majority choice of decision making style, as shown in Figure (5.16) Table (5.15), and was participative style and consultative style. 53,4% of the total sample preferred participative style and 25,6% preferred consultative style while only 11,4% and 9,6% of the total sample preferred autocratic style and delegative style, respectively.

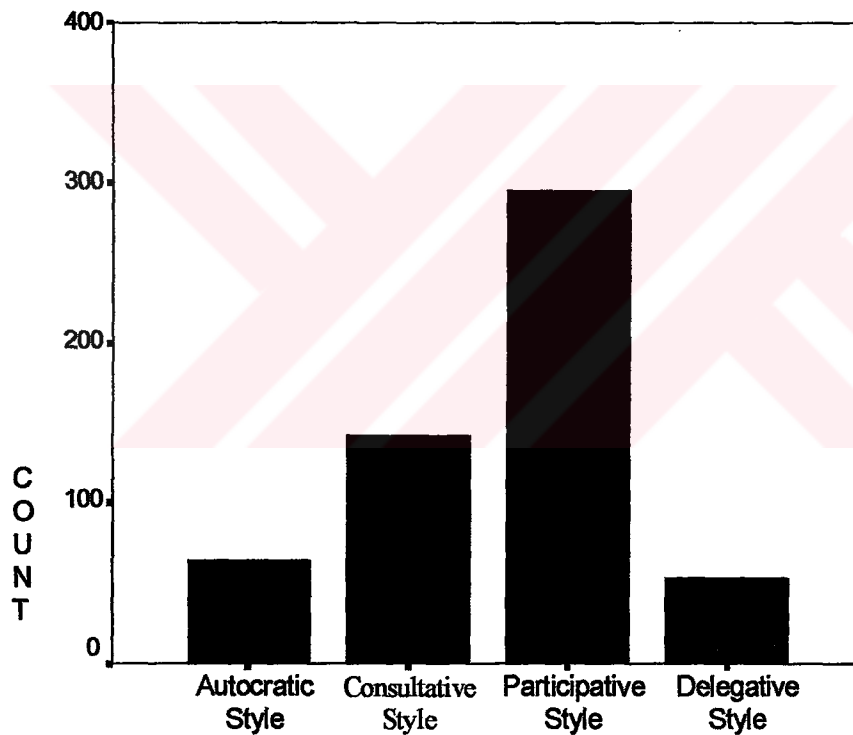


Figure (5.16) The Total Sample 's Preference Patterns for the Manufacturer's Manager 's Decision-Making Style

Table (5.15) Chi-square & Cramer's V Test Results:
Preference of Decision-Making Style

Country	Autocratic Style	Consultative Style	Participative Style	Delegative Style
Turkey	14,1% (28)	30,3% (80)	53,5% (106)	2% (4)
Libya	18% (23)	21,9% (28)	58,6% (75)	1,6% (3)
Japan	9,1% (6)	27,3% (18)	53% (35)	10,6% (7)
China	5,8% (3)	34,6% (18)	59,6% (31)	0% (0)
Canada	2,7% (3)	16,4% (18)	44,5% (49)	36,4% (40)
Total	11,4% (63)	25,6% (142)	53,4% (296)	9,6% (53)

Note: $X^2 = 133,595$, $p < ,001$, and Cramer's $V = ,491$, $p < .000$

Numbers in parentheses refer to the number of participants

As it can be seen here, chi-square test value and cramer's V test value, for independency and association, showed that the preference patterns of decision making style was depended on participants' cultures. $X^2 = 133,595$ and cramer's $V = ,491$ and $p < ,001$ for both values.

The high preference for both participative style and consultative style was also observed across the five samples. Figure (5.17) below shows the preference patterns of decision-making styles in each country.

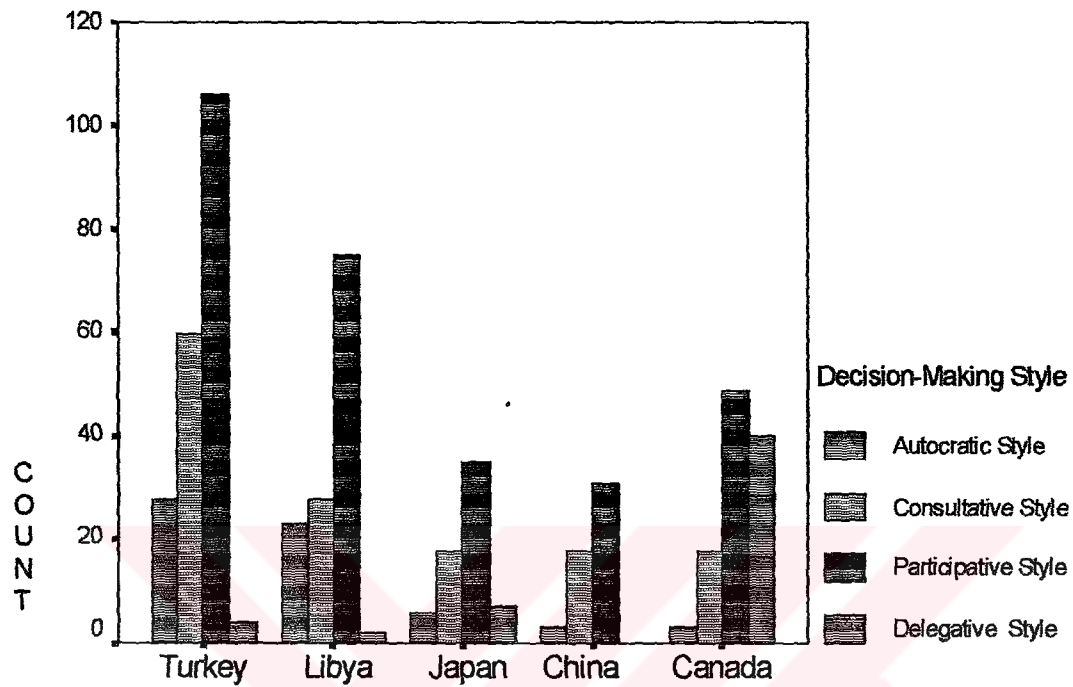


Figure (5.17) Preference Patterns For Decision-Making Style in Each Country

5.6.2 Results From Proportion Tests

Proportion tests were applied to allocate the significant differences between countries in each style. Table (5.16) below reports the results of proportion tests.

Table (5.16) Proportion Tests Results (Z values):
Comparison of Preference Patterns Among The Five Countries

	Decision making Style	Turkey	Libya	Japan	China	Canada
Turkey	Autocratic	-				
	Consultative	-				
	Participative	-				
	Delegative	-				
Libya	Autocratic	-,947	-			
	Consultative	-1,668*	-			
	Participative	-,905	-			
	Delegative	,262	-			
Japan	Autocratic	1,051	1,646*	-		
	Consultative	,463	-,839	-		
	Participative	,071	,746	-		
	Delegative	-3,034*	-2,817*	-		
China	Autocratic	1,618*	2,108*	,670	-	
	Consultative	-,596	-1,770*	-,855	-	
	Participative	-,787	-,124	-,717	-	
	Delegative	-	-	-	-	
Canada	Autocratic	3,101**	3,772**	1,868*	,976	-
	Consultative	2,687**	1,071	1,735*	2,600**	-
	Participative	1,514*	2,171*	1,093	1,795*	-
	Delegative	-8,267**	-7,016**	-3,745**	-	-

Note: *: $p < ,05$, **: $p < ,005$

Each style in each country was compared to the same style in the other countries.

First, **autocratic style**, as seen in Table (5.15) and Figure (5.17), was preferred more by Turks and Libyans than Chinese, Japanese, and Canadians. While 14,1% of Turks and 18% of Libyans preferred autocratic style, only 9,1% Japanese, 5,8% Chinese, and 2,7 Canadians preferred this style. Proportion tests, shown in Table (5.16), revealed that Turks and Libyans, with no significant difference, significantly preferred this style

higher than Chinese and Canadians. Canadians showed the lowest preference for this style and were significantly different from all others. Chinese also showed low preference for this style and significantly different from all other groups but not from Japanese. Japanese showed significantly lower preference for this style than Libyans did, and significantly than higher Canadians. But were not significantly different from Turks or Chinese. Therefore, the preferences that were showed by participants from the five countries can be classified in three levels. These are high preference; Turkey and Libya, low preference; Canada, and medium to low preference; China and Japan.

Recalling cultural profiles discussed earlier in this chapter, On power distance dimension, Turkey and Libya were characterized as having a large power distance culture. Japan and China were characterized as having medium to low power distance culture. While Canada was characterized as having a small power distance culture. Comparing these levels of power distance to the levels of preference of autocratic style, decision-makers from large power distance cultures preferred autocratic style more than decision-makers from both medium and small power distance cultures. And decision-makers from medium to low power distance cultures preferred autocratic style more than decision-makers from small power distance cultures. Therefore, it is obviously that the preference of autocratic style is correlated positively with power distance. This conclusion is consistent with the prediction of hypothesis A.2.1. Therefore, this hypothesis was strongly supported.

Second, **consultative style** was preferred by 30,3% of Turks, 21,9% of Libyans, 27,3% of Japanese, 34,6% of Chinese, and 16,4% of Canadians. Proportion tests revealed that Turks and Chinese showed significantly higher preference for consultative style than Libyans and Canadians. Canadians showed significantly lower preference for this style than Japanese did. Japanese were not significantly different from Turks, Chinese or Libyans. Thus, the preference of consultative style that found in the five countries can be categorized as: high preference, found in China and Turkey, medium preference, found in Japan and Libya, and low preference, found in Canada.

Recalling cultural profiles again, on uncertainty avoidance dimension, the five countries were found being characterized as China and Turkey as high uncertainty avoidance cultures, Japan and Libya as medium to low uncertainty avoidance cultures, and Canada as low uncertainty avoidance culture. Comparing these three levels of uncertainty avoidance dimension to the three levels of preference of consultative style, decision makers from high uncertainty avoidance cultures showed higher preference for consultative style than decision makers from medium and low uncertainty avoidance cultures. And decision-makers from medium uncertainty avoidance cultures showed higher preference for this style than decision-makers from low uncertainty avoidance cultures. Therefore, the preference for consultative style is positively correlated to uncertainty avoidance. This conclusion is consistent with the prediction of hypothesis A.2.2. Therefore, this hypothesis was strongly supported.

Third, **participative style**, as shown in Table (5.15), was preferred by 53,5%, 58,6%, 53%, 59,6% and 44,5% of Turks, Libyans, Japanese, Chinese, and Canadians respectively. Proportion tests results revealed that there were no significant differences between Turkey, Libya, Japan and China. Canada was significantly different from Turkey, Libya, China, but not significantly different from Japan. Recalling individualism dimension from cultural profiles, Canadians, who showed the lowest preference for participative style, were found to have the highest individualistic culture among the other countries. Japanese, Turks and Libyans, who showed a medium preference for this style, were found as medium to low individualistic. Finally, Chinese, who also showed a medium to high preference for participative style, were found as low individualistic. Therefore, preference for participative style was correlated negatively with individualism dimension as predicted by hypothesis A.2.3.

Comparing the pattern of preference for participative style with the levels of masculinity dimension revealed mixed results. China, as high masculine cultures, and Japan, as medium to high masculine culture, did not show significantly different patterns of preference from Turkey, which has the lowest masculine culture. And Libya and

Canada, as medium to low masculine cultures, showed significant different patterns of preference for participative style. These findings, in fact, were found to be contradictory to the prediction of hypothesis A.2.4. Therefore, hypothesis A.2.4 was rejected.

In conclusion, while the pattern of preference for participative style showed by each sample matched the level of the individualism of its culture as was predicted in hypothesis A.2.3, these patterns did not match the level of masculinity of their cultures, as was predicted in hypothesis A.2.4. Therefore, while hypothesis A.2.3 was supported, hypothesis A.2.4 was rejected.

Fourth, **delegative style**, as shown in Table (5.15) and Figure (5.17), was the lowest preferred style across the five countries. Comparing to others, Canadians participants showed the highest preference for delegative style, 36,4%, followed by Japanese, 10,6%. Both Turks and Libyans showed very low preference for this style, 2% and 1,6% respectively. Meanwhile, none of Chinese participants preferred delegative style.

Proportion tests results revealed that Canadians were significantly higher the others in preferring delegative style. Japanese also showed significantly higher preference for this style than Turks and Libyans did, while significantly lower than Canadians did. There was no significant difference found between the preference patterns showed by Turks and Libyans.

Hypothesis A.2.3 predicted that delegative style is more likely to be preferred by decision-makers from high individualistic culture. Recalling individualism-cultural values of the five countries, Canadian culture was found to be as the highest individualistic culture comparing to the others. Canadian participants showed the highest preference pattern for delegative style comparing to the other participants. In contrast, Chinese, as having the lowest individualistic culture, did not show any interest in this style. Libyans and Turks, as having low individualistic culture as well, showed very little interest in this style, while Japanese, as having medium to low individualistic culture, showed higher preference for delegative style than Libyans and Turks did but significantly much lower than Canadians did. Thus, as predicted in hypothesis A.2.3,

delegative style was preferred more by participants from high individualistic cultures than by those from low individualistic cultures. Therefore, hypothesis A.2.3 was fully supported.

5.6.3 Results From ANOVA Analyses

For further testing the cultural values-preference for decision-making style, one-way ANOVA technique was implied. Its results revealed that there were significant differences among the four decision-making styles on each cultural value as shown in Table (5.17) below.

Table (5.17) ANOVA Results:

Cultural Values-Preference Patterns For Decision-Making Styles

Cultural Values	Autocratic Style Mean	Consultative Style Mean	Participative Style Mean	Delegative Style Mean	F Values
Power distance	65,75	61,19	64,30	43,00	8,270*
Uncertainty avoidance	90,73	87,58	85,46	37,09	11,028*
Individualism	2,30	2,32	2,41	3,53	21,039*
Masculinity	2,29	2,55	2,49	2,64	1,593
Time orientation	6,91	6,59	6,28	4,69	34,356*

Note: *: $p < .001$

As it can be seen here, while the ANOVA results were constant with the previous results discussed above, they revealed other findings. First, contradictory to hypothesis A.2.4, no significant differences were found on masculinity value between groups of participants who preferred a specific decision-making style or the other. Second, unexpectedly and surprisingly, there were significant differences on time orientation dimension between groups of participants who preferred a specific decision making style or the other.

Third, on one hand, it was found that participants who preferred autocratic style scored higher than others on power distance, $M = 65,75$, on uncertainty avoidance, $M = 90,73$, on time orientation, $M = 6,91$, and lower on individualism, $M = 2,30$. Moreover, these scores were significantly higher than the scores of others who preferred delegative style, as post hoc tests revealed. On the other hand, participants who preferred delegative style scored lower than others on power distance, $M = 43$ and $p < ,005$, on uncertainty avoidance, $M = 37,09$, and $p < ,001$, on time orientation, $M = 4,69$ and $p < ,001$, while they scored higher than others on individualism, $M = 3,53$ and $p < ,001$.

