

# **Decision Making in Projects in Cultural Context – Using the Example of Projects in Germany and Pakistan**

Dissertation for the acquisition of the academic degree  
Doktor der Wirtschafts- und Sozialwissenschaften (Dr. rer. pol.)  
(Doctor of Economic and Social Sciences)

Submitted by  
Sohail Aslam

to the Faculty of Mechanical Engineering,  
Section of Project Management,  
at the University of Kassel, Germany

First supervisor: Univ.-Prof. Dr.-Ing. Konrad Spang

Second supervisor: Univ.-Prof. em. Dr.-techn. Gerald Adlbrecht

Date of defense: 28<sup>th</sup> August 2018

# Foreword by Professor Spang

Since the 1980s, project management has increasingly developed into a widespread management approach for dealing with problems and tasks that cannot be covered by standard procedures in organizations. More and more companies have discovered project management as an adequate approach to solve unique tasks, special tasks or new problem definitions. Thus, in addition to the exclusively project-oriented sectors, such as the construction industry, software development or management consulting, a project management culture of its own has also developed in companies with standard organizations, i.e. in the consumer goods industry, mechanical engineering and the automotive industry, insurance companies, banks and public authorities. However, this culture is neither standardized nor uniform – which in turn is system-dependent and determined by the specifics of the industry and company. The increasing globalization of markets and companies has brought a further dimension to these special characteristics, which already exist in domestic projects, and the resulting requirements for projects in an international environment. This international dimension includes a multitude of partial aspects, such as contractual, logistical and above all cultural – to name only a few. The question as to which special characteristics must be taken into account in international projects is therefore more urgent than ever, and with it, of course, the question of the boundary conditions for decisions in international projects. On the one hand, the national culture and on the other hand – in close connection with it – the way of decision making in the national and international environment are in the focus.

Therefore, Mr. Sohail Aslam, doctoral student at the Chair of Project Management and former scholarship holder of the German Academic Exchange Service (DAAD), has made it his dissertation's main objective to link decisions in projects with the topic of national cultural characteristics. For this

purpose, he chose the obvious way to compare two very different worlds, namely Germany and Pakistan.

Mr. Aslam is very well qualified to deal with this challenging intercultural topic, as he is well acquainted with the two worlds that he has brought together in his dissertation topic. One, Pakistan, because it is his home where he grew up, studied until he obtained a Master's degree in "Commerce" and was able to gain first teaching experience as a "Lecturer" at The Islamia University of Bahawalpur. He first got to know the other, Germany, through his two-year course of study for the European Master of Project Management in Dortmund and then, from 2010, as a DAAD-funded doctoral student at the University of Kassel. These two worlds have certainly retained their differences in many aspects despite Pakistan's economic and industrial development in recent years, and probably even deepened them due to the very different political developments of the past years. Nevertheless, well-known German companies are active in Pakistan and thus also connect these two worlds.

In this mainly explorative work, Mr. Aslam has explored these two very different worlds in the field of project management and control of projects by examining the different decision-making behavior in Pakistani and German companies and projects installed there. Even though it is difficult in itself to reach relevant persons in companies for the purpose of interviews, this is certainly even more difficult in Pakistan and in the current very tense situation.

Although Mr. Aslam promises a processing time of 30 minutes in the introduction to his questionnaire, this is a very extensive survey, which has thus also led to a truly comprehensive and revealing exploration of the comparative decision-making behavior of these two cultures.

The strength of this thesis lies in the intensive analysis of the topic of decision making in an international and Pakistani context. On the one hand, the good literature base serves this purpose, on the other hand, a field study was carried

out which is quite unique with regard to the realistic possibilities, as Mr. Aslam was able to gain an astonishingly large number of experts due to his own (bi-national) experience and competence in the topic under investigation. The question of the thesis itself is of particular practical relevance and answering it brings a clear progress and gain in knowledge.

This dissertation by Mr. Sohail Aslam from Pakistan represents a further contribution of the research work at the Chair of Project Management at the University of Kassel to project management in an international environment and I am pleased that Mr. Aslam has successfully completed this thesis.

Prof. Dr.-Ing. Konrad Spang

Kassel, August 2020

# Acknowledgement by the Author

It has been a long journey and I would like to express my gratitude to all those who have provided me the opportunity to accomplish my PhD dissertation. It would have been extremely difficult to accomplish this task without their kind support and guidance and the encouragement and motivation they provided me throughout this endeavor. First of all, I am highly grateful to my supervisor Prof. Dr.-Ing. Konrad Spang whose encouragements, stimulating suggestions and support from the initial to the final stage, throughout my journey as doctoral student, enabled me to develop an understanding of the complex and abstract research subjects like national culture and decision making and then writing of this dissertation. My objective of writing my dissertation within scope of my doctoral studies could only be shelved as a dream without his continuous meaningful directives and thought provoking ideas. He also provided me immense emotional support as I had to bear the grief of passing away of my beloved son and father during my master leading to PhD study program.

I am also gratified to my second supervisor Prof. em. Dr.-techn. Gerald Adlbrecht for his valuable remarks and suggestions on my final version of this dissertation, which enabled me to describe my work in different theoretical perspectives. I would also like to thank other members of the promotion committee; Prof. Dr. phil. habil. Oliver Sträter and Prof. Dr.-Ing. Robert Refflinghaus for their critical and constructive reviews during my final presentation that helped me to refine my presented findings within the scope of my doctoral thesis. I want to mention my special thanks to Mrs. Simone Otto for her cooperation for both internal and external correspondence and for all other kind of office support at the Chair of Project Management at University of Kassel.

Furthermore, I especially want to mention my gratitude for Prof. Dr. Dr. h.c. mult. Peter J. A. Reusch who had been continuously supporting and guiding me since I got admission in European Master in Project Management (EuroMPM) and

then during my doctoral studies afterwards. The contribution of Prof. Dr. Hayat Muhammad Awan has also been remarkable in completing my tasks.

I am truly grateful too, to my colleagues and friends; Dr. Jan Christoph Albrecht and Dr. Rao Aamir Ali Khan to spare their time for productive discussions regarding my dissertation work. They provided me tremendous support in all aspects whenever I needed. Jan Christoph especially raised courage and motivation in my hard times during writing and then at the occasion of final presentation of my work. I am also obliged to my friends; Dr. Yousaf Khan, Dr. Ikram, Dr. Khurram, Mr. Mohsin Khan, Mr. Taimoor and Mr. Jawad, for their extended support to me like my family members.

I am also indebted to the management of the University of Kassel, for provision of research material through the libraries and digital resources. I highly acknowledge cooperation of Higher Education Commission (HEC), Pakistan, and Deutscher Akademischer Austausch Dienst (DAAD), Germany, also known as German Academic Exchange Service. These both institutions provided me financial and managerial support for studying in Germany.

Last but not least, I would like to thank my family, particularly my late father for his eternal encouragement and my mother for her prayers and support. The love, encouragement and support I received from my parents, brothers and wife, were influential in pursuing my goals all the way through my entire career. I never would have made it through this process and other tough times in my life without their eternal love and appreciations. I am also grateful to my wife and children for their sacrifice and patience to live without me as I had to stay abroad for continual long periods for my studies.