Therefore, it can be concluded that autocratic style and delegative style were preferred by decision-makers that have completely different cultural orientations. That is, while autocratic style was preferred more by decision-makers who scored high on power distance, high on uncertainty avoidance, high on time orientation, and low on individualism values, delegative style was preferred more by decision-makers who scored low on power distance, low on uncertainty avoidance, low on time orientation, and high individualism values.

In conclusion, while results from chi-square, cramer's V, proportion tests and ANOVA analyses were supportive for hypotheses A.2.1, A.2.2, and A.2.3, they were not so for hypothesis A.2.4. Therefore, hypotheses A.2.1, A.2.2, and A.2.3 were supported, and a hypothesis A.2.4 was rejected.

5.7 Risk Perception-and Problem Framing-Preference Linkages (Direct and Indirect Framing Effects)

This section reports the results of the testing of the following three hypotheses:

Hypothesis B.3. When problems are perceived as involving high risk, decision-makers are more likely to prefer participative style and consultative style than they would do when problems are perceived as involving low risk.

Hypothesis C.4.1. When problems are positively framed, decision-makers are more likely to show different patterns of preference for decision-making styles from those they would prefer when problems are negatively framed

Hypothesis C.4.2. Risk perception partially mediates the effects of problem framing on the preference for decision making style.

The essence of these three hypotheses is to point out whether problem framing and risk perception have significant effects on one's preference of decision-making style. In other words, regardless of the cultural background, do decision-makers prefer different styles in different risky situations?

5.7.1 Results from Chi-square & Cramer's V Tests

Chi-square and cramer's V tests were applied to test the differences in the preference patterns for decision-making styles showed by positive-frame sample and negative-frame sample. The test results are reported in Table (5.18) below.

Table (5.18) Chi-square & Cramer's V Tests Results:
Effects of Positive and Negative Problem Frames on Preference for Decision making Style

Problem Framing	Autocratic Style	Consultative Style	Participative Style	Delegative Style	X^2 Values	Cramer's V Value
Positive	2,1% (6)	28,3% (80)	57,6% (163)	12% (34)	50,617**	,302**
Negative	21% (57)	22,9% (62)	53,4% (296)	9,6% (53)		
Z Values	-7,012**	1,455	2,005*	2,001*		

Note: *: $p < .05$, **: $p < .005$.

Although participative style and consultative style were the most preferred styles and autocratic style and delegative style were the least preferred ones across the two samples, problem framing effects the strengthen of such preferences. Participants, indeed, did show different preference patterns for decision-making styles from one frame to the other as predicted by C.4.1 as shown in Table (5.18) and illustrated in Figure (5.18).

Chi-square and cramer's V tests for independency of, and association between preference patterns and problem framing revealed that the difference between the two samples (positive-frame sample and negative-frame sample) was statistically significant, $X^2 = 50,617$ and cramer's $V = ,302$ and $p < ,001$ for both values.

Figure (5.18) below shows the preference patterns for positive-frame sample and negative-frame sample

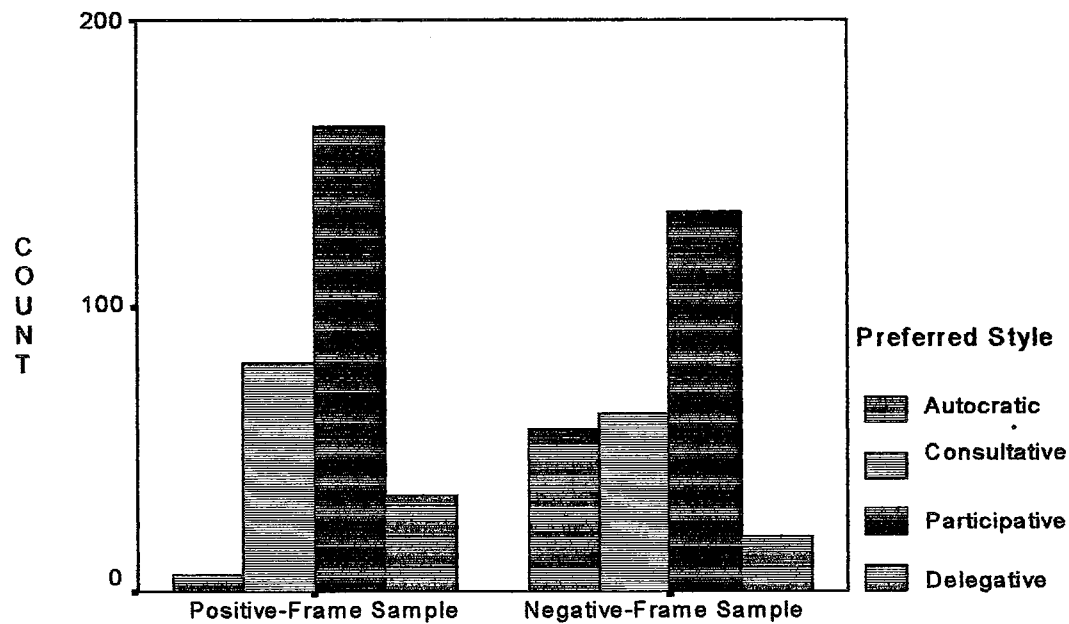


Figure (5.18) Effects of Positive and Negative Problem Frames on Preference for Decision –Making Style

5.7.2 Results From Proportion Tests

Section 4.3 reports that problem framing has significant effects on how a problem is perceived to be. That is, a problem when is positively framed would be perceived as involving higher risk than when it is negatively framed. As shown above, both consultative style and participative style were preferred more by positive-frame sample participants as predicted by hypothesis B.3.

Proportion tests were run to test the difference between the two samples in each style. Test results are reported in Table (5.18) above. Positive-frame sample showed significantly higher preference for participative style than negative-frame sample did. This finding is constant with the prediction of hypothesis B.3. However, proportion test did not yield a fully support for this hypothesis. That is, although positive-frame sample

showed higher preference for consultative style than negative-frame sample did as predicted hypothesis B.3, the difference was not statistically significant. Therefore, hypothesis B.3 was partially supported.

5.7.3 Results From Multinomial Logistic Regression

Multinomial Logistic Regression was also implied to test the direct and indirect effects of problem framing. Both problem-framing dummy variable and risk perception variable were entered into a regression in a hierarchical fashion. Both variables turned to be significant in the regression model as reported in Table (5.19) below.

Table (5.19) Multinomial Logistic Regression Results:
Effects of Problem Framing and Risk Perception on Preference for Decision-Making Style

		Equations -2 LL	X ² value	% correct
<u>Preference For Decision Making Style</u>				
Step 1	Problem Framing	87,717	57,088**	53,4
Step 2	Problem Framing	452,468	58,194**	
	Risk perception	499,709	55,435**	53,4

Note: **: $p < ,001$

The overall chi-square values were significant at alpha $< ,001$ level. That is, the preference for each decision making style influenced significantly by their corresponding independent variables, risk perception variable and/or problem framing. Therefore, the regression lent strong support for the hypothesized direct effects of problem framing and the mediation role of risk perception variable as predicted in hypothesis C.4.2.

In conclusion, all testing results that reported in this section were significant and yielded strong supports for the effects of risk perception on the preference for decision-making style as predicted by hypothesis B.3. Additionally, results showed strong evidence supporting the direct framing effects on the preference for decision-making style as predicted in hypothesis C.4.1, as well as for its indirect effects, via risk perception, as predicted in hypothesis C.4.2.



CHAPTER SIX

DISCUSSION

In the recent past, managerial decision making has become one of the major lines of inquiry in management and other related fields. Theoretical discussion and empirical research on managerial decision making have constantly advanced our understanding and stimulated more focused investigation. Yet, in surveying the current literature, several weaknesses were noted.

First, in cross-cultural research, cultural influences on people's decision making behaviour was treated as uni-dimensional, usually using the collectivism-individualism dichotomy, although culture theory suggests that culture is multi-dimensional. Therefore, the effects of other dimensions remained unknown.

Second, cross-cultural research on decision-making behaviour under risk is poor because it is relatively new and undeveloped field of inquiry (McDaniels and Gregory, 1991). This dissertation is limited by the scarcity of research results that directly address these issues.

Third, most of cross-cultural research, if not all, includes only two or three selected countries. Indeed, to make cross-cultural research's findings more accurate and meaningful, different countries are needed to be included in cross-cultural study.

Fourth, in past research, decision-making behaviour was used to refer to either decision-making process or decision-making style. Although decision-making process and decision-making style preference are different but very related topics, most past research investigated them separately and the interaction between these two topics, therefore, was neglected and remained unknown.

Fifth, scholars and practitioners have considered creativity as being an important characteristic that those successful decision-makers should have. However, creativity has never been considered as one of decision making behaviour output. Thus, the importance of having such characteristic was questioned.

Sixth, the nature of framing effects on decision-making behaviour were not adequately investigated and explored in the past research. With failure to consider the attitudinal antecedents, the possible effects of problem framing on the preference for decision making style were also neglected.

Finally, since it was released by Tversky and Kahneman in 1979, prospect theory has been known only as a choice theory and no attempt has been made so far for extending the prospect theory assumptions to include all decision-making process steps instead of being only a choice theory.

6.1 An Overview of The Model and The Tests

The above issues pointed to some basic important questions addressed by this dissertation:

1. Which cultural values that make certain decision-makers prefer particular decision making behaviour more strongly than others do?
2. Are the differences in decision-making behaviour related to some measurement of cross-cultural variation in values?
3. Do the differences in decision-making behaviour exist across several countries or only between selected pairs?
4. Does Hofstede's cultural model offers a tool for anticipating these differences?
5. Does problem framing which is proposed by prospect theory influence people's decision-making behaviour and in which direction?

In an attempt to bridge the existing gaps based on the literature, this dissertation proposed a cultural model of risky decision-making behaviour. The proposed model suggests relationships among four sets of variables: cultural values, decision-making process, preference for decision-making style, and problem framing, and was aimed at addressing the above questions.

The proposed model suggests that five cultural values could influence decision-making behaviour, namely, power distance, uncertainty avoidance, individualism, masculinity, and time orientation. The proposed model also suggests that problem framing could influence the decision-making process as well as the preference for decision making style.

The strategy in the development of the proposed model was to identify the most likely linkages based on theoretical deliberation. The empirical evidence has supported these specified linkages.

The proposed model was tested cross-culturally using samples from five countries from different parts of the world, namely, Canada from the Far West, Libya and Turkey from Middle East, and China and Japan from the Far East. The data analysis reported in chapter three showed that a) differences in cultural values among the five samples exist, and b) such differences manifest themselves in predictable ways. These results validated earlier predictions and set the stage for testing the model via specific hypotheses derived from the proposed model.

Various statistical procedures were utilised to test the different linkages proposed in the model. Each of these techniques was applied to a particular set of hypotheses after considering its capacity and appropriateness for carrying out the assigned tests. Whenever necessary, other statistical procedures were employed to further probe the data to enhance our understanding.

By adopting Hofstede's cultural framework, this dissertation measured five most relevant dimensions of culture and used those scores to explore the value-decision making behaviour relationship. This approach is especially fruitful for the current data analysis. The results were mostly supportive of the model with a few exceptions. Among the results, the main effects of cultural values including the culture values-risk perception and culture values-preference for decision making style linkages, were the most strongly supported. The hypothesised direct and indirect effects of problem framing were also strongly supported. There were also some unpredicted yet significant linkages.

The results of model testing are summarised and discussed in next sections. The methodological issues will be discussed subsequently.

6.2. Decision-Making Process

Decision making process has been one of the major areas that captured the attention of academic researchers, and a great body of literature has been found concerning this area of research. Yet cross-cultural research on risky decision making is a relatively new and undeveloped field of inquiry (McDaiels and Gregory, 1991). Investigators have recently recognised the importance of cross-cultural comparisons regarding risk. This dissertation took the advantage of the absence of such academic investigation and attempted to enrich the literature regarding risky decision-making behaviour.

In the current study, the effects of cultural values on decision-making process under risk have been assessed and the hypotheses on the cultural values-decision making process have been tested cross culturally.

6.2.1 Cultural Values-Risk Perception linkages

In fact, literature, in terms of decision making under risk, lacks any efforts to be devoted to identify the cultural value antecedents of risk perception. As cultural values cover a wide range of dimensions, risk perception would be strongly and directly related to some of these dimensions and not so strongly to others. This dissertation demonstrated the importance of identifying the relevant value dimensions toward improving our understanding of risk perception patterns.

The first linkage specified in the proposed model is that between cultural values and risk perception in hypotheses A1.1 to A1.3. Basically, the model predicted the following relationships: three cultural values, uncertainty avoidance, individualism, and time orientation would influence one's risk perception in particular ways. And risk perception would be influenced by this particular set of cultural values in a particular pattern. And jointly, cultures differing in their values would also differ in risk perception. The results of statistical analysis fully supported the model in the expected direction.

Although ANOVA technique and its multi-comparison analyses provided a direct test and supportive results to the hypotheses A1.1 to A1.3 on cultural values' overall effects on risk perception, other statistical techniques were also employed to ensure the previous results, namely: correlation and multi-regression. The additional statistical analyses provided supportive results to the cultural values-risk perception linkage hypothesised in the proposed model.

As reported in chapter four, risk perception was found significantly positive related to both uncertainty avoidance value and time orientation value, while it is significantly negatively related to individualism value. These directions were found as predicted by hypotheses A1.1, A1.2, and A1.3. It was found that participants from strong uncertainty avoidance, long time orientation, and low individualism cultures perceived higher risk inherent in a problem than participants from weak uncertainty avoidance, short time orientation, and high individualism cultures.

Moreover, another cultural value was found related to risk perception. Testing results showed that masculinity also significantly effected risk perception negatively. That is, participants from high masculinity culture perceived lower risk inherent in the problem than participants from low masculinity culture. Power distance value was not found to have a significant effect on risk perception, which was not also expected, although power distance value showed a strong and positive correlation with risk perception (see Table 5.3). This correlation might be due to the power distance correlation with the other cultural values. However, the multicollinearity among cultural values was not found to be serious threat to the above conclusion as the unique contribution by the proposed model specified cultural values to the explained variances of risk perception.

All these findings were consistent in all three statistical analyses: one-way ANOVA, correlation matrix, and regression. Moreover, when the problem framing was taken into consideration, the specified four cultural values remained as significant predictors of risk perception.

Therefore, these results seemed to be supportive of the proposed model predictions and can be used to predict a person or a culture group's risk perception.

6.2.2 Risk Perception-Creativity Linkage

The risk perception-creativity linkage has been mostly neglected in the literature. No study has been done to confirm how decision-makers use their creativity when developing and constructing decision alternatives especially under different risky situations. The absence of such information prevented our understanding from exploring such relationship. In the current study, the participants' risk perception has been assessed and the hypothesis on the risk perception-creativity linkage has been cross-culturally tested.

The results did not confirm the existence of the risk perception-creativity linkage, as was hypothesised in the proposed model (hypothesis B.1.). There are two facts that should be taken into consideration concerning this result. First, as mentioned earlier, this linkage has never been assumed before, therefore, no literature was found to guide and direct any academic efforts to discover such relationship. Second, the failing to confirm such relationship between risk perception and creativity might be due to the fact that risk perception that was measured in this study was not related to the creativity problem. In other words, risk perception of creativity problem was not measured in the current study. It was assumed that measuring the risk perception of one problem would be enough to assess the risk perception of the other problems included in this study. To be objective, with an absence of measuring the risk perception of creativity problem, its potential effect can neither be rejected nor supported quantitatively and objectively. As a suggestion, future research in this respect should include such measurement as a safe guard.

Although this dissertation has failed to confirm the risk perception-creativity linkage, it is still a pioneer in drawing an academic attention to such relationship and motivates researchers to enrich the literature in this regard.

6.2.3 Risk Perception-Risky Choice Linkage

Choice, as an output of the decision making process, has received considerable attention. However, the risk perception-risky choice linkage remained neglected in the literature. A few studies (Sitkin and Weingart, 1995; Sitkin and Pablo, 1992) have confirmed that decision-makers' risk perception do effect their risky choice. However, none of them has tested the risk perception-risky choice linkage cross culturally. The absence of such cross-cultural research raises an important question: Does culture effect decision-makers' risky choice? In other words, do different people choose different alternative for solving the same problem? In this dissertation the risk perception-risky choice relationship has been assessed and the hypothesis on the risk perception-risky choice linkage has been tested cross-culturally.

The results confirmed the existence of the predicted linkage in hypothesis B.2. That is, risk perception effected the risky choice that participants made, and different participants from different cultures were effected by their cultures' values. It was found that participants who perceived higher risk than the others made less risky choices and the higher the risk perception, the less risky choices were made. Therefore, risky choice was negatively effected by risk perception. This proposed relationship was found to exist even when two additional factors were taken into consideration:

1. When culture effects were taken into consideration, the effect of risk perception became more evident, and significantly differentiates cultural groups. For instance, because of their high risk perception, Chinese and Turkish participants made less risky choices than Canadians, Japanese and Libyans did who perceived lower risk inherent in the same problem. In other words, Canadians, Japanese and Libyans participants were found to be more risky than Chinese and Turkish participants.
2. When the problem-framing factor was taken into consideration, the effect of risk perception on risky choice remained as significant. In both frames, positive and negative, it was found that the higher the risk perception, the less risky choices were made. Moreover, in the positive frame, which was perceived as involving high risk, the majority choice of the total sample was the riskless alternative, while in the negative frame, which was perceived as involving less risk, the majority choice of the total sample was the risky alternative.

To summarise, the hypothesis B.2 concerning the connection between the risk perception and the risky choice was strongly supported. Therefore, risk perception can be used as a significant and important predictor of risky choice that decision-makers would make. These findings are in constant with Sitken and Weingart's (1995) who found a strong effect of risk perception on risky choice. In fact, this linkage was consistently to be most stables one across all different tests.

6.3 Preference For Decision-Making Style

Based on a comprehensive review of the available literature concerning decision-making behaviour, two weaknesses were noted. First, few studies of decision-making styles have connected the preference pattern of decision making style to the cultural values. The few exceptions that did assume such connection only did so for one or two cultural dimensions, usually collectivism-individualism (Ali, 1989, 1993; Muna, 1980). This dissertation hypothesised the effects of four most relevant dimensions of culture and explored the cultural value-preference relationship.

Second, the relationship between decision-making process and the preference for decision-making style has never been assumed or tested in the past research. In the current study, the effect of decision-making process on the preference for decision-making style has been hypothesised and empirically and cross-culturally tested.

Therefore, in attempting to bridge the observed gap in the literature and to facilitate our understanding of nature of decision making behaviour, two new linkages were hypothesised in this dissertation and empirically tested; namely the cultural value-preference for decision making style and risk perception-preference for decision making style. Moreover, the direct and indirect framing effects on the preference for decision-making style were also proposed and empirically tested.

6.3.1 Cultural Values-Preference for Decision-Making Style Linkages

The first linkage specified in the model concerning decision-making style is that between cultural values and decision-making preferences. Basically, the proposed model predicted the following relationship: four of the cultural values; namely power distance, uncertainty avoidance, individualism, and masculinity, would influence a particular set of decision-making style preferences in a particular way. And each of these preferences would be influenced by a particular set of cultural values in a particular pattern; and jointly cultures differing in their values would also differ in decision-making style preferences. The results of analysis mostly supported the proposed model.

In general, results showed that the majority choice of decision making style of the total sample was participative style and consultative style, while autocratic style and delegative style were least preferred across the five countries. Two explanations might help understanding the observed phenomenon. First, the observed preference patterns of decision making style might be due to the fact that all participants in this study have management and organisational behaviour background. This shared educational background, in fact, effected the participants' preferences for decision making style and made them believe that participative and consultative styles are more effective than autocratic and delegative styles in making better decisions and establishing good boss-subordinates relationship. Second, literature suggests that decision makers prefer to avoid risk when it is possible (Fiegenboun and Thomas, 1988; MaDougal, 1995; March and Shapira, 1987; Warneryd, 1996; Fischhoff, 1992). Therefore, it is not surprise that decision-makers exhibit such styles when making decisions under condition of risk. The adaptation of consultative style and participative style, in fact, offer great help to avoid the risk of making risky decisions especially in high risky situations.

The high preferences for consultative style and participative style and the less preferences for autocratic style and delegative style were consistent even when the effects of cultural values were taken into consideration. However, differences between cultural groups were found as expected in hypotheses A2.1, A2.2, and A2.3, but not in hypothesis A2.4. That is, the differences between cultures in power distance, uncertainty avoidance and individualism values, but not in masculinity value, differentiate the preference patterns that preferred by each culture group. It was found that: 1) autocratic style was preferred more by participants from large power distance cultures. 2) Consultative style was preferred more by participants from strong uncertainty avoidance cultures. 3) Participative style was preferred more by participants from low individualistic cultures. And finally, 4) delegative style was preferred more by those from high individualistic cultures.

Therefore, although the shared educational background and making decisions in risky situations made participants similar in their preference patterns for decision making style, the differences in cultural background differentiated the strength of such patterns.

Moreover, beside the effects of the four cultural values specified in the proposed model, another cultural value was found to have significant effects on the preference for decision-making style. Time orientation value was found as a significant predictor for the preference for decision-making style. Results showed that participants from long-oriented cultures preferred autocratic style more than participants from short-oriented cultures did. This finding was neither expected nor hypothesised in the model.

There is another important finding that is worthwhile to be emphasised concerning both autocratic style and delegative style. Results showed that while autocratic style was preferred more by participants who have large power distance, high uncertainty avoidance, long-oriented, and low individualistic values, delegative style was preferred more by those who have small power distance, low uncertainty avoidance, short-oriented, and high individualistic values.

In fact, by identifying and confirming the cultural value antecedents of the decision-making style preference, the current study has made very important contribution to the risky decision-making literature and stimulates more future research. As a wide range of cultural dimensions were discovered, each of the decision making style preferences would be strongly and directly related to some values and not so strongly to others. This dissertation demonstrated the importance of identifying the relevant value dimensions toward improving our understanding of decision-making style preference patterns.

6.3.2 Risk Perception-Preference for Decision-Making Style Linkage

The second linkage specified in the proposed mode concerning the preference for decision-making style is between risk perception and the preference patterns. In fact, this linkage represents the hypothesised relationship between the decision-making process and decision-making style in this dissertation. Such relationship has been mostly neglected in the literature. In this dissertation, the linkage between risk perception and the preference for decision-making style has been hypothesised and cross-culturally tested.

The results confirmed the existence of this linkage as was predicted in hypothesis B.3. That is, the risk perception has very important and significant effect on the preference patterns of decision-making styles that participants displayed. It was found that in high risky situation participants showed different patterns of decision-making styles from what they showed in less risky situation. In risky situation, participants showed higher preference for both consultative and participative styles and lower preference for autocratic and delegative style than what they showed in less risky situation.

This proposed relationship between risk perception and the preference for decision-making style was found to exist and remain significant even when problem framing factor was taken into consideration. Positive-frame sample participants who perceived high risk involved in the problem showed stronger preference for consultative style and participative style and weaker preference for autocratic style and delegative style than negative-frame sample participants who perceived low risk involved did.

To summarise, the hypothesis B.3 concerning the connection between the risk perception and the preference for decision making style was strongly supported across all different tests.

6.4 Problem Framing Effects

The effects of problem framing have been documented in the literature since it was found by Tversky and Kahneman in 1979. However, all studies have been done so far focused only on the framing effects on the risky choice. As none of these studies has extended these framing effects to the all decision-making process or preference for decision-making style, the framing effects have not been thoroughly examined to this date. As an initial attempt to explore these effects systematically, the current study hypothesised and empirically tested the framing effects on the three steps of decision-making process and on the preference pattern of decision-making style. In other words, this dissertation explored the systematic effects of problem framing on all aspects of risky decision-making behaviour.

Another potential weakness of the literature is that framing effects on risky choice have been referred to only as direct effects. Few studies have confirmed the indirect effects of problem framing via risk perception on risky choice (Sitkin and Weingart, 1995). Highhouse and Yuce (1996) argue that part of the confusion in the organisational literature, concerning when prospect theory predicts risk aversion and risk seeking, stems partially from the failure of prospect theory to consider decision-makers' perceptions. Therefore, the indirect effects of problem framing did not receive enough research attention in the past research. As the missing links are restored in the proposed model, it was possible to further explore the nature of the problem framing effects, distinguishing its direct and indirect effects on the risky decision-making behaviour.

In the past research, framing results have been mixed particularly if one looks at the magnitude of the effect rather than just statistical significance which is effected by sample size (Fagley and Miller, 1997). Most of the studies have found more modest framing effects than the original study by Tversky and Kahneman in 1981.

have involved different arenas of outcome (Fagley and Miller, 1997). Past research has varied along this dimension without systematically assessing its effects. The current study assessed the consistency of framing effects across the three most commonly used arenas in literature. These are business crisis, human lives and money.

Empirical testing of the proposed model found evidence to support the claim on the nature of the framing effects reported in this dissertation. It confirmed both of its direct and indirect effects on the risky decision-making behaviour. Both types of the effects were significant and substantial.

These findings are in no way contradictory to the earlier conclusion that decision-makers would exhibit risky decision-making behaviour corresponding to their cultural background. Rather, the framing effect depicted a more complex picture. The main effect of the problem framing on risk perception, hypothesis C.1, indicated that while decision makers perceived positively framed problem as involving high risk, they perceived the negatively framed problem as involving low risk. Such results suggest that differences in risky decision-making behaviour should not automatically be interpreted as a result of changes in people's preference for risk, but may also, at least partially, be the result of changes in their risk perception. The proposed model hypothesised that situational variables such as problem framing affects decision-makers' risk perception but not their inherent risk preference from their cultures.

These findings were also consistently to be one of the most stable results across all different tests, and were consistent across the five cultural groups although significant differences were observed between groups. These findings are also consistent with the findings of Sitkin and Weingart (1995). In fact, this evident direct effect of problem framing on risk perception enabled testing the indirect effects of problem framing on the other aspects of risky decision-making behaviour, via risk perception, to be carried out.

The direct effects of problem framing have also been observed at the other two steps of decision-making process as predicted in hypotheses C.2.1 and C.3.1. Generally speaking, in terms of alternative construction, it was found that decision-makers were more creative corresponding to the negative frame than to the positive frame of the same problem. Such finding supports Simon's (1992) claim that the way in which problems are represented has much to do with the quality of the solutions that are found and chosen. And in terms of risky choice, it was found that while decision makers were more risk averse and made less risky choices corresponding to the positive frame, they were more risk seeking and made more risky choices corresponding to the negative frame of the same problem.

However, the indirect effects of problem framing, via risk perception, have been observed only on the risky choice but not on creativity. Concerning risky choice, problem framing, through risk perception, significantly affected the decision-makers' risky choices as predicted in hypothesis C.3.2. That is, on one hand, when problems were positively framed and, consequently, perceived as involving high risk, participants made less risky choices. On the other hand, when problems were negatively framed and, consequently, perceived as involving low risk, participants made more risky choices. These findings provide evidence for the indirect effect of problem framing on risky choice and for the mediating role of risk perception. These findings are also consistent with Sitkin and Weingart's (1995) findings.

Concerning creativity, however, problem framing, via risk perception, did not effect the participants' creativity as was predicted in hypothesis C.2.2. That is, decision-makers' risk perception was not constant with the creative choices they made. As mentioned earlier, the failure of confirming the linkage between risk perception and creativity might due to the fact that risk perception used in testing this linkage was not related to the creativity problem.

Finally, in terms of decision making style, the direct and indirect effects of problem framing have also been observed on the preference patterns of decision-making style. As predicted in hypothesis C.4.1, participants showed different preference patterns for decision making style across the two frames (positive frame and negative frame).

The indirect influence of problem framing, via risk perception, on the preference for decision-making style, as predicted in hypothesis C.4.2, was also found significant. In different risky situations, decision-makers showed different patterns of decision-making style preference. It was found that when they perceived the problem as high risky situation (positive frame) participants showed different patterns of decision-making styles from what they showed in less risky situation (negative frame). In risky situation, participants showed higher preference for both consultative and participative styles and lower preference for autocratic and delegative style than what they showed in less risky situation. Problem framing significantly effected the preference patterns and caused shifting of preference patterns from one risky situation to the other.

One of the major themes in this dissertation, the risk perception-preference for decision making style, appears crucial in the risky decision-making behaviour studies. Without recognition of such linkage, the complex pattern of framing effects could not be identified. For example, the indirect effect of framing on the preference for decision making style can be pursued only when the relationship between decision-making process-decision-making style is empirically established.

6.5 The major Contributions of the Proposed Model

The major objective of this dissertation is to explore how cultures influence people's decision-making behaviour in risky situations. The proposed model, as reported above, was largely supported in an empirical and cross-cultural testing. Based on the findings reported earlier, and in the context of both cultural values- and problem framing-risky decision-making behaviour linkages, this dissertation has made the following major contributions to literature on risky decision-making behaviour:

First, studying the effects of cultural values on risky decision-making behaviour. According to decision-making literature, researchers have studied and focused on the cultural effects on either decision making process or decision making styles. Being a pioneer, this dissertation combines these two very related topics under decision-making behaviour and points out the cultural effects on them

Second, identifying and confirming the cultural values effect risk perception and the preference for decision making style. In the voluminous body of decision-making behaviour literature, very little effort is devoted to identify the cultural value antecedents of risk perception and of decision making style preference. In this dissertation, these two variables are connected to cultural values. As cultural values cover a wide range of dimensions, risk perception and preference for decision making style would be strongly and directly related to some values and not so strongly to others. This study demonstrated the importance of identifying the relevant value dimensions toward improving our understanding of risky decision-making behaviour.