I present my regards and wish enormous blessings to all of those who contributed towards successful realization of my PhD project.

# Abstract

This study presents the investigation about the decision making styles of German and Pakistani managers in national cultural context who have been working on projects. It becomes very important to understand the national culture when doing the international projects. Different studies have shown that national culture has significant impact upon managerial practices especially decision making. Germany is a developed country and various German companies perform projects in developing countries like Pakistan. In projects, the results are the output of the effective and efficient work of project teams. Understanding the cultural values and decision making styles of one another may be a catalyst for productivity in international projects. This understanding enhances the mutual cooperation and reduces the likelihood of potential conflicts.

In this study, the decision making styles of both German and Pakistani individuals involved in project activities have been investigated in social and cognitive context. The cultural differences have been estimated and compared for the managers belonging to both countries. The project work is generally performed through project teams. Therefore, the relationship of decision styles in social context has been estimated with dimensions of national culture using an etic approach to study national culture. These decision styles are: autocratic; pseudo-consultative; consultative; participative; pseudo-participative; and delegative. The dimensions of national culture are: power distance; uncertainty avoidance; collectivism / individualism; masculinity / femininity; and long term / short term orientation. Decision styles in cognitive context are: directive; analytical; conceptual; and behavioral. For estimation of these decision styles and cultural dimensions three already developed scales have been used. Regarding the analysis of the data, two softwares (SPSS 21 and SmartPLS3) have been used.



Pakistanis have been found more autocratic as compared to Germans. For other styles, Pakistanis are more pseudo-consultative and more pseudo-participative. Germans are more participative and delegative as compared to Pakistani managers. The analysis of relationship of cultural dimensions with decision styles in social context has also revealed that power distance (PD) and masculinity (MAS) have the ability to strongly influence the decision making styles autocratic, pseudo-consultative and pseudo-participative in a positive direction for Pakistani managers working in projects. Power distance (PD) has shown a significant and negative relationship with participative decision making style. Whereas, in the German sub-sample power distance (PD) does not show a very dominant role. This dimension has a positive relationship with consultative decision style only. It means that these people consult others in decision making process. Among the other cultural dimensions, masculinity (MAS) has shown a positive relationship with pseudo-consultative and delegative styles. This positive relationship of masculinity and delegative style among Germans pretends that although they might be more masculine yet they have propensity to delegate the decision authority. Structural equation modelling has been performed to evaluate the relationships of cultural dimensions and decision styles in social context.

Regarding the decision styles in cognitive context, Pakistani managers demonstrate more dominance as compared to German managers in directive and behavioral decision making styles. Whereas for the other two styles the German managers present their dominance as more analytical and conceptual. These differences have been found significant by applying independent sample t-test.

This study also presents some qualitative data and its analysis. Different factors at personal and organizational level as well as factors related to general environment have been also explored and discussed in qualitative section. The findings of this study propose that when German and Pakistani managers have to work jointly in common projects then differences in decision making styles in cultural context should be considered. For the tasks, where less consultation,

participation and analysis is required, speedy and routine decisions are to be taken and need for creativity is low, Pakistani project managers may be suitable. German managers will be appropriate on those managerial positions where more consultation and participation is requisite, the need for creativity and innovation is high, and the tasks to be decided are composite and need more analytical and conceptual analysis.

# Zusammenfassung

Diese Dissertation beschäftigt sich mit Entscheidungsstilen deutscher und pakistanischer Manager, die Projekte bearbeitet haben, in ihrem jeweiligen nationalen kulturellen Kontext. Für eine erfolgreiche Abwicklung internationaler Projekte ist ein Verständnis der betreffenden nationalen Kulturen von hoher Bedeutung. Verschiedene Studien haben gezeigt, dass die nationale Kultur erheblichen Einfluss auf die Managementpraktiken und insbesondere auf die Entscheidungsfindung hat. Deutschland ist ein entwickeltes Land, und verschiedene deutsche Unternehmen führen Projekte in Entwicklungsländern wie Pakistan durch. Projektergebnisse sind das Resultat einer effektiven und effizienten Zusammenarbeit der Projektteams. Das Verständnis der kulturellen Werte und Entscheidungsstile des jeweils anderen kann ein Katalysator für die Produktivität in internationalen Projekten sein. Dieses Verständnis verbessert die gegenseitige Zusammenarbeit und verringert die Wahrscheinlichkeit möglicher Konflikte.

In dieser Studie wurden die Entscheidungsstile sowohl deutscher als auch pakistanischer Personen, die Projekte bearbeitet haben, im sozialen und kognitiven Kontext untersucht. Die kulturellen Unterschiede wurden für die Manager beider Länder bewertet und verglichen. Projektarbeit wird von Projektteams geleistet. Daher wurden die Entscheidungsstile im sozialen Kontext betrachtet. In den einzelnen statistischen Modellen wurden die Dimensionen nationaler Kultur – die mittels eines etischen Ansatzes untersucht wurden – als unabhängige, die Entscheidungsstile als abhängige Variablen verwendet. Anschließend wurden Vergleiche bezüglich der Entscheidungsstile gezogen. Die Entscheidungsstile sind: Autokratisch, pseudo-konsultativ, beratend, partizipativ, pseudo-partizipativ und delegierend. Die Dimensionen der nationalen Kultur sind: Machtdistanz, Unsicherheitsvermeidung, Kollektivismus/ Individualismus, Maskulinität/ Femininität und Lang-/ Kurzfristorientierung.

Entscheidungsstile im kognitiven Kontext sind: Direktiv, analytisch, konzeptuell und verhaltensbezogen. Zur Schätzung dieser Entscheidungsstile und kulturellen Dimensionen wurden drei bereits entwickelte Skalen verwendet. Für die Analyse der Daten wurden zwei Softwareprogramme (SPSS 21 und Smart-PLS3) verwendet.

Pakistaner wurden im Vergleich zu Deutschen als autokratischer befunden. Bei anderen Stilen sind Pakistaner pseudokonsultativer und pseudopartizipativer. Die Deutschen sind im Vergleich zu pakistanischen Managern partizipativer und delegierender. Die Analyse der Beziehung zwischen kulturellen Dimensionen und Entscheidungsstilen im sozialen Kontext hat auch gezeigt, dass im Falle der pakistanischen Manager, die in Projekten arbeiten, ein positiver Einfluss der Kulturdimensionen Machtdistanz (PD) und Maskulinität (MAS) auf die Entscheidungsstile autokratisch, pseudokonsultativ und pseudopartizipativ besteht. Die Machtdistanz (PD) hat eine signifikante und negative Beziehung zum partizipativen Entscheidungsfindungsstil gezeigt. In der deutschen Teilstichprobe hingegen spielt die Machtdistanz (PD) keine sehr dominante Rolle. Diese Dimension steht nur in positiver Beziehung zum beratenden Entscheidungsstil. Das bedeutet, dass diese Personen andere im Entscheidungsfindungsprozess konsultieren. Unter den anderen kulturellen Dimensionen hat die Maskulinität (MAS) eine positive Beziehung zu pseudo-konsultativen und delegativen Stilen gezeigt. Dieses positive Verhältnis von Maskulinität und delegativem Stil unter Deutschen täuscht vor, dass sie, obwohl sie vielleicht männlicher sind, dennoch die Neigung haben, die Entscheidungsautorität zu delegieren. Die Technik der Strukturgleichungsmodellierung wurde angewendet, um die Beziehungen von kulturellen Dimensionen und Entscheidungsstilen im sozialen Kontext zu bewerten.