Third, measuring cultural value scores of the participants. In fact, few cross-cultural studies of decision-making behaviour actually measured the cultural value scores of the participants. The few exceptions that did measure the cultural values only did so for one or two dimensions, usually collectivism-individualism (Abbas & Taqi, 1997). This dissertation measured five most relevant dimensions of culture and used those scores to explore the cultural value-risky decision-making behaviour relationships. The approach is especially fruitful for the current data analysis. This dissertation demonstrated the importance of assessing the participants' cultural value scores to facilitate our understanding of the nature and pattern of the cultural value-decision making behaviour linkages.

Fourth, providing evidence for Hofstede's cultural dimensions as a useful framework for studying similarity and differences in and across nations. This framework indicates that cultures differ in their emphasis on five values and that societal culture is more important than organisational culture in shaping employees' attitudes and behaviour. Adopting Hofstede's (1984 and 1994) cultural framework made it possible to

identify the differences in cultural values among the five countries on the five dimensions. In fact, identifying such differences set the stage for testing the proposed model and helped interpreting the study's findings.

Fifth, providing evidence for prospect theory and extending its problem framing assumption. In the literature, Prospect theory was found and considered as a choice theory and, therefore, all research efforts were devoted to test the validity of prospect theory as a theory of risky choice. Mixed findings were reported in the past research even though they were mostly supportive for prospect theory (Fagley and Miller, 1997). The current study's findings are strongly supportive and provide empirical evidence for prospect theory as a risky-choice theory. Therefore, prospect theory can be viewed as a universal theory that is not limited by cultural boundaries. Furthermore, the current study also found strong empirical evidence to support the extension of prospect theory's framing effect assumption to include all aspects of decision-making behaviour. The theory's framing-effects assumption was found strong and robust on both decision-making process and decision-making style patterns. Prospect theory, therefore, can be also viewed as a theory of risky decision-making behaviour.

6.6 Methodological Issues

This section will focus primarily on some methodological issues were employed in the current research; namely bias effect, sampling frame, self-presentation and method variance. Each of these issues is discussed separately.

6.6.1 Minimising Bias Effect

The assessment of framing effects was conducted using scenarios with manipulated experimental factors. As in most experimental-designed research, the responses to the experimental factors may contain two types of elements: experimental effect and bias effect. Attention has been given and directed to reduce the bias effect. A

between-subject design was adopted. Randomly, each participant received only one version of the problem description (either positive or negative frame) and was instructed, orally and by cover letter, to answer individually. Therefore, participants were unaware of the experimental manipulation. Thus, experimental bias effect became less problematic in this study and the participants' responses to the framing conditions were captured as experimental effect.

6.6.2 The Sampling Frame

Sampling frames and characteristics were always the subject of the major critiques that most studies have received and limited their findings' generalibility. Attention had been given to the sampling frame in the current study. Consequently, the current study's sample have gained some strength points that worthwhile to be mentioned.

First, ideally any proposed cultural model should be empirically tested using culturally as different as possible countries. Hofstede and Bond (19) have argued tat including five countries is a particle minium for finding a significant comparison at the cultural level. The proposed model was empirically tested using samples drawn from five culturally different countries; namely, Turkey, Libya, Japan, China, and Canada. These five countries are in contrast with each other in most cultural values. Therefore, the five samples provide an adequate basis for testing the proposed cultural model in this dissertation.

Second, a substantial majority of the participants in this dissertation had working experience. Many participants were currently working either part time or full time. Although the study design and its experimentally manipulated variables did not rely upon the personal working experience of participants, their work experience enabled them to approach the decision-making issues with perspective more likely to be shared by the working population, of which they are a part. As a result, this dissertation has, to a large extent, avoided the problem associated with other studies (e.g. Tversky and

Kahneman, 1980, 1986 ; Sitkin and Weingart, 1995; Fagley and Miller, 1997; Wang, 1996) which studied students who had no work experience.

Third, all participants share the same educational background at different levels. Participants were recruited from different management programs ranging from undergraduate management programs to MBA, MSc, and other different executive programs. This shared educational background enabled participants to be aware of the decision-making issues and approach them wisely.

Fourth, the mean ages of the participants from all samples, except the Japanese sample, were in the range of those of the labour force in each country. Their behaviour, therefore, more likely to be shared by the working population, of which they are a part.

Fifth, the influences of industrial traits and organisational culture on participants were neutralised. Each industry and even each organisation in each sector has its own culture that may affect its members' behaviour in terms of their way of working and even in their way of thinking. Offermann and Hellmann (1997) and Hodgetts and Luthans (1994) have argued that organisations' size and age seem to greatly influence attitudes and behaviours exhibited by their managers. This presents a serious challenge to cross cultural research. If, for example, differences are found between the employees of two companies located in two distinct cultures, what is the source of such differences? Is it the national cultures, or the organisational cultures? And if differences are found between two organisations from the one sector, can such differences be found in any other sectors? Although Hofstede's (1980) research, which sampled cultures within a large multinational company, achieved greater comparability across national samples than other studies (Hofstede, 1994), it has been criticised for lack of representativeness to the cultures of the nations studied and for focusing on one organisation (Triandis, 1982).

To avoid this problem in cross-cultural research, the number of organisations and sectors sampled from each culture should be sufficiently large so that any impact from the culture of any single organisation or sector can be controlled. In this dissertation, the participants from the five countries were from different organisations and sectors. In

fact, the number of the organisations and sectors presented by the five samples may be as many as that of the participants. Therefore, the effects of organisational and industrial cultures on the participants were controlled and the findings from this dissertation are not likely be limited to one or a few particular industries.

Therefore, all these sampling characteristics made the samples drawn from the five countries more comparable, and the values and/or behaviour differences found among them are likely be attributed to cultural differences.

6.6.3 Prevention of Self-Presentation

Every paper-and-pencil instrument causes self-presentation problem and, therefore, produces biases and invalid responses that all researchers try to avoid. Since the assessment of variables in this study relied on the participants' self-report measures, attention had been given to such problem and efforts had been taken to eliminate possible self-presentation tendency. In fact, two strategies were employed in this dissertation to minimise the influence of self-presentation in the data collection process. First, anonymity was ensured in the cover letter of the questionnaire. Researchers have frequently employed this feature and emphasised anonymity to avoid the pressures that participants might have while answering surveys.

Second, third-party scenarios were used. That is, the participants were asked to make decisions for other people and they themselves were not involved or affected by the results of the decisions they made. The only exception was the gambling-problem scenario. In this problem scenario, participants were asked to gamble for their benefits. However, this problem is a hypothetical problem and, therefore, participants did not gain or loss any money. Therefore, the data concerning this problem was not effected by self-presentation. Furthermore, this problem was included in the survey only for further testing prospect theory in the choice step of decision-making process (see chapter five).

6.6.4 Common Method Variance

A major problem that face researchers using questionnaires is the acquiescence phenomenon. Acquiescence is the tendency to give a positive answer to any question regardless of its content (“yesmanship”) (Hofstede, 1984; Bochner and Hesketh, 1994). Attention had been given and directed to minimize the potential threat of common method variance. Different types of measurement have been adopted and employed to assess the four sets of variables that are present in the proposed model:

1. Likert style measures were used for three cultural values (individualism, masculinity, and time orientation).
2. Mixed measures of Likert-style scale and ordinal scale were used for two cultural values (power distance and uncertainty avoidance).
3. Semantic differential scale was used for risk perception variable.
4. Nominal scales were used for decision making style, creativity and choice, and
5. Short descriptions were used for problem framing.

As seen from the measurements used in this study, there were no leading questions and no single type of measurement. Furthermore, in the cultural value case, more than one type of measurement was employed to assess this set of variables. Therefore, the common method variance between different sets of variables was not likely to be a serious problem in the current study.

In conclusion, this dissertation addressed some important issues in the decision-making literature. The major objective of this dissertation is to explore how cultures influence decision-making process and, in turn, influence decision makers’ preference for decision-making style. Thus all hypotheses, results, and conclusions reported in this dissertation are aimed and interpreted at the level of the group. It is not purport that any

individual decision-maker will behave in any particular way, rather when a group of decision-makers from a particular country are averaged, their scores express the impact of their culture and will differ in predictable ways from the means of decision-makers from other countries.

The proposed model was empirically and cross-culturally tested, and was largely supported. Figure (6.1) in next page shows the proven linkages in the proposed cultural model of risky decision-making behaviour that were supported by this dissertation's results and findings.



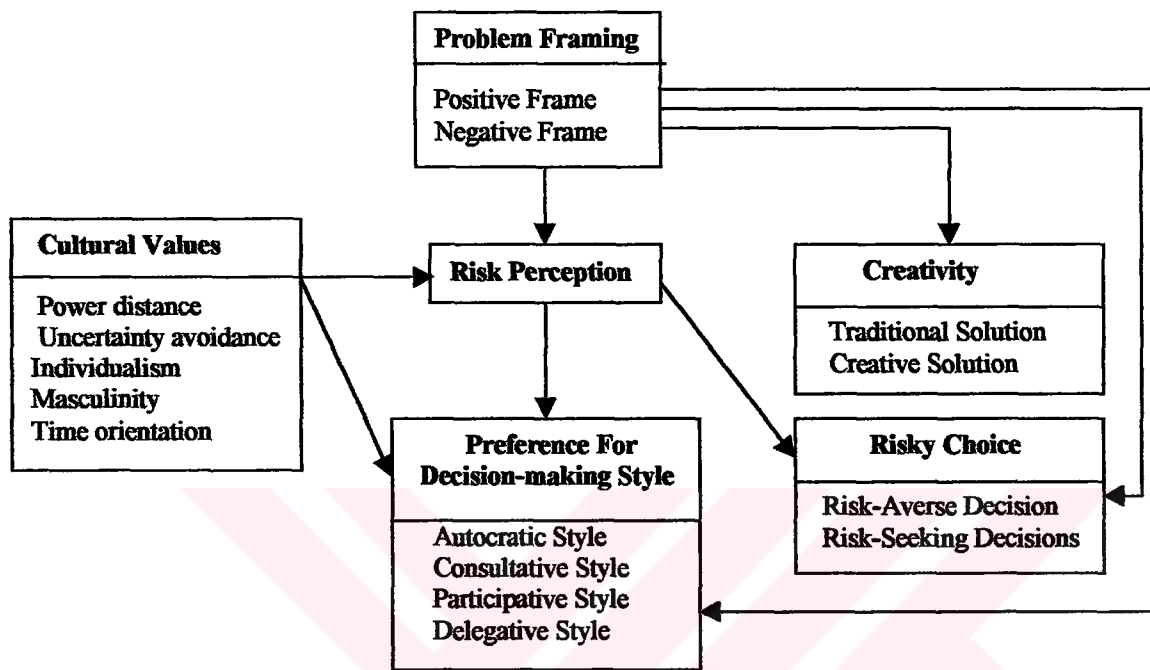


Figure (6.1) The Cultural Model of Risky Decision-Making Behaviour
Supported by this Dissertation's Findings

CHAPTER SEVEN

CONCLUSION,

LIMITATIONS, FUTURE RESEARCH DIRECTIONS & IMPLICATIONS

This closing chapter addresses the conclusion of the current study's findings and limitations, proposes directions for future research, and possible implications of its findings. The chapter is organised in three sections. Section 7.1 provides a brief conclusion of the proposed model and its findings. Section 7.2 discusses the limitations to this study and proposes important directions for future research on decision-making behaviour in the light of both dissertation's findings and limitations. Finally, section 7.3 points out the possible practical and theoretical implications of the study's findings.

7.1 A Risky Decision-Making Behaviour Model

Decision-making is an integral part of the management of all kinds of organisations. As management is universal, decision making is a generic process that is applicable to all activities and to all organisations (Harrison, 1995). Decision making behaviour has received considerable academic attention and there exists a great body of research that has been focused on this important area of management literature. In fact, decision making is an evolving area of study and has considerable importance to practicing managers as well as to scholars.

Yet cross-cultural research on risky decision making behaviour is a relatively new and undeveloped field of inquiry (McDaniels and Gregory, 1991). In surveying the current literature, several weaknesses were noted. First, most, if not all, of cross-cultural research focused on the influence of one or two of cultural dimensions, usually individualism-collectivism, on decision-making behaviour. Therefore, the effects of

other cultural values remained unknown. Second, decision-making behaviour was used in literature to refer to either how to make decisions or who make these decisions. Although decision making process and decision-making style are two different but related topics of decision making, the interaction between these two topics remained unknown. Third, although it has been argued that creativity is an important characteristic of decision-makers, it has never been considered as a decision-making behaviour output. The neglected connection between creativity and decision-making behaviour questions the importance of having such characteristic. Finally, prospect theory has been viewed as a choice theory and no attempt has been made to explore the influence of its framing effect assumption on the risky decision-making behaviour.

In an attempt to bridge these existing gaps on the literature and make significant contributions, this dissertation proposed a cultural model of risky decision-making behaviour to achieve four objectives. First, examining the influence that cultural values might have on decision-making behaviour. Second, exploring the relationship between decision making process and the preference for decision-making style. Third, examining the validity of prospect theory cross-culturally. Fourth, explore the effects that problem framing might have on all aspects of risky decision-making behaviour. Finally, examining the validity of Hofstede's cultural model to discover and explain the differences in risky decision-making behaviour across different cultures.

The proposed model has five features, first, Hofstede's cultural model was adopted, and culture was viewed as having five distinct values, namely; power distance, uncertainty avoidance, individualism, masculinity, and time orientation. Second, decision-making process was viewed as a three-step process, namely; problem recognition, alternative construction, and choice. In problem recognition step, the model focused mainly on decision-makers' risk perception while in alternative construction it focused on the creativity of decision-makers. Third, the most common four decision-making styles are included in the proposed model, namely; autocratic style, consultative style, participative style, and delegative style. Fourth, the effect of problem framing was extended to include decision-making process and the preference for decision-making

style. Finally, risky decision-making behaviour is viewed as a combination of three variables; creativity, choice and preferred style.

The proposed model, therefore, suggested relationships among four sets of variables; 1) cultural values, 2) decision making process, 3) the preference for decision making style, and 4) problem framing. The model suggested that five cultural values could influence risky decision-making behaviour in different directions, The model also suggested that problem framing could influence the three steps of decision-making process as well as the preference for decision-making style.

The proposed model was empirically and cross-culturally tested using samples drawn from five distinct cultures; Turkey, Libya, Japan, China, and Canada. Various statistical techniques were employed to test the different linkages proposed in the model. The model was largely supported. Briefly, this dissertation offers the following important findings:

1. Four cultural values were found to have strong direct effects on decision-makers' risk perception. These are uncertainty avoidance, individualism, masculinity, and time orientation. While both uncertainty avoidance and time orientation positively affected risk perception, individualism and masculinity affected it negatively.
2. Risk perception, in turn, effected the decision-makers' risky choices. The higher the risk perception, the less risky decisions were made. Risk perception did not show any effect on decision-makers' creativity.
3. Risk perception was found to have very strong effect on the preference patterns of decision-making style. It was found that participative style and consultative style were more preferred and autocratic style and delegative style were less preferred in high risky situations than in less risky situations.
4. The preference for decision-making style was also found to be effected by four cultural values; namely, power distance, uncertainty avoidance, individualism and time orientation. While autocratic style was preferred

more by decision makers from large power distance, high uncertainty avoidance, long-oriented, and low individualistic cultures, delegative style was preferred more by decision makers from small power distance, low uncertainty avoidance, short-oriented, and high individualistic cultures.

5. Problem framing was found to have very strong and robust direct effects on risk perception, creativity, choice, and the preference for decision-making style. When a problem was positively framed, participants perceived high risk involved in the problem, preferred tradition or past-experiences solution to solve the problem and made less risky decisions. On the other hand, when a problem was negatively framed, participants perceived low risk involved in the problem, preferred creative alternative to solve it, and made more risky decisions than riskless decisions.
6. Problem framing was also found to have indirect effects, via risk perception, on choice and the preference for decision-making style, but not on creativity. That is, risk perception, which was effected by problem framing, effected decisions that participants made and the patterns of preferred decision-making style that they showed. The level of risk perception did not effect creativity.
7. Risk perception partially mediated the effects of problem framing on risky choice and on the preference for decision-making style. Results showed that both risk perception and problem framing have significant effects on risky choice and the preference for decision-making style.
8. Hofstede's cultural framework was found to be a valid tool to anticipate the differences among the five countries included in the current study in risky decision-making behaviour. In fact, identifying the differences in cultural values among the five countries on the five cultural dimensions found by Hofstede (1984 and 1994) set the stage for testing the proposed model and helped interpreting the study's findings.

Based on the important findings that have been reported here, therefore, this dissertation has improved our understanding of risky decision making behaviour and made the following contributions:

1. Identifying and confirming the cultural values that have important and strong effects on risky decision-making behaviour.
2. Confirming the relationship between decision-making process and decision-making style.
3. Providing evidence for prospect theory and extending its problem framing assumption.
4. Providing an empirical evidence for Hofstede's cultural framework.
5. Measuring cultural value scores of the participants and identifying their cultures' cultural profiles.

In sum, the major objective of this dissertation is to explore how culture and problem framing influence people's decision-making behaviour. The proposed model was largely supported in an empirical and cross-cultural testing.

7.2 Limitations and Future Research

Studies of this type usually encounter a number of limitations, and this study was no exception. There are several limitations to the current study that should be noted. These limitations along with the current study's findings highlight opportunities and suggest directions for future research.

First, when risky decision-making behaviour is under investigation, there are some other important variables deserve research attention such as gender, working experience, arena of decision, and organizational culture. In fact, risky decision making behaviour is very complex and complicated issue that is caused by large set of variables

that can not be handled in one research. One of these variables that future research should address is gender. Gender differences has been found in many management issues. Gender differences has been also assumed to have an important effect on risky behaviour. Fagley and Miller (1997), for instance, found that problem framing affected choice among women but not among men. Another study by Kowert and Hermann (1997) found that male participants were much more likely to indicate a preference for risk than were female participants. However, their study focused only on the effect of problem framing on risky choice while neglected the other aspects of risky decision-making behaviour. Therefore, more theoretical deliberation on gender effects is needed and future research will need to continue to explore the basis of sex differences in risky decision making behaviour. The proposed model in the current study can be used to explore the effect of gender differences on risky decision-making behaviour.

Future research also could examine the role of working experience. Decision-makers with a long working experience might take more or less risks than those who have short or no working experience. Although the majority of participants in the current study have working experience, and such demographic information had been collected from all participants across the five countries, the proposed model did not include working experience. The purpose behind collecting such information was ensuring comparability of the study's samples and seeking generalability of the study's finding.

Arena of decisions is another variable that might encounter for differences in risky decision making behaviour. Fagley and Miller (1997), for instance, found that the arena of the outcomes had a large impact on the number of risky choices that their participants made. They found that, regardless of framing condition (positive or negative), more risky choices were made regarding human lives than money. Although these two different arenas of problem, human lives and money were included in the current study along with a business problem, the problem framing influence was robust on choices across these three arenas. Therefore, arena differences findings in the current study need to be replicated with additional samples and decision problems. Moreover, researchers will need to determine which features of arena affect risky decision-making behaviour. Decision-makers may be willing to accept different trade-offs depending on

the arena of the outcomes and, moreover, what is socially acceptable may also differ depending on the arena of outcome.

Organisation's cultural orientation toward risk is another important factor that has been suggested as influencing decision-makers' risky behaviour (March and Shapira, 1987; Sitkin and Pablo, 1992; Sitiken and Weingart, 1995). When the outcomes of risky decisions are rewarded or punished, or the willingness to take risks is encouraged or discouraged is part of risky decision-making behaviour. Since the proposed model is a cultural model, it can be used to test this variable using multinational organisations such that Hofested used in his research.

In the future, researchers should begin to examine the effects of these four important variables; gender differences, working experience, arena differences, and organizational culture, and should take into account the other variables that are of potential relevance to risky decision-making behaviour. The proposed model can be applied to test such variables in future research.

Second, another limitation to the current study is that the decisions were hypothetical in that participants would not experience any actual consequences of their decisions. This raises the question that their motivation or involvement in decisions was less than it would have been if the problems had been "real," affecting their decisions. Maintaining participants' interest and motivation was taken into consideration in limiting the number of problems to three and in including business problem. Although the use of hypothetical problems is the norm in research on decision making, it has been an issue of continuing concern. Recently, Wiseman and Levin (1996) and Schoemaker (1990) reported some encouraging results showing no difference between choice patterns having real and hypothetical consequences. Furthermore, Warneryd (1996) has argued that it seems fair to say that questions involving hypothetical risky choices can be used in survey contexts. Nevertheless, additional research is needed to clarify when responses to hypothetical decisions and real decisions are similar or dissimilar. Because the previous research used hypothetical problems, as well as the apparent usefulness and

decision problems.

Third, most respectable research reports end with a call for more research, and in the case of the current study such call is absolutely essential. The current study is mostly discovering research and the proposed model and the study's findings are mostly new. These, therefore, imply a need for replications to further prove the accuracy of the proposed model and to ensure the findings and theoretically enrich the literature.

Fourth, seeking far more generalizability, the proposed model should be tested using participants from other different cultures from those included in the current study. In testing the proposed model, this dissertation included five different cultures: two cultures from far East; China and Japan, two cultures from middle East; Libya and Turkey, one culture from far West; Canada. Other different cultures from other different parts of the world are, absolutely, needed to be included in replication studies in the future, such as West and East European countries, Latin-American countries, and West and East African countries. Such countries were found to have different cultural profiles from those that included in the current study (Hofstede, 1984 and 1994). These differences in cultural profiles necessitate replication studies using samples drawn from such cultures.

Finally, as the value scores of the participants have been assessed and their cultural profiles have been identified, future researchers may be able to establish their samples' similarity to, or difference from, the current sample and, thus, make cross comparisons more meaningful.

The future research directions reported here are essential and important for improving our understanding of risky decision-making behaviour and for enriching literature theoretically and empirically.

7.3 Practical and Theoretical Implications

The findings reported in this dissertation have several practical and theoretical implications. These implications are summarised in following two sections.

7.3.1 Practical Implications

The dissertation has reported findings that have several important managerial implications in the real business environment. For example, the dissertation's findings are important for practical managers, multinational organisations, and executive education programs.

First, the finding of this study have crucial implications for practicing managers that can be extended in future research as well. The finding that risk perception and problem framing affect their decisions provides an opportunity to more efficiently predict individual risk behaviour of themselves and of their subordinates. This implication implies that managers who wish to either increase or decrease the risks taken by subordinates or peers can most effectively target their efforts toward problem framing to affect the ways of approaching the inherent risks involved in decisions.

Second, the findings reported in this study also have important implications for organisations especially multinational organisations and joined ventures. The implications for practicing managers reported above are applicable for organisations as well. Innovations, new market, new products, integration and liquidation are risky situations that face most of the organisations around the world in unstable economic and political environments. Facing these situations and others necessitates making risky decisions. Organisations working in such environments would benefit from the current study's findings. The finding that risk perception and problem framing affect the decisions that managers make can help organisations that want to develop risky behaviour of their executives especially in top management level, and to encourage them to make risky decisions. Multinational organisations and joint ventures can also use such findings in hiring process especially when hiring managers from other cultures. In

such organisations, negotiations, teamwork, and group decision making are more likely to be performed cross-culturally. The findings facilitate human resource managers to assess applicants' risky behaviour, especially that are inherited from one's culture.

Third, another important and crucial implication for the findings of this study is for instructors. Instructors and teachers in executive programs also could use the findings reported in the current study when designing programs and curriculum for executives. The finding that problem framing moderate decision makers' risk perception can be used in designing decision problem to encourage executives to take risk and make risky decisions. It also can be used to make executives aware of framing effects on their risk perception and, in turn, on their willingness of taking risk.

7.3.2 Theoretical Implications

Beside the future research directions that are mentioned earlier, this study's findings also addressed some important issues in the risky decision making research and to link together the research in various fields. There are a number of research opportunities available to those interested in cross-cultural research and the following are intended to be examples. The proposed model can be readily adapted to organisational behaviour and conflict management for research on organisational risky behaviour. They can also facilitate human-resource management researchers to address such issues as compensation and rewards management. Risk management, strategic planning, and comparative management are other fields of inquiry that can benefit from the proposed model and the findings of this dissertation.

It is hoped that this dissertation's findings would be helpful to the researches of these fields of study and of others as well.

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APPENDIX A.

MEASUREMENTS

Variable	Measurement	Adopted from	In the Questionnaire
Cultural Values	The Values Survey Module (VSM) Part of Chinese Values Survey (CVS)	Hofstede (1984) The Chinese Culture Connection (1987)	From Q. 1 to Q. 19 From Q. 20 to Q. 27
Problem Framing	1. Business-related problem (Car-manufacturer crisis)	Messick & Bazerman (1996)	Q. 28 (Problem (1))
	2. Endangered-life problem (Asian-decease problem)	Tversky & Kahneman (1981 & 1986)	Q. 34 (Problem (2))
	3. Monetary problem (Gambling problem)	Tversky & Kahneman (1981 & 1986)	Q. 35 (Problem (3))
	4. Endangered-life problem (Crowded-city problem)	(partly) Adler (1991) (partly) this author	Q. 36 (Problem (4))
Risk Perception	Four-item scale	MacCrimmon & Wehrung (1985)	From Q. 29 to Q.32
Preference for Decision making Style	Four-style descriptions	Hofstede (1984) with some changes by this author	Q. 33
Demographic Data	Age, Sex, Working experience, Nationality		From Q. 37 to Q. 40

APPENDIX B.
The English Version of the Questionnaire
(Positive and Negative Frames)

Dear student

Thank you for participating in this study. This research is about cultural differences in decision making. As you know not all people is the same. They may hold different values and believes and, therefore, may act differently. Your answers to this questionnaire will provide me a great help to discover such differences.

This is not a test and there are no right or wrong answers. However, your true thoughts and feelings are the best answers. So please answer all the questions independently. I will personally guarantee that your responses will be anonymous, kept strictly confidential, and used only for academic research.

I sincerely thank you for your time and cooperation.

Nagia BOUAZZI
Ph.D candidate

Section 1

Please think of an ideal job -disregarding your present job. In choosing an ideal job, how important would it be to you to
(Please indicate your answer in the right place using the following scale)

1-----2-----3-----4-----5
utmost important very important moderate importance little important very little or no importance

- () 1. Have sufficient time left for your personal or family life?
- () 2. Have challenging tasks to do, from which you can get a personal sense of accomplishment?
- () 3. Get the recognition you deserve when you do a good job?
- () 4. Have good physical working conditions (good ventilation and lighting, adequate work space, etc.)?
- () 5. Have a good working relationship with your direct superior?
- () 6. Have considerable freedom to adopt your own approach to the job?
- () 7. Work with people who cooperate well with one another?
- () 8. Fully use your skills and abilities on the job?
- () 9. Live in an area desirable to you and your family?
- () 10. Have an opportunity for high earning?
- () 11. Have an opportunity for advancement to higher level job?
- () 12. Have training opportunity to improve your skills or learn new skills?
- () 13. Have the security that you will be able to work for the company as long as you want to?

14. How often do you feel nervous or tense at work?

1-----2-----3-----4-----5
Always usually sometimes seldom never feel this way.

15. Company or organization's rules should not be broken –even when the employee thinks it is in the company's best interest.

1-----2-----3-----4-----5
strongly agree agree undecided disagree strongly disagree

16. How frequently, in your work environment, are subordinates afraid to express disagreement with their superior?

1-----2-----3-----4-----5
Very frequently Frequently Sometimes Seldom Very seldom

17. How long do you think you will continue working for your company or organization?

() Two years at most. () From 2 to 5 year. () More than 5 years. () Until I retire.

Manager 1. Usually makes his/her decisions and expects his subordinates to carry out the decisions loyally and without raising difficulties.

Manager 2. Usually consults with his/her subordinates, listens to their advice and considers it, and then he/she makes his/her decision which may or may not reflect the subordinates' advice.

Manager 3. Usually calls a meeting of his/her subordinates when there is an important decision to be made to discuss the problem together. He/she accepts the majority viewpoint as the decision

Manager 4. Usually delegates the decision to be made to the right person of his/her subordinates to make his/her decision.

Manager 2. Usually consults with his/her subordinates, listens to their advice and considers it, and then he/she makes his/her decision which may or may not reflect the subordinates' advice.

Manager 3. Usually calls a meeting of his/her subordinates when there is an important decision to be made to discuss the problem together. He/she accepts the majority viewpoint as the decision

Manager 4. Usually delegates the decision to be made to the right person of his/her subordinates to make his/her decision.

☐ Manager 1. ☐ Manager 2. ☐ Manager 3. ☐ Manager 4.