Was die Entscheidungsstile im kognitiven Kontext betrifft, so zeigen pakistanische Manager im Vergleich zu deutschen Managern eine größere Dominanz in direktiven und verhaltensbezogenen Entscheidungsstilen. Bezüglich deutscher Manager sind hingegen die beiden anderen Stile – analytisch und konzeptuell

– dominant. Diese Unterschiede wurden durch die Anwendung eines t-Tests für signifikant befunden.

Im Rahmen des empirischen Teils des Forschungsvorhabens wurden ferner auch qualitative Daten erhoben, deren Analyse ebenfalls Gegenstand dieser Dissertation ist. Verschiedene Faktoren auf persönlicher und organisatorischer Ebene sowie Faktoren, die sich auf das allgemeine Umfeld beziehen, wurden ebenfalls untersucht und im qualitativen Abschnitt diskutiert. Die Untersuchungsergebnisse legen nahe, dass, wenn deutsche und pakistanische Manager in gemeinsamen Projekten zusammenarbeiten müssen, die Unterschiede in den Entscheidungsstilen im kulturellen Kontext berücksichtigt werden sollten. Für die Aufgaben, bei denen weniger Beratung, Beteiligung und Analyse erforderlich ist, schnelle und routinemäßige Entscheidungen getroffen werden sollen und der Bedarf an Kreativität gering ist, könnten pakistanische Projektmanager geeignet sein. Für Aufgaben, bei denen mehr Beratung und Beteiligung erforderlich ist, der Bedarf an Kreativität und Innovation hoch ist, und die zu entscheidenden Aufgaben zusammengesetzt sind und mehr analytische und konzeptionelle Analyse erfordern, eignen sich deutsche Manager im Lichte der Ergebnisse dieser Untersuchung eher.

# Table of Contents

Foreword by Professor Spang.....	iii
Acknowledgement by the Author.....	vi
Abstract.....	viii
Zusammenfassung.....	xi
Table of Contents.....	xiv
List of Tables.....	xviii
List of Figures.....	xxii
List of Abbreviations.....	xxiii
1 Introduction.....	1
1.1 Research gap, research problem, and research questions.....	1
1.1.1 Research problem.....	4
1.1.2 Research questions.....	4
1.2 Research contribution and significance.....	7
1.3 Layout of this thesis.....	7
2 Literature review.....	8
2.1 National culture.....	8
2.1.1 Hofstede.....	9
2.1.2 Trompenaars and Hampden-Turner.....	15

2.1.3	Hall .....	17
2.1.4	Schwartz.....	18
2.1.5	GLOBE Project.....	19
2.2	Cultural measurement approaches .....	22
2.3	Decision making and national culture.....	25
3	Research methodology .....	31
3.1	Research plan.....	31
3.2	Constructs and instruments.....	31
3.3	Development of questionnaire.....	34
3.4	Sampling and unit of analysis.....	36
3.5	Software tools and statistical techniques .....	37
3.6	Definitions of terms in scales.....	38
3.6.1	Decision styles as per Decision Style Inventory .....	38
3.6.2	Decision styles in social context .....	40
3.6.3	Cultural dimensions as per Hofstede.....	41
4	Analysis of data and interpretation of results .....	43
4.1	Descriptive statistics.....	43
4.2	Comparison of decision styles of Germans and Pakistanis in social context.....	45
4.3	Differences between German and Pakistani project managers with reference to Hofstede’s cultural dimensions .....	47

4.4 Relationship of cultural dimensions and decision styles in social context ... 49

    4.4.1 Acceptable statistical criteria for measurement or outer model ..... 49

    4.4.2 Acceptable statistical criteria for structural or inner model..... 50

    4.4.3 Relationship of *power distance* with decision styles in Germany ..... 53

    4.4.4 Relationship of *masculinity* with decision styles in Germany ..... 57

    4.4.5 Relationship of *uncertainty avoidance* with decision styles in Germany 60

    4.4.6 Relationship of *collectivism* with decision styles in Germany..... 63

    4.4.7 Relationship of *long term orientation* with decision styles in Germany . 67

    4.4.8 Relationship of *power distance* with decision styles in Pakistan..... 70

    4.4.9 Relationship of *masculinity* with decision styles in Pakistan ..... 73

    4.4.10 Relationship of *uncertainty avoidance* with decision styles in Pakistan..... 77

    4.4.11 Relationship of *collectivism* with decision styles in Pakistan ..... 81

    4.4.12 Relationship of *long term orientation* with decision styles in Pakistan 84

4.5 Significant relationships of cultural dimensions with decision styles (Germany)..... 88

4.6 Significant relationships of cultural dimensions with decision styles (Pakistan)..... 91

4.7 Comparison of cognitive decision styles on the basis of Decision Style Inventory..... 93

4.8 Qualitative data analysis ..... 101

    4.8.1 Germany..... 101



4.8.2	Pakistan.....	104
5	Conclusion and discussion.....	111
5.1	Primary results .....	111
5.2	Implications for theory .....	113
5.3	Managerial implications.....	114
5.4	Limitations of this study.....	115
5.5	Proposals for future research.....	115
	Bibliography .....	117
	Appendix .....	137

# List of Tables

Table 2:1: Hofstede cultural dimensions studies in literature .....	9
Table 4:1: Descriptive statistics of the German sub-sample.....	43
Table 4:2: Frequencies and percentages of types of gender, education and managerial levels of German participants .....	44
Table 4:3: Descriptive statistics of the Pakistani sub-sample .....	44
Table 4:4: Frequencies and percentages of types of gender, education and managerial levels of Pakistani participants .....	45
Table 4:5: Group statistics; mean, standard deviation and standard error mean for the decision styles for both Germany and Pakistan .....	46
Table 4:6: Results of independent sample t-test for decision styles for Germany and Pakistan .....	47
Table 4:7: Group statistics; mean, standard deviation, and standard error mean of cultural dimensions for Germany and Pakistan .....	48
Table 4:8: Results of independent sample t-test of cultural dimensions for both countries Germany and Pakistan .....	49
Table 4:9: Measurement model: power distance – decision styles (Germany) .....	55
Table 4:10: Discriminant validity: Heterotrait-Monotrait ratio; power distance – decision styles (Germany).....	56
Table 4:11: Structural model: power distance – decision styles (Germany).....	56
Table 4:12: Measurement model: masculinity – decision styles (Germany).....	58