() Manager 1. () Manager 2. () Manager 3. () Manager 4. () Non of them

1-----2-----3-----4-----5-----6-----7-----8-----9
of no importance at all of moderate importance of supreme importance

- () 20. Reciprocation of greetings, favors, and gifts.
- () 21. Ordering relationships by status and observing this order.
- () 22. Personal steadiness and stability.
- () 23. Thrift
- () 24. Persistence (Perseverance)
- () 25. Having a sense of shame
- () 26. Protecting your face
- () 27. Respect for tradition

Please read the following problems and indicate your answers to the questions followed by.

- () Plan A, if adopted, will save one of the three plants and 2,000 jobs.
- () Plan B, if adopted, has a 1/3 probability of saving all three plants and all the jobs, but has a 2/3 probability of saving no plants and no jobs.

215

How would you characterize the decision faced by the manufacturer?
(Please indicate your answer on the following three scales)

29. Significant opportunity 1—2—3—4—5—6—7 significant threat

30. potential for loss 1—2—3—4—5—6—7 potential for gain

31. positive situation 1—2—3—4—5—6—7 negative situation

32. What is the likelihood of the manufacturer succeeding in avoiding the crisis?
very unlikely 1—2—3—4—5—6—7 very likely

33. What is your advice to the president of this manufacture to make his/her decision to avoid the crisis?

- () 1. He/she should consider and analyse both plans and then make his/her choice and announce his/her decision.
- () 2. He/she should consult his/her subordinates before reaching his/her decision. Listen to their advice and consider it. Then he/she makes his/her decision and announces it.
- () 3. He/she should call a meeting to discuss and analyse the two plans together with his/her subordinates. Then together make the majority decision.
- () 4. He/she should delegate the problem to the right person of his/her subordinates (e.g. vice president of production) to make his/her own decision.

Problem (2) Imagine that USA is preparing for the outbreak of an unusual Asian disease, which is expected to kill 600 people. Two alternatives programs to combat the disease have been proposed. Assume that the exact scientific estimates of the consequences of the programs are as follows

- () If program A is adopted, 200 people will be saved.
 - () If program B is adopted, there is 1/3 probability that 600 people will be saved, and 2/3 probability that no people will be saved.
34. Which of the two programs would you favour?

Problem (3) Assume yourself richer by \$300 than you are today. You have to choose between

- () A. A sure gain of \$100
 - () B. 50% chance to gain \$200, and 50% chance to gain nothing
35. Which one would you choose?

Problem (4) New York is very crowded city, to help people to be on time for their work, and schools, two alternatives are suggested

- () A. Improving traffic control mechanisms.
 - () B. Using flying cars and monorails.
36. Which of the two alternatives would you favour?

Section 3

For the purpose of this research, please answer the following questions:

- 37. Are you Male () or Female ()?
- 38. How old are you? -----
- 39. What 's your nationality? -----
- 40. Do you have work experience? Yes () For how long? -----
No ()



Section 2 (Negative-Frame Sample)

Please read the following problems and indicate your answers to the questions followed by.

Problem (1) A large car manufacturer has recently been hit with a number of economic difficulties. It seems that it needs to close three plants and lay off 6000 employees. The vice president of production, who has been exploring alternative ways to avoid the crisis, has developed two plans which one of them must be chosen.

- () Plan C, if adopted, will result in loss of two of the three plants and 4,000 jobs.
- () Plan D, if adopted, has a $\frac{2}{3}$ probability of resulting in the loss of all three plants and all 6,000 jobs, but has a $\frac{1}{3}$ probability of losing no plants and no jobs.

28. Which plan would you select? .

How would you characterize the decision faced by the manufacturer?
(Please indicate your answer on the following three scales)

29. Significant opportunity 1-----2-----3-----4-----5-----6-----7 significant threat
30. potential for loss 1-----2-----3-----4-----5-----6-----7 potential for gain
31. positive situation 1-----2-----3-----4-----5-----6-----7 negative situation

32. What is the likelihood of the manufacturer succeeding in avoiding the crisis?
very unlikely 1-----2-----3-----4-----5-----6-----7 very likely

33. What is your advice to the president of this manufacture to make his/her decision to avoid the crisis?

- () 1. He/she should consider and analyse both plans and then make his/her choice and announce his/her decision.
- () 2. He/she should consult his/her subordinates before reaching his/her decision. Listen to their advice and consider it. Then he/she makes his/her decision and announces it.
- () 3. He/she should call a meeting to discuss and analysis the two plans together with his/her subordinates. Then together make the majority decision.
- () 4. He/she should delegate the problem to the right person of his/her subordinates (e.g. vice president of production) to make his/her own decision.

Problem (2) Imagine that USA is preparing for the outbreak of an unusual Asian disease, which is expected to kill 600 people. Two alternatives programs to combat the disease have been proposed. Assume that the exact scientific estimates of the consequences of the programs are as follows

- () If program C is adopted, 400 people will die.
- () If program D is adopted, there is $\frac{1}{3}$ probability that nobody will die, and $\frac{2}{3}$ probability that 600 people will die.

34. Which of the two programs would you favour?

Problem (3) Assume yourself richer by \$500 than you are today. You have to choose between

☐ C. A sure lose of \$100

☐ D. 50% chance to loss nothing and 50% chance to lose \$200.

35. Which one would you choose?

Problem (4) New York is very crowded city. It has very high rate of car-accident death every year which risks people life. To minimise the risk that people face in this city, two alternatives are suggested

☐ C. Improving traffic control mechanisms.

☐ D. Using flying cars and monorails.

36. Which of the two alternatives would you favour?



APPENDIX C.

The Turkish Version of the Questionnaire (Positive and Negative Frames)

Sevgili öğrenciler ,

Bu çalışmaya katıldığınız için teşekkür ederim . Bu çalışma karar vermedeki kültür farklılıklarına aittir . Bildiğiniz gibi bütün insanlar aynı değildir . Değişik değerleri ve inançları olduğundan farklı davranabilirler. Cevaplarınız bu farklılıkları anlamamda bana yardımcı olacaktır.

Bu bir sınav değildir. Doğru veya yanlış cevaplar yoktur. Sizin gerçek düşünce ve hisleriniz en iyi cevaptır. Bu yüzden lütfen soruları bağımsız olarak yanıtlayınız. Cevaplarınızı kesinlikle gizli tutacağımı ve sadece akademik çalışmam için kullanacağımı kişisel olarak garanti ederim.

Zaman ayırdığınız ve iş birliğiniz için çok teşekkür ederim.

**Nagia BOUAZZI
Doktor Adayı**

Bölüm 1

Şu andaki işinizi dikkate almadan ideal işi düşününüz. Aşağıdaki ifadeler ideal işi seçmede sizin için ne denli önemlidir?

(Lütfen cevabınızı aşağıdaki cetveli kullanarak belirtiniz.)

1-----2-----3-----4-----5
son derece önemli çok önemli orta derece önemli az önemli pek az önemli veya önemsiz

- () 1.Kişisel veya aile hayatınız için zaman kalması
- () 2.Kişisel başarı hissi duyabileceğiniz zorlayıcı işler
- () 3.İyi bir iş yaptığınızda hak ettiğiniz takdiri almak
- () 4.İyi fiziksel çalışma şartları (Yeterli çalışma alanı, havalandırma ve aydınlatma)
- () 5.Patronunuzla iyi iş ilişkileri
- () 6.Görüşlerinizi işinizde uygulama özgürlüğünün tanınması
- () 7.Birbirleriyle uyumlu çalışan insanlarla birlikte çalışmak
- () 8.Yeteneklerinizi ve becerilerinizi tam olarak kullanmak
- () 9.Aileniz ve sizin için uygun bir yerde yaşamak
- () 10.Yüksek kazanç için fırsat
- () 11.Daha yüksek düzeyde bir iş için ilerleme fırsatı
- () 12.Yeteneklerinizi geliştirmek veya yeni beceriler kazanmak için eğitim fırsatı
- () 13.İş yerinizde istediğiniz sürece çalışma güvencesi

14.İşinizde ne kadar sıklıkta kendinizi sinirli veya baskı altında hissediyorsunuz?

1-----2-----3-----4-----5
her zaman genellikle bazen arada sırada hiç bir zaman

15.Firma yararına olduğuna inansanız dahi firma kuralları hiçbir zaman bozulmamalıdır.

1-----2-----3-----4-----5
kesinlikle katılıyorum katılıyorum kararsız katılmıyorum kesinlikle katılmıyorum

16.İş yerinizde astlar üstlerine fikirlerini söylemekten çekiniyorlar.

1-----2-----3-----4-----5
çok sık sık sık bazen arada sırada nadiren

17.Firmanız için ne kadar süre çalışacağınızı düşünüyorsunuz?

() En fazla 2 yıl () 2-5 yıl arası () 5 yıldan fazla () Emekli oluncaya kadar

Aşağıdaki tanımlar dört ayrı yöneticiye aittir. Lütfen tanımları dikkatle okuyunuz.

Yönetici 1 : Kendi kararlarını verir ve astların hiçbir zorluk çıkarmadan bunlara uymasını bekler.

Yönetici 2 : Genellikle astlarına danışır , öğütlerini dinler ve dikkate alır. Daha sonra bunlara uygun veya uygun olmayan bir şekilde karar verir.

Yönetici 3 : Önemli bir karar verileceği zaman toplantı yapıp problemi tartışır ve çoğunluğun kararını benimser.

Yönetici 4 : Genellikle verilecek kararlar için uygun gördüğü astlara yetki verir.

18. Yukarda belirtilen yöneticilerden hangisi ile çalışmayı tercih edersiniz?

() Yönetici 1 () Yönetici 2 () Yönetici 3 () Yönetici 4

19. Sizin yöneticiniz yukardaki yöneticilerden en çok hangisine benziyor?

() Yönetici 1 () Yönetici 2 () Yönetici 3 () Yönetici 4 () Hiç biri

Aşağıdaki kavramlardan hangisi sizin için önemlidir?

1-----2-----3-----4-----5-----6-----7-----8-----9
Hiç önemli yok orta derecede önemli çok önemli

- () 20. İyi dilek , ilgi ve armağanların karşılıklı olması
() 21. İlişkileri statüye göre düzenlemek ve bu düzene saygı göstermek
() 22. Kişisel kararlılık ve denge
() 23. Tutumluluk
() 24. Amaca ulaşmak için sürekli ve düzenli çaba
() 25. Utanç duygusuna sahip olma
() 26. Saygınlığı koruma
() 27. Geleneklere saygı

Bölüm 2 (Positive-Frame Sample)

Lütfen aşağıdaki problemleri okuyunuz ve devamındaki sorulara cevabınızı belirtiniz.

Problem (1)

Büyük bir otomobil imalatçısı son zamanlarda birçok ekonomik zorluklarla karşılaştı. 3 fabrikasını kapatarak 6000 işçisini işten çıkarması gerekecek gibi görünüyor. Krizi önlemek için alternatif yollar arayan üretim müdür yardımcısı 2 plan yaptı ve bunlardan birisinin seçilmesi gerekiyor.

- () Plan A, eğer seçilirse fabrikalardan birisini ve 2000 işçinin işi kurtarılacak.
() Plan B, eğer seçilirse bütün işçilerin işini ve 3 fabrikayı kurtarma şans oranı 1/3 ama bütün işçilerin işini kaybetme ve bütün fabrikaları kaybetme şans oranı 2/3.

28. Hangi planı seçerdiniz?

İmalatçının yüz yüze geldiği kararı nasıl karakterizelendirirsiniz?

(Lütfen cevabınızı aşağıdaki 3 cetvelde belirtiniz.)

29. Önemli fırsat 1-----2-----3-----4-----5-----6-----7 Önemli tehlike

30. Kayıp için potansiyel 1-----2-----3-----4-----5-----6-----7 Kazanç için potansiyel

31. Pozitif durum 1-----2-----3-----4-----5-----6-----7 Negatif durum

32. İmalatçının krizi önlemesi için başarı durumu nedir?

Hiç iyi değil 1-----2-----3-----4-----5-----6-----7 Çok iyi

33. İmalatçı başkanına krizi önlemesi için vereceği karara tavsiyeniz nedir?
- () 1.O, her iki planı da analiz ettikten sonra karar vermeli ve kararını açıklamalı.
 - () 2.O, kararını vermeden önce kendi altında çalışan kişilere danışmalı. Onların tavsiyelerini dinlemeli ve dikkate almalı. Daha sonra karar vererek kararını açıklamalı.
 - () 3.O, altında çalışan kişilerle bir toplantı düzenleyerek her iki planı onlarla birlikte analiz etmeli. Daha sonra hep birlikte büyük kararı vermeliler.
 - () 4.O, altında çalışan birisini (Örneğin başkan yardımcısı) problem hakkında karar vermek için görevlendirmeli.

Problem (2)

Türkiye’de benzeri olmayan bir bulaşıcı hastalığın başlayacağını ve bunun da 600 kişiyi öldüreceği tahmin edildiğini düşünün. Hastalığa karşı savaşmak için 2 alternatif program teklif edildi. Programların sonuçlarının bilimsel tahminlerinin aşağıda belirtildiği gibi olduğunu varsayın:

- ()Eğer program A seçilirse, 200 kişi kurtarılacak.
- ()Eğer program B seçilirse, 600 kişinin kurtarılacağını şans oranı 1/3 ve hiç kimsenin kurtarılamayacağı şans oranı 2/3.

34.İki programın hangisini seçerdiniz?

Problem (3)

Bugün olduğunuzdan 300 dolar daha zengin olduğunuzu varsayın. Aşağıdakilerden birisini seçmelisiniz:

- ()A. 100 dolar garanti kazanç
- ()B. %50 200 dolar kazanma şansı, ve %50 hiçbir şey kazanmama şansı

35.Hangisini seçerdiniz?

Problem (4)

İstanbul çok kalabalık bir şehirdir. İnsanların işe ve okullara geç kalmaması için 2 alternatif tavsiye edilmiştir:

- ()A.Trafik kontrol mekanizmasını geliştirmek.
- ()B.Uçan arabalar ve monoray sistemi kullanmak.

36.İki alternatiften hangisini seçersiniz?

Bölüm 3

Bu anket için lütfen aşağıdaki soruları cevaplayınız:

37. Cinsiyetiniz : Erkek () Bayan ()
38. Kaç yaşındasınız?
39. Uyuşgunuz nedir?
40. İş tecrübeniz var mı? Evet () Süresi:
Hayır ()

Bölüm 2 (Negative-frame Sample)

Lütfen aşağıdaki problemleri okuyunuz ve devamındaki sorulara cevabınızı belirtiniz.

Problem (1)

Büyük bir otomobil imalatçısı son zamanlarda birçok ekonomik zorluklarla karşılaştı. 3 fabrikasını kapatarak 6000 işçisini işten çıkarması gerekecek gibi görünüyor. Krizi önlemek için alternatif yollar arayan üretim müdür yardımcısı 2 plan yaptı ve bunlardan birisinin seçilmesi gerekiyor.