Table 4:13: Discriminant validity: Heterotrait-Monotrait ratio; masculinity – decision styles (Germany).....	59
Table 4:14: Structural model: masculinity – decision styles (Germany) .....	59
Table 4:15: Measurement model: uncertainty avoidance – decision styles (Germany) .....	61
Table 4:16: Discriminant validity: Heterotrait-Monotrait ratio; uncertainty avoidance – decision styles (Germany).....	62
Table 4:17: Structural model: uncertainty avoidance – decision styles (Germany) ..	63
Table 4:18: Measurement model: collectivism – decision styles (Germany) .....	65
Table 4:19: Discriminant validity: Heterotrait-Monotrait ratio; collectivism – decision styles (Germany).....	66
Table 4:20: Structural model: collectivism – decision styles (Germany).....	66
Table 4:21: Measurement model: long term orientation – decision styles (Germany) .....	68
Table 4:22: Discriminant validity: Heterotrait-Monotrait ratio; long term orientation – decision styles (Germany).....	69
Table 4:23: Structural model: long term orientation – decision styles (Germany) ....	69
Table 4:24: Measurement model: power distance – decision styles (Pakistan) .....	71
Table 4:25: Discriminant validity: Heterotrait-Monotrait ratio; power distance – decision styles (Pakistan).....	72
Table 4:26: Structural model: power distance – decision styles (Pakistan).....	73
Table 4:27: Measurement model: masculinity – decision styles (Pakistan).....	75

Table 4:28: Discriminant validity: Heterotrait-Monotrait ratio; masculinity – decision styles (Pakistan).....	76
Table 4:29: Structural model: masculinity – decision styles (Pakistan) .....	76
Table 4:30: Measurement model: uncertainty avoidance – decision styles (Pakistan) .....	79
Table 4:31: Discriminant validity: Heterotrait-Monotrait ratio; uncertainty avoidance – decision styles (Pakistan).....	80
Table 4:32: Structural model: uncertainty avoidance – decision styles (Pakistan) ...	80
Table 4:33: Measurement model: collectivism – decision styles (Pakistan) .....	82
Table 4:34: Discriminant validity: Heterotrait-Monotrait ratio; collectivism – decision styles (Pakistan).....	83
Table 4:35: Structural model: collectivism – decision styles (Pakistan).....	83
Table 4:36: Measurement model: long term orientation – decision styles (Pakistan)86	
Table 4:37: Discriminant validity: Heterotrait-Monotrait ratio; long term orientation – decision styles (Pakistan).....	87
Table 4:38: Structural model: long term orientation – decision styles (Pakistan) .....	87
Table 4:39: Significant relationships of cultural dimensions with decision styles in social context for German managers.....	90
Table 4:40: Significant relationships between cultural dimensions and decision style of project managers in Pakistan .....	92
Table 4:41: Decision making styles and corresponding scores by Rowe and Mason .....	95
Table 4:42: Group statistics for decision styles of Pakistani project managers as per DSI .....	95

Table 4:43: Results of independent sample t-test to compare the mean scores of German and Pakistani project managers for all the four decision styles as per DSI	96
Table 4:44: Frequencies and percentages of the least preferred, backup, dominant and very dominant categories for all four decision styles of German project managers .....	97
Table 4:45: Frequencies and percentages of the least preferred, backup, dominant and very dominant categories for all four decision styles of Pakistani project managers .....	98
Table 4:46: Results of mean score values and standard deviations for use of left brain, right brain and idea orientation and action orientation attitudes of German and Pakistani managers.....	99
Table 4:47: Results of independent sample t-test to compare the mean scores of German and Pakistani project managers to analyze their behavior regarding use of their left brain and right brain for decision making .....	101
Table 4:48: Personal factors affecting decision making (Germany) .....	102
Table 4:49: Organizational factors affecting decision making (Germany) .....	103
Table 4:50: Environmental factor affecting decision making (Germany) .....	104
Table 4:51: Personal factors influencing the decision making for the case of Pakistan .....	105
Table 4:52: Organizational factors affecting decision making .....	107
Table 4:53: Environmental factors affecting decision making.....	108

# List of Figures

Figure 2:1: Cultural practices and values in the Germanic Europe group .....	21
Figure 2:2: Leadership Scores for Outstanding Leadership in the Germanic Europe Group .....	22
Figure 2:3: Comparison of cultural dimensions of Germany and Pakistan .....	24
Figure 2:4: The Cognitive-Contingency Decision Style Model.....	29
Figure 4:1: Relationship of power distance with decision styles in Germany .....	54
Figure 4:2: Relationship of masculinity with decision styles in Germany.....	57
Figure 4:3: Relationship of uncertainty avoidance with decision styles in Germany.	60
Figure 4:4: Relationship of collectivism with decision styles in Germany .....	64
Figure 4:5: Relationship of long term orientation with decision styles in Germany...	67
Figure 4:6: Relationship of power distance with decision styles in Pakistan .....	70
Figure 4:7: Relationship of masculinity with decision styles in Pakistan.....	74
Figure 4:8: Relationship of uncertainty avoidance with decision styles in Pakistan..	78
Figure 4:9: Relationship of collectivism with decision styles in Pakistan .....	81
Figure 4:10: Relationship of long term orientation with decision styles in Pakistan..	85

# List of Abbreviations

<b>Abbreviation</b>	<b>Explanation</b>
AVE	Average variance extracted
COLLEC	Collectivism
CR	Composite reliability
CVSCALE	(Individual) Cultural Values Scale
df	Degrees of freedom
DSI	Decision Style Inventory
HTMT	Heterotrait-Monotrait (ratio)
LTO	Long term orientation
MAS	Masculinity
N	Sample size
PD	Power distance
SEM	Structural equation modeling
Sig.	Significance
UA	Uncertainty avoidance

# 1 Introduction

Business has become increasingly more global during the last couple of decades (Hill, 2009). This increased globalization has raised demand for understanding the national cultures and their impact on project management practices, particularly decision making. When doing a project in a country, understanding about the culture of that country may be of immense help to set up realistic expectations (Hofstede, 1984; Neman & Nollen, 1996, p. 1). Quantifiable differences may help in the decision on where and how to do projects which might bring in an advantage for the organization.

In this era of globalization it becomes more important to develop the cultural understanding among partners belonging to different cultures. Germany is a major business partner of Pakistan in the European Union. Many German companies are running their projects in different sectors in Pakistan, for example Siemens, Bosch and Bayer. Understanding of decision making styles in cultural context of Pakistani and German business and project managers will help to enhance mutual cooperation and reduce chances of potential conflicts. This may ultimately help to improve and maximize the economic and social gains for these both countries.

## 1.1 Research gap, research problem, and research questions

Most of the research regarding organizations, management and decision making is being conducted in developed countries and developing countries are ignored. As more and more companies from Europe and other developed countries are now expanding their business in third world countries, the need to understand the cultural differences with respect to different aspects is increasing to enhance the mutual collaborations. The decision making behavior



of managers is an important phenomenon to be understood in cultural context. Weber et al. (2005) describe that there are distinctions found among individuals on the basis of demographic factors, for example their ethnicity, their gender, and their age and these also include the culture to which they belong. Weber et al. have further presented that during decision making process, these individuals use different approaches regarding thinking processes. The individuals utilize unique intellectual measures due to above mentioned distinctions existing among them. The most influential factor is culture affecting their cognitive approaches to make the best choice out of available alternatives.

Pakistan is an Eastern while Germany is a Western country. There are differences in thinking and approaches to arrive at decisions between persons belonging to these two different origins (Kaufmann, 1970). Burchell and Gilden (2008) measured cultural perceptions of Western project managers operating in Asian countries to report perceived differences in particular cultural dimensions. In their study, the Western project managers had to report about the orientation of their own culture and they had to demonstrate their perceptions about the cultural values of Asian members of the project teams. Burchell and Gilden mainly traced significant difference regarding the power dimension of culture between Asian and Western project team members on the basis of perceived data reported by Western managers. The cultural values of Asian team members were not measured by obtaining data directly from them. Instead the results about their orientation about cultural values were based on the data collected from Western project team members. This approach could provide an unrealistic and biased depiction about cultural context of Asian project team members.

Müller et al. (2009) studied cultural differences between German and Swedish project teams on the basis of the cultural framework by Hofstede (1980). They described that there were differences concerning cultural dimensions and decision styles of project managers of the two countries. They further described that differences in decision making styles of Swedish and German project team

members and managers were linked to dimensions of national culture. They separately collected the data from the project team members of both countries about the culture oriented decision styles.

In the present study, for the purpose of framing research problem and data collection, the later approach by Müller et al. (2009) has been used to avoid the perceived biasness of Pakistani and German managers about differences regarding cultural dimensions and decision styles of individuals belonging to other country.

Cultural awareness helps us to understand our working environment and the work behavior of individuals. In collectivist cultures decision making will be based on consensus while in authoritative cultures decisions will be taken by top authorities (Sagie & Aycan, 2003). The differences can be observed between specific and diffused cultures, e.g. concerning boss and subordinate relationships. In diffused culture the relation of boss and subordinate does not change even outside the work environment while in specific culture individuals keep work and personal life separate from each other (Trompenaars & Hampden Turner, 2006). In time orientation, people with monochronic culture place each task in different timeslots considering time as a straight line. In polychronic cultures people think of doing multiple tasks and consider time as more liquid for scheduling of their tasks (Hall, 1976). Previous research has shown strong impact of culture on management practices including decision making (Hofstede & Minkov, 2011; Müller et al., 2009; Miller et al., 2001; Dimitratos et al., 2011; Dabić et al., 2015; Bala et al., 2012). Majority of the cultural studies used etic approach to study impact of culture (e.g., Hofstede, 1980; Denison, 1984; House et al., 2002; Hofstede and Bond, 1988). Some studies have used emic approach to overcome limitation of etic approach (Gannon, 1994; Miller et al., 2001; Gannon, 2004), while some studies have used both emic and etic approach simultaneously in their studies (Sinha, 1990; Gannon et al., 2005). Many researchers have developed tools and scales to measure and study cultural

attributes at the individual level to contribute in the body of knowledge (Yoo et al., 2011; Sharma, 2010; Maznevski et al., 2002).

Decision making is a vital project management practice. Researchers have shown that cultural attributes have significant influence on decision making behavior (Hofstede & Minkov, 2010; Müller et al., 2009; LeFebvre & Franke, 2013; Kazi, 2012; Dimitratos et al., 2011; Dabić et al., 2015). The study of LeFebvre and Franke (2013) showed that societal and individualistic cultural attributes are involved in decision making. The cultural values were found to be a contingent factor in making decisions, as claimed by Dabić et al. (2015). Their work was based on Hofstede's cultural dimensions. Khairullah and Khairullah (2013) explored out the impact of the social estimations of the senior chiefs of multinational organizations on decision making behavior in China.

For the present study, following research problem has been framed after reviewing literature. The detailed literature review is presented in Chapter 2.

### **1.1.1 Research problem**

The main research problem is to describe and differentiate the decision making styles of managers associated with project management activities with reference to dimensions of national culture in Pakistan and Germany, in social and cognitive context.

To deal with this research problem following research questions have been established.

### **1.1.2 Research questions**

The main research questions are as follows:

1. How can the decision making styles of managers associated with project management activities in Germany and Pakistan be described?

2. What are the differences in decision making styles of managers associated with project management activities in Germany and Pakistan both in cognitive and social context?
3. What are the differences in dimensions of national culture in Germany and Pakistan at present?
4. Are there any relationships between decision styles in social context and dimensions of national culture in Pakistan and Germany?
5. What are personal, organizational and environmental factors which may influence decision making of project managers in Germany and Pakistan?

The scope for this research is clearly defined. It is quite narrow, though, and – as has been explained in the previous subchapter – it is a white spot in the field of management research. Therefore, the first research question (1.) looks at the decision making styles of German and Pakistani managers in an exploratory and descriptive manner, and is setting the stage for the remaining research questions. On the basis of this, the second research question (2.), which is comparative in nature, looks at the differences between German and Pakistani managers concerning decision making in a social context, i.e. the way and the degree to which the managers consult, or involve others in their decisions, respectively.

Research question three (3.) looks (again in a comparative way) at the differences between the two groups concerning dimensions of national culture, before the two objects of inquiry, i.e. decision making styles and dimensions of national culture, are brought together in terms of the fourth research question (4.). The third research questions (3.) offers the chance to compare the findings of this research with the results from Hofstede's work. As will be seen and commented on later, there are substantial to drastic differences between German and Pakistani people concerning the majority of Hofstede's cultural dimensions. It is intriguing to investigate whether and – if yes – how exactly these translate to differences in the decision making behavior (cf. research question four (4.)).

The question whether dimensions of national culture and decision making styles are somehow associated at all, will very likely be answered positively, as extant research has drawn a link between the two. Both conceptual and empirical work can be found in this regard. Triandis (1994) has described the chain from ecology and culture over socialization and personality to behavior (decision making style may be conceived as a special type of behavior). Further conceptual work has been done by, e.g., Vitell et al. (1993). There is a bulk of empirical studies that deal with (national) culture's association with decision making (e.g., Roxas & Stoneback, 1997; Chu & Spires, 1999; Brew et al., 2001; Fong & Wyer, 2003). In turning our attention towards the field of general management, we may look at the work of Schneider and De Meyer (1991) who were able to show that national culture influences the way managers respond to strategic issues. In the area of project management, Müller et al. (2009) (in a qualitative, empirically informed article) shed light on certain associations between dimensions of national culture and decision making behavior (also cf. Fitzsimons, 2004, in this regard). Consequently, this research attempts to extend our knowledge about the distinct relations between the two objects of inquiry.

With research question four (4.), specifically, the author intends to adopt an isolated perspective on the relationships between dimensions of national culture and decision making behavior. However, decision making processes are complex in nature and multi-faceted. Research question five (5.) leaves the highly focused view and looks at the broader picture of decision making and its environmental influence factors, instead.

This research has used Hofstede's (1980) cultural dimensions to study their impact on decision making styles of German and Pakistani project managers. The influence of these cultural dimensions on six decision making styles proposed by Ali (1985, 1989 and 1993) in social context have been studied by applying structural equation modeling (SEM) / path analysis approach. Whereas, four decision styles and further basic decision patterns proposed by Rowe and Mason (1987) in cognitive context have been measured and com-

pared by using descriptive approach. The results of the study is expected to provide productive information about differences in the decision making styles of German and Pakistani project managers in both social and cognitive context with respect to national cultural dimensions.

## **1.2 Research contribution and significance**

This study will mainly help to provide understanding of differences in decision making styles of German and Pakistani project managers both in social and cognitive context. This study is also an attempt to recognize the relationship of different cultural dimensions with different decision styles. There exists no such information in extant literature as per searched and reviewed literature sources.