- () Plan C, eğer seçilirse 3 fabrikanın 2'si ve 4000 işçinin işi kaybolacak.
- () Plan D, eğer seçilirse 3 fabrikayı ve 6000 işçinin işini kaybetme şans oranı $2/3$ ama hiçbir işçinin işini kaybetmemesi ve hiçbir fabrikanın kapanmaması şans oranı $1/3$ 'tür.

28. Hangi planı seçerdiniz?

İmalatçının yüz yüze geldiği kararı nasıl karakterizelendirirsiniz?
(Lütfen cevabınızı aşağıdaki 3 cetvelde belirtiniz.)

29. Önemli fırsat 1—2—3—4—5—6—7 Önemli tehlike
30. Kayıp için potansiyel 1—2—3—4—5—6—7 Kazanç için potansiyel
31. Pozitif durum 1—2—3—4—5—6—7 Negatif durum

32. İmalatçının krizi önlemesi için başarı durumu nedir?

Hiç iyi değil 1—2—3—4—5—6—7 Çok iyi

33. İmalatçı başkanına krizi önlemesi için vereceği karara tavsiyeniz nedir?

- () 1. O, her iki planda analiz ettikten sonra karar vermeli ve kararını açıklamalı.
- () 2. O, kararını vermeden önce kendi altında çalışan kişilere danışmalı. Onların tavsiyelerini dinlemeli ve dikkate almalı. Daha sonra karar vererek kararını açıklamalı.
- () 3. O, altında çalışan kişilerle bir toplantı düzenleyerek her iki planı onlarla birlikte analiz etmeli. Daha sonra hep birlikte büyük kararı vermeliler.
- () 4. O, altında çalışan birisini (Örneğin başkan yardımcısı) problem hakkında karar vermek için görevlendirmeli.

Problem (2)

Türkiye'de benzeri olmayan bir bulaşıcı hastalığın başlayacağını ve bunun da 600 kişiyi öldüreceği tahmin edildiğini düşünün. Hastalığa karşı savaşmak için 2 alternatif program teklif edildi. Programların sonuçlarının bilimsel tahminlerinin aşağıda belirtildiği gibi olduğunu varsayın:

- () Eğer program C seçilirse, 400 kişi ölecek.
- () Eğer program D seçilirse, hiç kimsenin ölmeyeceği şans oranı $1/3$ ve herkesin öleceği şans oranı $2/3$.

34. İki programın hangisini seçerdiniz?

Problem (3)

Bugün olduğunuzdan 500 dolar daha zengin olduğunuzu varsayın. Aşağıdakilerden birisini seçmelisiniz:

()C. 100 dolar kaybetme garantisi

()D. %50 hiçbir şey kaybetmeme şansı ve %50 200 dolar kaybetme şansı.

35. Hangisini seçerdiniz?

Problem (4)

İstanbul çok kalabalık bir şehir. İnsanların hayatını riske sokan yüksek seviyede araba kazasından ölümler vardır. Bu şehirde yaşayan insanların yüz yüze geldiği bu riskleri azaltmak için 2 alternatif tavsiye edilmiştir:

()A. Trafik kontrol mekanizmasını geliştirmek.

()B. Uçan arabalar ve monoray sistemi kullanmak.

36. İki alternatiften hangisini seçersiniz?



APPENDIX D.

The Arabic Version of the Questionnaire (Positive and Negative Frames)

اخي الطالب أختي الطالبة

أشكرك علي المشاركة في هذه الدراسة التي تناقش الاختلاف بين الأفراد في عملية اتخاذ القرارات الإدارية. فكما هو معلوم فإن الناس تختلف فيما بينها باختلاف قيمهم ومعتقداتهم وأفكارهم. تبعاً لذلك فإن تصرفاتهم وسلوكهم تختلف وتباين. إجاباتك علي هذا الاستبيان سيقدم لي مساعدة كبيرة في إيجاد و تحليل مثل هذه الاختلافات خاصة في عملية اتخاذ القرارات.

إن هذا ليس بامتحان. فليس هناك إجابات صحيحة أو خاطئة. ولكن صدق أفكارك و مشورك و أنت تجيب علي هذا الاستبيان هي افضل إجابة. لذلك أرجو الإجابة بصدق علي كل الأسئلة و بشكل فردي وأنا أتعهد شخصياً بسرية كل الإجابات و عدم استخدامها إلا لأغراض علمية.

شكراً جزيلاً علي حسن تعاونكم.

الفقرة الأولى

فكر في وظيفة مثالية و ذلك بعض النظر عن وظيفتك الحالية. في اختيارك لهذه الوظيفة المثالية, ما أهمية الأمور التالية بالنسبة لك؟ (أرجو توضيح أجابتك في المكان المخصص لذلك مستخدما المقياس التالي)

1 2 3 4 5
مهم للغاية مهم جدا متوسط الأهمية قليل الأهمية قليل الأهمية أو لا أهمية له

- () 1. أن يكون لديك وقت كافٍ لحياتك الخاصة ولأسرتك.
- () 2. القيام بأعمال صعبة و التي تشعرك بأهمية ما قمت يا بنجازه.
- () 3. أن تجد التقدير الذي تستحقه عند القيام بعمل جيد.
- () 4. العمل في ظروف بيئية مناسبة (مثل التهوية, الإضاءة, سعة مكان العمل, ..).
- () 5. تكوين علاقة جيدة مع رئيسك المباشر.
- () 6. أن تكون لديك الحرية الكافية في اختيار أسلوب العمل المناسب.
- () 7. العمل مع أشخاص متعاونين و متفهمين فيما بينهم.
- () 8. أن تستخدم كل قدراتك و مهاراتك في العمل.
- () 9. الإقامة في المنطقة أو المدينة التي تفضلها أنت و أسرتك.
- () 10. الفرصة في كسب دخل عالي.
- () 11. فرصة الترقية لمستوي وظيفي أعلي.
- () 12. فرصة التدريب لتحسين مهاراتك أو لاكتساب مهارات جديدة.
- () 13. ضمان استمرارية العمل مع الجهة العمل للفترة التي ترغب فيها.
14. مدى تكرار شعورك بالتوتر أو القلق في العمل؟

1 2 3 4 5

دائما عادتا أحيانا نادرا لم اشعر بذلك أبدا

15. لوائح وقوانين جهة العمل يجب عدم تجاوزها حتى لو شعر الموظف بان ذلك في مصلحة جهة العمل.

1 2 3 4 5

موافق جدا موافق لا اعرف غير موافق غير موافق على الإطلاق

16. في محيط عملك, ما مدى تكرار حدوث خشية أو خوف الموظفين من الإفصاح عن معارضتهم لأفكار أو أسلوب عمل رؤسائهم في العمل؟

1 2 3 4 5

كثيرا جدا كثيرا أحيانا نادرا نادرا جدا

17. في اعتقادك، الى متى ستستمر في العمل مع الشركة أو المنظمة التي تعمل معها الآن؟
() ستان على الأكثر () من 2-5 سنوات () أكثر من 5 سنوات () حتى التقاعد

الفقرات التالية تصف أربعة أنواع مختلفة من المدراء، إقرأ هذه الأوصاف أولاً.

المدير (1) : عاداتاً ما يتخذ قراراته بنفسه و يتوقع من الموظفين التابعين له تنفيذها بكل إخلاص و بدون مشاكل أو صعوبات.

المدير (2) : عاداتاً ما يتشاور مع الموظفين التابعين له، يستمع الى نصائحهم وأفكارهم ويأخذها بعين الاعتبار. ثم يتخذ قراره الذي قد يعكس أو قد لا يعكس نصائحهم وأفكارهم.

المدير (3) : عاداتاً ما يعقد اجتماعاً بموظفيه عندما يكون هناك قراراً مهماً يجب اتخاذه لمناقشة موضوع القرار بشكل جماعي و الوصول الى قرار جماعي.

المدير (4) : عاداتاً ما يفوض الموظف المختص من بين الموظفين التابعين له لاتخاذ القرار المناسب.

18. الآن، أي نوع من أنواع المدراء السابق ذكرهم تفضل العمل معه؟

() المدير 1 () المدير 2 () المدير 3 () المدير 4

19. و أي نوع من أنواع المدراء السابق ذكرهم يصف مديرك المباشر تقريباً؟

() المدير 1 () المدير 2 () المدير 3 () المدير 4 () ولا واحداً منها

ما أهمية المفاهيم التالية بالنسبة لك شخصياً؟ (مستخدماً المقياس التالي).

1 2 3 4 5 6 7 8 9

غير مهم إطلاقاً متوسط الأهمية الأكثر أهمية على الإطلاق

() 20. تبادل التحيّة و الهدايا و رد الجميل.

() 21. ترتيب العلاقات حسب المراكز و مراقبة هذا الترتيب.

() 22. الاستقرار والثبات الشخصي.

() 23. الادخار.

() 24. المثابرة و الإصرار.

() 25. الشعور بالحياء.

() 26. حفظ ماء الوجه.

() 27. احترام العادات و التقاليد.

الفقرة الثانية

(Positive Frame)

يرجى قراءة المشاكل التالية واختيار الحلول المناسبة لها من بين البدائل المتاحة.

المشكلة (1)

تعرضت حديثا شركة كبيرة لتصنيع السيارات الى العديد من الصعوبات الاقتصادية. و يبدو أن هناك حاجة الى إغلاق 3 من مصانع هذه الشركة و تسريح 6000 عامل. توصل نائب الرئيس لشتون الإنتاج الى عدة بدائل لتخطي هذه الأزمة. وقد تمكن من اقتراح خطتان بديلتان يجب على الشركة اختيار أحدهما:

() الخطة أ , إذا ما تم اختيارها , ستؤدي إلى الإبقاء على أحد هذه المصانع و 2000 وظيفة.

() الخطة ب, إذا ما تم اختيارها , هناك احتمال 1/3 إنما ستؤدي الى الإبقاء على المصانع الثلاثة و

على كل الوظائف, ولكن هناك احتمال 2/3 انه ستؤدي إلى عدم الإبقاء على أي من المصانع

أو أي الوظائف.

28. أي من الخطتين تختار؟

كيف تصف قرار الاختيار الذي تواجهه الشركة ؟ (يرجى توضيح الإجابة باستخدام المقاييس الثلاثة التالية)

29. فرصة كبيرة 1.....2.....3.....4.....5.....6.....7 خطر كبير

30. خسارة محتملة 1.....2.....3.....4.....5.....6.....7 كسب محتمل

31. حالة إيجابية 1.....2.....3.....4.....5.....6.....7 حالة سلبية

32. ما مدى احتمال نجاح الشركة في تخطي هذه الأزمة؟

من غير المحتمل 1.....2.....3.....4.....5.....6.....7 محتمل جدا

33. بماذا تنصح رئيس الشركة حول كيفية اتخاذ القرار المناسب لمعالجة الأزمة؟

() 1. يفترض أن يقوم بدراسة وتحليل الخطتين البديلتين و اختيار الأفضل و إعلان ذلك القرار للجميع.

() 2. يفترض أن يقوم باستشارة موظفيه قبل اتخاذ أي قرار. يستمع الى نصائحهم و أخذها بعين الاعتبار ثم

يقوم باتخاذ القرار الذي يراه هو مناسباً و إعلانه للجميع.

() 3. يفترض أن يقوم بعقد اجتماع لمناقشة و تحليل الخطتين المقترحتين مع موظفيه بشكل جماعي ثم اتخاذ

رأى الأغلبية على انه القرار المناسب.

() 4. يفترض أن يقوم بتفويض الموظف المختص والمناسب (نائب الرئيس لشتون الإنتاج مثلا) لاتخاذ القرار

المناسب لتخطي الأزمة.

المشكلة (2)

تستعد ليبيا لشن حملة على مرض آسيوي نادر والذي من المتوقع ان يقضي على حياة 600 شخص. و للقضاء على هذا المرض تم اقتراح برنامجين بديلين. التوقعات العلمية لعواقب هذين البرنامجين كانت على النحو التالي:

() إذا تم اختيار البرنامج أ , سيتم إنقاذ حياة 200 شخص.

() إذا تم اختيار البرنامج ب, هناك احتمال $1/3$ انه سيتم إنقاذ 600 حياة شخص.

و احتمال $2/3$ انه لن يتم إنقاذ حياة أحد منهم.

34. أي من البرنامجين تفضل؟

المشكلة (3)

افترض انك أغنى بمقدار 300 دينار مما أنت عليه الآن و عليك أن تختار ما بين

() أ. ربح مؤكد لمبلغ 100 دينار.

() ب. فرصة 50% لربح 200 دينار و 50% لربح لاشيء.

35. أي من الخيارين تفضل؟

المشكلة (4)

طرابلس مدينة مزدحمة جدا و لمساعدة سكانها على الوصول الى أعمالهم و مدارسهم في الأوقات المحددة لذلك, تم تقديم المقترحين التاليين:

() أ. تحسين آلية التحكم في حركة المرور.

() ب. استخدام السيارات الطائرة و القطارات أحادية الاتجاه.

36. أي من المقترحين تفضل؟

الفقرة الثالثة

لأغراض علمية, يرجى استيفاء البيانات التالية:

37. الجنس: () ذكر () أنثى
38. العمر: ()
39. الجنسية: ()
40. هل لديك خبرة عملية؟ () نعم () كم سنة؟ () لا ()

الفقرة الثانية

(Negative Frame)

يرجى قراءة المشاكل التالية واختيار الحلول المناسبة لها من بين البدائل المتاحة.

المشكلة (1)

تعرضت حديثا شركة كبيرة لتصنيع السيارات الى العديد من الصعوبات الاقتصادية. و يبدو أن هناك حاجة الى إغلاق 3 من مصانع هذه الشركة و تسريح 6000 عامل. توصل نائب الرئيس لشئون الإنتاج الى عدة بدائل لتخطي هذه الأزمة. وقد تمكن من اقتراح خطتان بديلتان يجب على الشركة اختيار أحدهما:

() الخطة ج , إذا ما تم اختيارها, ستؤدي الى إغلاق مصنعين و خسارة 4000 وظيفة.

() الخطة د, إذا ما تم اختيارها, هناك احتمال 2/3 إنها ستؤدي إلى إغلاق المصانع الثلاثة

و خسارة كل الوظائف, ولكن هناك احتمال 1/3 انه ستؤدي إلى عدم إغلاق أي من المصانع أو الوظائف.