## **1.3 Layout of this thesis**

This thesis is mainly reporting about different types of decision styles and differences in these styles for German and Pakistani project managers in relationship of dimensions of national culture as per cultural framework of Hofstede (1980). The personal, organizational and environmental factors which may affect decision making are also part of a qualitative analysis.

The remainder of this thesis is organized as follows: Chapter 2 provides an overview of the relevant concepts and constructs; the research methodology employed for this thesis and more specifically the research model and scales used in terms of the quantitative study are explained in Chapter 3; this is followed by the analysis of data and interpretations of results (Chapter 4); finally, results are being discussed on the foreground of the extant literature as well as the practice of international (project) management, and an outlook on future research is provided (Chapter 5).

## 2 Literature review

### 2.1 National culture

Culture is a Latin word which is derived from the word “colere” which means “to inhabit”, or “to cultivate”. Culture is a complex phenomenon to be defined. Late in the 1980s the term culture was familiarized in business life in order to mention the behaviors and attitudes conducted by the people in an organization. There exist many definitions for it. Hofstede (1991, p. 262) has provided culture’s definition as, “the collective programming of the mind which distinguishes the members of one human group from another.” According to Trompenaars and Hampden-Turner (2011) “culture is the way in which people solve problems.” National culture is a very important factor that influences organizational behavior, i.e. the way people do business and make policies (Hofstede & Minkov, 2011).

Cultural theories covered many cultural aspects and highlighted its impact related to very small to very big dimensions. The awareness of these cultural attribute helps us to understand work environment behavior and different styles of working. For example, in an authoritative culture normally decisions will be made by top authority and chances to get criticism on the decision by subordinates will be minimal. On the other hand, in a society with more equality decisions can be criticized by the subordinates and normally consensus is made in order to take a decision.

Many researchers like Hofstede, Trompenaars, Hall, and Schwartz studied culture as a phenomenon and theoretical construct, and proposed different dimensions.

### 2.1.1 Hofstede

On national culture, Geert Hofstede is portrayed by numerous as the most famous scholar. His examination was in view of workers of IBM (the information technology company). He began to investigate in 1960 and continued his study for a very long time. His study covered 72 countries with more than 116,000 workers responding from IBM. He used an inventory of 33 questions in order to illustrate individual belongingness from the group into cultural aspect.

Hofstede relate culture with mental programming and identified three layers which are individual, group and universal. Individual level is the inherited or learned mental programming of the individual which is reflected by his/her personality. The group level is associated with culture of a specific group or category mostly learned behavior which is taught by other explicit to a group of individuals. The universal level reflects the human nature which is a mental programming mostly inherited from one generation to another (Hofstede et al., 2010). Culture is characterized as a “collective programming” (Hofstede, 1980), or as a “group being” (Ralston et al., 1994).

<b>Cultural dimension</b>	<b>Research studies</b>
Power distance	Farh et al. (2007); Javidan et al. (2006); Kirkman et al. (2006); Tang and Koveos (2008)
Individualism/ Collectivism	Oyserman et al. (2002); Peterson and Castro (2006); Sinha et al. (2001); Heine et al. (2002)
Masculinity/ Femininity	Spence (1985); Francesco and Gold (2005); Furrer et al. (2000)
Uncertainty avoidance	Singh (2006); Ramirez and Tadesse (2009); Gannon et al. (2005)
Long term orientation	Nakata and Sivakumar (1996)

*Table 2:1: Hofstede cultural dimensions studies in literature*



Cultural dimensions and culture are viewed as the aggregate skyline speaking to a particular social reality. The cultural dimensions proposed by Hofstede which are being used for this study have also been used by many researchers in the past. Some studies are mentioned in Table 2:1.

### **Power distance**

The degree of acceptance and expectance of uneven distribution of power in the society by the less powerful members of this society is named as *power distance* (Hofstede, 1980). Power distance demonstrates the level of inequality in a nation. Inside of an organization the expression "power distance" is alluded to as the veneration of the level of centralization of power.

This uneven distribution can be associated with wealth, reputation, and power (Hofstede, 2001). The value of power distance level represents "how the culture tolerates and fosters pecking orders, and how actively members try reduce them" (Mead, 2003, p. 36). The societies with high power distance are considered to accept inequality and the fellows of these cultures admit that sharing of the power should be unequal. Several rights are given to the people having high position in society and this is believed as something fair and natural. Inequality is less accepted in the societies with low power distance.

High power distance values are generally linked with the features of top-down fashion of decision-making, hierarchy in associations, and command on workers in an organization (Sagie & Aycan, 2003). The standard of the cultures with high power distance is to validate the variances in the decision making power of those having a position of high power and of those having a position of low power (Hofstede, 2001). Whereas, the rule of the cultures with low power distance is to reduce the variances in the decision making power of those who have position of different levels. In the cultures with low power distance, the people who are lower in terms of their positions are being likely to share the power of decision making with high power positions.

## **Individualism/ Collectivism**

The individualism and collectivism measurements really constitute conditions of characteristics that separate cultures. The ties between people are free and individuals care for their own particular self-interest, in the individualist society (Hofstede, 1984b). The values of collectivist society are linked with each other. Team oriented environment is more preferred in such cultures because people prefer to work in a joint effort and show stronger commitment.

In individualist societies, the individual has a tendency to see itself as a free individual who only considers his/her own advantage and ventures; on the other hand in collectivist cultures, the individual tends to see itself in a linked relationship with the society (Markus & Kitayama, 1991). In individualist societies, individual objectives tend to take significance over objectives of the group; whereas in collectivist societies, group objectives are more liable to have significance (Triandis et al., 1988). In individualistic societies, verbal communication is more important rather than non-verbal for example body language etc. as opposed to the collectivist societies where non-verbal communication is meaningful and important (Taras et al., 2011).

The significance of individual convictions and states of mind concerning group standards and obligations differs with individualism/collectivism culture. In collectivist societies, group customs and obligations have a tendency to be more critical in decision making than are individual convictions and rights (Iwao & Triandis, 1993). At long last, in individualist societies, individuals tend to put more prominent significance on accomplishing tasks than on keeping up agreeable connections. In collectivist societies, individuals are more expected to surrender task accomplishment for the purpose of good associations with others (Triandis, 1995). Furthermore, in the collectivist societies, a well-recognized, prominent job is a source of higher satisfaction. People want to preserve face and want to be more respectful for their peer group (Lu et al., 2012).

## Uncertainty avoidance

The third Hofstede cultural dimension analyzed is *uncertainty avoidance*, which measures the level of instability and nervousness amongst individuals in a general public about what is to come. This implies that in societies with lower level of uncertainty avoidance, individuals have a characteristic inclination to think generally secure, whereas in the societies with strong uncertainty avoidance, individuals attempt to escape from the risk and make security. Such social orders have for instance, religions set up, and are searching for the total truth (Hofstede, 1983). Cultures having higher level of uncertainty avoidance try to minimize the possibility of any unstructured or uncertain situations by complying with the strict laws and rules (Lu et al., 2012).

Hofstede describes uncertainty avoidance as the tendency among the individuals of a society to refrain from facing any uncertain, misty, erratic circumstances. They subsequently attempt to avoid it by keeping up structured rules of conduct and have a confidence in outright truths. The strong uncertainty avoidance cultures are dynamic, forceful, enthusiastic, urgent, looking for security, and bigoted; societies with a feeble uncertainty avoidance are unemotional, less aggressive, thoughtful, casual, tolerating individual risks, and generally tolerant (Hofstede, 1986).

High uncertainty avoidance may result in making strategies where true potential of doing business cannot be utilized. For example, organizations working in a high uncertainty avoidance culture incline to conduct more trade in cash than organizations which are operating in low uncertainty avoidance cultures. The belief in such societies is that cash transaction is more safe because future is uncertain and therefore not safe (Ramirez & Tadesse, 2009).

Similarly, this can be compared in contentment level in the use of products or services, people in lower uncertainty avoidance cultures are more contented in case the intended satisfaction level is not achieved. On the other hand, people

with high uncertainty avoidance cultures are extremely dissatisfied if the intended objectives are not achieved (Reimann et al., 2008). People with high value of uncertainty avoidance consider their society as better and look after conventions. They have a tendency to be intolerant of views not quite the same as their own. At the point when individuals feel undermined by future uncertainty, they deal with this pressure by searching for standard approaches applied in the organizations so that the future actions become predictable (Hofstede, 1980).

### **Masculinity/ Femininity**

The fourth cultural dimension is “Masculinity versus Femininity” which manages the issue of the level of assertiveness or nurture-ness in the public arena. Masculinity represents a culture in which roles of social gender are visibly separate (Hofstede, 2001). In a masculine society there is a sharp division in those roles which a man and lady need to perform. On the other hand, feminine is a society where there is a moderately little division of role based on gender. Masculine society is more achievement and performance oriented. In feminine societies, values such as thinking about others and service orientation are important (Hofstede, 1983).

Masculine people's inclinations are accomplishment, bravery, and material accomplishment. While feminine people focus on accomplishments in the form of social relationships and modesty (Hofstede, 2001).

A person's gender identity indicates the extent that people view themselves being as feminine or masculine, i.e. it intends to be a woman or a man in a culture (Burke et al., 1988). Masculinity and femininity are more rooted in the gender (social) and not in the sex (biological). Societal individuals choose what being female or male means (prevailing or inactive, daring, or enthusiastic). In general, male members of the society will by and large react by characterizing themselves as masculine but females will for the most part characterize them-

selves as feminine. Since all of this is defined socially, nevertheless, it is likely that a masculine behavior observed by a female and a feminine behavior is observed from a male in a society. It is essential to differentiate gender identity, as mentioned above, from other concepts related to the gender like role of the gender, which are shared desires of conduct specified for a gender. For example, roles of the gender may incorporate domestic role of females and worker role of male (Eagly, 1987).

### **Long term/ Short term orientation**

The cultural dimension dealing with long term versus short term orientation was included later in Hofstede's cultural dimensions. Not much research has been done applying this particular cultural dimension. Long term orientation considers dynamic work style, with positive attitude which is orientated to future prospects. On the other hand, short term orientation is characterized by inflexible, static, and past orientated culture (Hofstede, 2001).

Organizations which are long term oriented focus on the future of the business. They may sacrifice immediate benefits and success in the hope of getting higher levels of success in the future. These organizations follow a path to achieve higher profits in the future. In this context success of the managers is not judged on their immediate performance but on achievement of long term business goals. Such managers are given more resources and flexibility to contribute to higher success. The situation will be just reverse in short term orientated organizations as immediate success is more important for such business. Accordingly, managers are given less flexibility and short deadlines. Success is generally measured in such organizations on monthly, quarterly, or yearly basis. Managers are believed to be successful only based on their immediate success.

A large number of researchers has used Hofstede's model to study culture and the influence of culture on business practices (Browaeys & Price, 2008; Hill, 2009). This research also focuses on Hofstede's cultural dimensions because

of their wider acceptability among the scientific community. Nevertheless, a brief overview of some of the other major research contributions in cultural studies are highlighted in the next sections.

### **2.1.2 Trompenaars and Hampden-Turner**

Based on the work of Hofstede, Trompenaars and Hampden Turner (2006) developed seven cross-cultural competence dimensions. The seven cultural dimensions are universalism versus particularism, individualism versus communitarianism, neutral versus emotional, specific versus diffuse, achievement versus ascription, attitudes to time, and attitudes to the environment.

The dimension of universalism and particularism is referred to “rules versus relationship”. Adherence to the rules is the attribute associated with universalistic cultures. The definition of right and wrong is derived from universally agreed upon rules. On the other hand, obligations based on relationship are more important in particularistic cultures. They may have other priority over agreed upon rule. Individualism and communitarianism describe the role of a person as an individual and as a group in the society and how they are related to each other. This division is very similar to Hofstede’s individualism vs. collectivism. The dimension neutral versus emotional is linked with the expression of feelings and emotions in dealing with other people. Neutral societies separate emotions from their expressions and interact with other people based on objective communication. On the contrary emotional cultures extensively use emotions through gestures. The communication is centered on emotional aspects and not impartial.

The dimension, specific versus diffuse is mainly about “the range of involvement” of an individual in the particular relationship (Trompenaars & Hampden-Turner, 2006, p. 29). People in specific cultures keep individual relation with someone separate in each specific situation. For example, the boss and subordinate relation will only be limited to office and outside they meet and deal like

normal people. While in the diffused cultures the relationship in two situations is not isolated from other relations. A boss and subordinate relationship will remain same even if boss and subordinate are meeting outside e.g. during shopping. The dimension of achievement versus ascriptions is mainly connected to “how status is accorded” (Trompenaars & Hampden-Turner, 2006, p. 29). The success and achievements of the people can be attributed to personal effort which means people achieve success or failure based on what they have done. Alternative perspective is that the success or failure can be attributed to individual personal circumstances. The factors of kinship, personal relations, age, or education determine individual status in a particular situation.

The dimension attitude to time is highlighting individual’s perception regarding time. Based on this, attributed people can be differentiated by the level of importance they attribute to their present, past, or future. Cultures focusing on present mainly do not give importance to traditions or even future. The persons focusing on the past give high importance to living with traditions and history connections. On the other hand, the persons focusing on the future care less about the past and present. They have a vision to pursue long term objectives and they view their success in achieving certain positions in the future. The other view of considering time is sequential or chronic. The people following sequential orientation view time in a straight line while people having chronic orientation relate past, present, and future and consider them as interdependent. People perform multiple tasks and many things can be done at the same time. Lastly, the dimension attitude to the environment connects people and nature relationship. Environmental orientation can be inner-directed where a person, and how this person can influence the environment is important. People believe that they can generally control the nature in some way. The contrasting view is outer-directed where people believe nothing can be done to change the nature which is very powerful. People believe themselves as small parts of nature and they must move according to the nature force.