28. أي من الخطتين تختار؟

كيف تصف قرار الاختيار الذي تواجهه الشركة ؟ (يرجى توضيح الإجابة باستخدام المقاييس الثلاثة التالية)

29. فرصة كبيرة 1.....2.....3.....4.....5.....6.....7 خطر كبير

30. خسارة محتملة 1.....2.....3.....4.....5.....6.....7 كسب محتمل

31. حالة إيجابية 1.....2.....3.....4.....5.....6.....7 حالة سلبية

32. ما مدى احتمال نجاح الشركة في تخطي هذه الأزمة؟

من غير المحتمل 1.....2.....3.....4.....5.....6.....7 محتمل جدا

33. بماذا تنصح رئيس الشركة حول كيفية اتخاذ القرار المناسب لمعالجة الأزمة؟

() 1. يفترض أن يقوم بدراسة وتحليل الخطتين البديلين و اختيار الأفضل و إعلان ذلك القرار للجميع.

() 2. يفترض أن يقوم باستشارة موظفيه قبل اتخاذ أي قرار. يستمع الى نصائحهم و أخذها بعين الاعتبار ثم يقوم باتخاذ القرار الذي يراه هو مناسباً و إعلانه للجميع.

() 3. يفترض أن يقوم بعقد اجتماع لمناقشة و تحليل الخطتين المقترحتين مع موظفيه بشكل جماعي ثم اتخاذ رأى الأغلبية على انه القرار المناسب.

() 4. يفترض أن يقوم بتفويض الموظف المختص والمناسب (نائب الرئيس لشئون الإنتاج مثلا) لاتخاذ القرار المناسب لتخطي الأزمة.

المشكلة (2)

تستعد ليبيا لشن حملة على مرض آسيوي نادر والذي من المتوقع أن يقضي على حياة 600 شخص. و للقضاء على هذا المرض تم اقتراح برنامجين بديلين. التوقعات العلمية لعواقب هذين البرنامجين كانت على النحو التالي:

() إذا تم اختيار البرنامج ج , سيؤدي إلى وفاة 400 شخص.

() إذا تم اختيار البرنامج د, هناك احتمال $1/3$ بعدم وفاة أي شخص و احتمال

$2/3$ انه سيؤدي البرنامج إلى وفاة الجميع.

34. أي من البرنامجين تفضل؟

المشكلة (3)

افترض انك أغنى بمقدار 500 دينار مما أنت عليه الآن و عليك أن تختار ما بين

() ج. خسارة مؤكدة لمبلغ 100 دينار.

() د. فرصة 50% لخسارة لاشيء و 50% لخسارة 200 دينار.

35. أي من الخيارين تفضل؟

المشكلة (4)

طرابلس مدينة مزدحمة جدا. وقد سجلت معدلات سنوية عالية للوفيات بسبب حوادث المرور مما يعرض حياة الناس يوميا للخطر. ولتقليل الخطر الذي يواجهه الناس في هذه المدينة تم تقديم المقترحين التاليين:

() ج. تحسين آلية التحكم في حركة المرور.

() د. استخدام السيارات الطائرة و القطارات أحادية الاتجاه.

36. أي من المقترحين تفضل؟

APPENDIX E.

The Japanese Version of the Questionnaire (Positive and Negative frames)



Section 1

現在自分の就いている職業とは関係なく、あなたの理想的な職業を思い浮かべて下さい。
理想的な職業を選ぶとき、次に述べる項目はあなたにとってどれくらい重要ですか。

- | 1 | 2 | 3 | 4 | 5 |
|---|-------|--------|--------|--------|
| 最も重要 | とても重要 | まあまあ重要 | 少し重要 | 重要でない |
| 1. () | | | | |
| 2. () | | | | |
| 3. () | | | | |
| 4. () | | | | |
| 5. () | | | | |
| 6. () | | | | |
| 7. () | | | | |
| 8. () | | | | |
| 9. () | | | | |
| 10. () | | | | |
| 11. () | | | | |
| 12. () | | | | |
| 13. () | | | | |
| 14. 工作中、どれくらい頻繁に緊張したり神経質になったりしますか。 | | | | |
| 1 | 2 | 3 | 4 | 5 |
| いつも | 良く | 時々 | 多少 | ならない |
| 15. 会社の規則は破ってはいけない —— たとえ従業員が会社にとって一番の方法であると思っても。 | | | | |
| 1 | 2 | 3 | 4 | 5 |
| 強く賛成 | 賛成 | わからない | 反対 | 強く反対 |
| 16. あなたの職場で部下はどれくらい頻繁に、上司に反対意見を述べることを恐れますか。 | | | | |
| 1 | 2 | 3 | 4 | 5 |
| いつも | 良く | 時々 | 多少 | めったにない |
| 17. あなたは現在勤めている企業に、どれくらい勤める続けると思いますか。 | | | | |
| 1 | 2 | 3 | 4 | |
| 長くて2年 | 2年～5年 | 5年以上 | 定年するまで | |

下に4人の異なる経営者の特徴をそれぞれ述べてみた。先ず記述を読んで下さい。

- 経営者1 通常、意思決定は経営者自身がし、決定は部下が忠実に、そして困難を
挙げることなく遂行することを求める。
- 経営者2 通常、部下の意見を聞き、そして考慮するが、最終的な判断は部下の意
見を取り入れる取り入れないにせよ、経営者自身が決める。
- 経営者3 通常、重要な決め事がある時部下を集めたミーティングを開き、問題に
ついて話し合う。経営者は大多数の意見を決定として受け入れる。
- 経営者4 通常、経営者は適任の部下に決定を任せる。

18. この経営者の下で働きたいと思うものを、上に述べた4人の中から選んで下さい。

() 経営者1 () 経営者2 () 経営者3 () 経営者4

19. 現在のあなたの上司は、上の4人から選ぶとしたらどれに一番近いですか。

() 経営者1 () 経営者2 () 経営者3 () 経営者4

次に挙げる項目は、あなたにとってどれくらい重要ですか。

1	2	3	4	5	6	7	8	9
全く重要でない			←————→	まあまあ重要		←————→	とても重要	

20. () あいさつ、好意、贈り物などで報いること
21. () 地位による序列関係で、この序列を遵守する
22. () 個人的に安定・しっかりしていること
23. () 儉約
24. () 固執・持続性・忍耐
25. () 恥を知ること
26. () 顔を立てること(プライドを守る)
27. () 伝統を大切にすること

Section 2 (Positive Frame)

次の問題を読んで、問いに答えて下さい。

問題1 ある大手の自動車製造業者が、経済的困難に苦しんでいます。どうやら3つの工場を閉鎖し、6000人の従業員を解雇しなければならないようです。この問題を避けるため様々な方法を考えてきた製造部門の副社長が、2つの案を提案しました。

プランA () 1つの工場と2000人の解雇が免れる

プランB () 3つの工場の閉鎖と6000人の従業員が解雇から免れる確立は
1/3だが、すべてが失われる確立も2/3ある

28. どちらか1つのプランを選ばないといけなかったら、どちらを選びますか。

製造業者の下した判断に着いてあなたはどのように思いますか。

(下のスケールで回答を示して下さい。)

- | | | | | | | | | |
|------------|--------|---|---|---|---|---|---|--------|
| 29. 重大な機会 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 重大な脅威 |
| 30. 損失する | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 利益を得る |
| | 可能性が高い | | | | | | | 可能性が高い |
| 31. 肯定的な状況 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 否定的な状況 |

製造業者がこの問題を避けることできる可能性は、どれくらいあると思いますか。

32. 大いにできない 1 2 3 4 5 6 7 大いにできる
33. この問題を避けるために、あなたが製造会社の社長に助言をするとしたら、次のどれになりますか。
1. () 両方のプランを十分に考慮した後、自身の選択をし、その決定を伝える。
 2. () 自身で決定する前に部下に相談する。部下の忠告を聞き、考慮したうえ自身で決定し、伝える。
 3. () 2つのプランについて部下と相談・分析するためミーティングを開く。そして大多数の意見を決定として受け入れる。
 4. () 適任の部下（例えば製造部門の副社長）に決定を任せる。

問題2 例えば米国が600人の人々を殺してしまうと予想される、アジア地方の珍しい病気の勃発に備えているとしましょう。その病気を退治する2つの方法が提案されました。プログラムの帰納の正確な科学的見積もりが次の通りだとしましょう。

プランA () 200人の人々が救われる

プランB () 誰も死亡しない確立は1/3だが、600人全員が死亡する確立も2/3ある

34. あなたなら2つのプランのうちどちらを選びますか。

問題3 あなたが今より¥30,000お金を多く持っていたとしましょう。次の2つのうち1つをを選ばないといけません。

A () ¥10,000の確実な儲け

B () ¥20,000儲ける確立は1/2あるが、何も儲けない確立も1/2ある

35. あなたなら2つのプランのうちどちらを選びますか。

問題4 ニューヨークはとても混雑している街です。人々の命を奪う可能性の高い、交通事故が、毎年多数発生しています。人々の危険を最小限にするため、2つの提案がされました。

A () 交通整理の方法を改善する

B () 空飛ぶ自動車やモノレールを利用する

36. あなたなら2つのプランのうちどちらを選びますか。

Section 3

調査の目的のため、次の問題にお答え下さい。

37. あなたの性別は何ですか。 男性 () 女性 ()

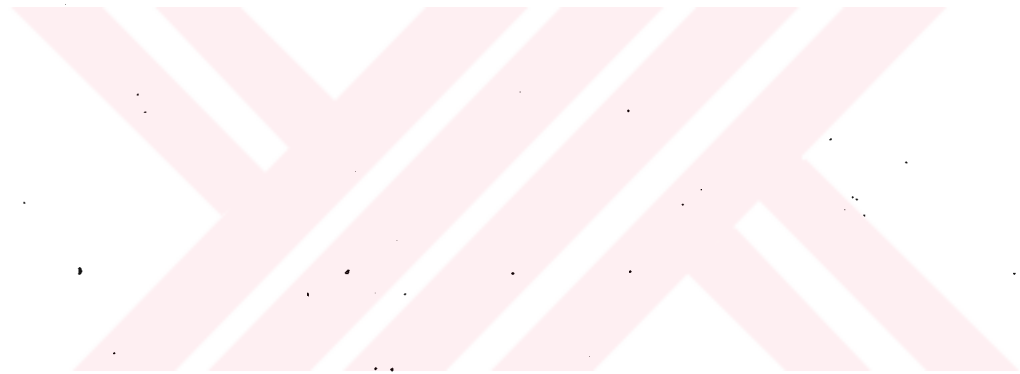
38. あなたの年齢はいくつですか。 _____

39. あなたの国籍は何ですか。 _____

40. あなたは仕事をした経験がありますか。

はい () それはどれくらいの間ですか。

いいえ ()



Section 2 (Negative Frame)

次の問題を読んで、問いに答えて下さい。

問題 1 ある大手の自動車製造業者が、経済的困難に苦しんでいます。どうやら 3 つの工場を閉鎖し、6000 人の従業員を解雇しなければならないようです。この問題を避けるため様々な方法を考えてきた製造部門の副社長が、2 つの案を提案しました。

プラン C () 2 つの工場の閉鎖と 4000 人の従業員の解雇

プラン D () 3 つの工場の閉鎖と 6000 人の従業員の解雇を免れる確立は 1/3
だが、すべてが失われる確立も 2/3 ある

28. どちらか 1 つのプランを選ばないといけないとしたら、どちらを選びますか。

製造業者の下した判断に着いてあなたはどのように思いますか。

(下のスケールで回答を示して下さい。)

- | | | | | | | | | |
|------------|--------|---|---|---|---|---|---|--------|
| 29. 重大な機会 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 重大な脅威 |
| 30. 損失する | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 利益を得る |
| | 可能性が高い | | | | | | | 可能性が高い |
| 31. 肯定的な状況 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 否定的な状況 |

製造業者がこの問題を避けることできる可能性は、どれくらいあると思いますか。

32. 大いにできない 1 2 3 4 5 6 7 大いにできる
33. この問題を避けるために、あなたが製造会社の社長に助言をするとしたら、次のどれになりますか。
1. () 両方のプランを十分に考慮した後、自身の選択をし、その決定を伝える。
 2. () 自身で決定する前に部下に相談する。部下の忠告を聞き、考慮したうえ自身で決定し、伝える。
 3. () 2 つのプランについて部下と相談・分析するためミーティングを開く。そして大多数の意見を決定として受け入れる。
 4. () 適任の部下 (例えば製造部門の副社長) に決定を任せる。

問題2 例えば米国が 600 人の人々を殺してしまうと予想される、アジア地方の珍しい病気の勃発に備えているとしましょう。その病気を退治する 2 つの方法が提案されました。プログラムの帰納の正確な科学的見積もりが次の通りだとしましょう。

プラン C () 400 人の人々が病気で死亡する

プラン D () 誰も死亡しない確立は $\frac{1}{3}$ だが、600 人全員が死亡する確立も $\frac{2}{3}$ ある

34. あなたなら 2 つのプランのうちどちらを選びますか。

問題3 あなたが今より ¥50,000 お金を多く持っていたとしましょう。次の 2 つのうち 1 つをを選ばないといけません。

C () ¥10,000 の確実な損失

D () 何も失わない確立は $\frac{1}{2}$ だが、¥20,000 損失する確立も $\frac{1}{2}$ ある

35. あなたなら 2 つのプランのうちどちらを選びますか。

問題4 ニューヨークはとても混雑している街です。人々の命を奪う可能性の高い、交通死亡事故が、毎年多数発生しています。人々の危険を最小限にするため、2 つの提案がされました。

C () 交通整理の方法を改善する

D () 空飛ぶ自動車やモノレールを利用する

36. あなたなら 2 つのプランのうちどちらを選びますか。

Section 3

調査の目的のため、次の問題にお答え下さい。

37. あなたの性別は何ですか。 男性 () 女性 ()

38. あなたの年齢はいくつですか。 _____

39. あなたの国籍は何ですか。 _____

40. あなたは仕事をした経験がありますか。

はい () それはどれくらいの間ですか。

いいえ ()

BIOGRAPHY

Personal Information:

Name & surname : Nagia M. BOUAZZI
Date of Birth : December 11, 1960
Place of Birth : Tripoli - Libya
Nationality : Libyan
Native Language : Arabic

Academic Record and Carrier:

- She finished high school, Tripoli-Libya, 1980.
- She graduated from Management and Banking high Institute, Management Department, 1983.
- From 1982 to 1985, She worked for National Oil Corporation, located in Tripoli.
- In April 1985, she was hired as a research assistant in Faculty of Accounting in Al-Jabel Al-gharbi University.
- In 1991 she received her master degree in Management science (M.sc.) from Al-Fateh University.
- From 1991 to 1993, she worked for Al-Fateh University and Al-Jabel Al-gharbi University as a lecture.
- In 1993, she received a scholarship form the Ministry of Education of Libya, and she was enrolled in M.Sc. program at Concordia University, Montereal-Canada, as a special student.
- In 1995, she started a Ph.D. program in management at the Management Department of Istanbul Technical University. And she is expected to receive her Ph.D. degree in December 2000.