### 2.1.3 Hall

Edward T. Hall worked for decades and his work includes four main cultural dimensions named high and low context, space, time, and fast and slow messages. In a high context communication little information is communicated and it is believed that no background information is required. In a low context detailed information including the background information is communicated in order to ensure that the message is properly communicated. In high context the background is believed to be already known. In low context cultures on the other hand, there is a clear separation between work and other relationships, ensuring effective communication. In this kind of cultures it is important to communicate full messages explicitly. The space dimension is mainly related to ownership or personal space (Hall & Reed Hall, 1990). This is an association of someone with something or description of a space as my own. This space can be a bedroom, car or area surrounding a person. This perceived personal space varies from culture to culture. In time dimension people are attributed to monochronic and polychronic culture. In monochronic time people perceive time as a straight line. The individuals have to put their activities in different timeslots. On the other hand, in polychronic time orientation people have more liquid approach to time and more activities can be scheduled in one time slot. The dimension dealing with fast and slow messages is connected to the speed at which message can be decoded. Fast messages are associated with fast understanding (e.g. headlines) and slow messages are associated with slow understanding and interpretations (e.g. books). In order to operate effectively a reasonable speed is required. According to the authors this can be related to each and everything, for example a person can be regarded as slow if it takes long time to understand another person. In contrast, another person can be regarded as fast if the person is quickly able to understand another person. Clear differentiation can be observed in different cultures related to speed dimension.



### 2.1.4 Schwartz

Schwartz (2009) looks at culture in a different way because he believes culture is outside of an individual and not related to people's action or mind. In his opinion culture can be measured with the help of cultural manifestations. He also believed that some common problems of the societies can be solved through increased understanding of the cultural values. Schwartz presented seven cultural values namely, embeddedness, affective autonomy, intellectual autonomy, hierarchy and egalitarianism, harmony, and mastery (Schwartz, 1999, 2009; Fischer et al., 2010).

The dimension autonomy has further classification as affective and intellectual autonomy. Embeddedness is related to boundaries and relationship among individuals. Autonomy is mainly related to independence of an individual within a group and embeddedness is dealing with state of collectiveness in a group or society. These can be related to Hofstede's dimension where the classification is based on collectivism and individualism. In the dimension hierarchy and egalitarianism, the main subject is related to future behavior of people for mutual co-existence. In egalitarianism, individuals are believed to be equal and have common interest. The importance is given to social welfare, mutual cooperation, honesty and equality. The cultures following hierarchy on the other hand are not considered as equal. The people assume different roles which they take for granted and everyone follow rules associated with the role. The distribution of power, wealth and authority is not equal but divided in different hierarchical levels.

The dimension on harmony and mastery primarily focused on the relationship of people with nature. Particularly it highlights the human view regarding natural resources and the power of the nature. The harmony dimension is associated with the people in a culture who believe natural force to be supreme. They try to harmonize their life by accepting their part as the distribution of nature. On the other hand, people following mastery principle believe that they can identify

certain goals and in order to achieve them they can challenge the natural forces. Basically, they have strong ambitions and want to align nature with their goals. This concept is closely related to the “attitude to environment” dimension presented by Trompenaars and Hampden-Turner (2006).

### **2.1.5 GLOBE Project**

The research program referred to as GLOBE project (House et al., 2002), or GLOBE Culture and Leadership Study 2004 (<https://globeproject.com/studies>) was a large-scale multi-phase, multi-method, international research endeavor with the objective to “predict the impact of specific cultural variables on leadership and organizational processes and effectiveness of these processes.” (House et al., 2002, p. 4) It was initiated by Robert J. House in 1991 (Hofstede, 2010). The project involved researchers from 61 countries and its main source of data are approximately 17,000 questionnaires that have been collected from middle managers of 825 organizations (House et al., 2002).

Concerning the construct of culture, the GLOBE research employs dimensions from Hofstede (1980). Moreover, it builds upon the work of Kluckhohn and Strodtbeck (1961), as well as McClelland (1985), and Putnam (1993). Noteworthy, survey participants were asked each question twice. One time they were supposed to describe their organization’s current state (“as it is”); another time to judge and describe how it should be (“as it should be”). The development of the scales is described in Hanges and Dickson (2006).

The second construct in the center of GLOBE research is leadership, which the GLOBE researchers define as the “ability to influence, motivate, and enable others to contribute to success of their organization.” (House et al., 2002, p. 7) The respective questionnaire items were formulated based on extant leadership theories as described in House and Aditya (1997). The GLOBE research looked at leadership attributes and behaviors and the effectiveness of leadership as well as the degree to which leaders were accepted. The research was supposed

to reveal on the one hand whether there are leadership behaviors that are universally accepted/effective, and on the other hand the role of national culture regarding leadership acceptance/effectiveness (House et al., 2002).

Regarding the relevance of the GLOBE project for this research, two things can be said: First, one of the main variables of the GLOBE project's research model was leadership effectiveness. The research at hand deals with decision making in particular, which can be considered one specific aspect of leadership. It is therefore difficult to derive direct implications for the design of the present research from the GLOBE project. Likewise, a latter discussion of this research's results in the light of the results of the GLOBE project seems to be of limited value.

Second, despite the participation and contribution of a broad international community of researchers to GLOBE, Pakistan was not among the countries with a team of Country Co-Investigators (CCI), i.e. there are no results available for Pakistan from the GLOBE Culture and Leadership Study 2004.

Nevertheless, the results for the sub-sample Germanic Europe, i.e. Germany, Austria, Netherlands and Switzerland, shall be briefly introduced here. Figure 2:1 shows the scores for the nine cultural dimensions used within the GLOBE project. Figure 2:2 shows the scores of leadership attributes that are considered to be associated to outstanding leadership by GLOBE researchers of the same sub-sample. Concerning Figure 2:1, the "Practice Scores" reflect the analyses of the "as it is" items, while the "Value Scores" reflect the analyses of the "as it should be" items (cf. above).



Figure 2:1: Cultural practices and values in the Germanic Europe group (retrieved from <https://globeproject.com/results/clusters/germanic-europe?menu=list#list>, on 28<sup>th</sup> June 2020)

Concerning a brief comparison of the results from the GLOBE project with Hofstede's research, only the three dimensions uncertainty avoidance, power distance, and individualism are considered, as the respective scales used in terms of GLOBE research were intended to measure the same variables as Hofstede did (House et al., 2002). Hofstede's scores for uncertainty avoidance range from 53 (Netherlands) to 70 (Austria) out of 100 maximum. The results from GLOBE seem to confirm this. The results from GLOBE show a huge discrepancy between the actual expression of power distance in the organizations on the one hand ("as it is"; relatively high) and the desired state on the other ("as it should be"; relatively low). The Hofstede scores rather seem to reflect the latter perspective as they range from 11 (Austria) to 38 (Netherlands; Switzerland and Germany showing almost equal scores with 34, and 35, respectively). Finally, Hofstede's results show medium (55, Austria) to high (80, Netherlands) scores for individualism, with Germany (67) and Switzerland (68) being located in the middle (i.e., relatively high; all values above retrieved from <https://www.hofstede-insights.com/country-comparison/austria,germany,the-netherlands,switzerland/> on 29<sup>th</sup> June 2020). The dimension institutional collec-

tivism from the GLOBE project uses the scale in the opposite direction, i.e. low scores reflect high individualism while high scores are a sign for collectivist societies. The values from GLOBE range from medium to relatively high, so one could argue that the results rather contradict Hofstede's results in this regard.

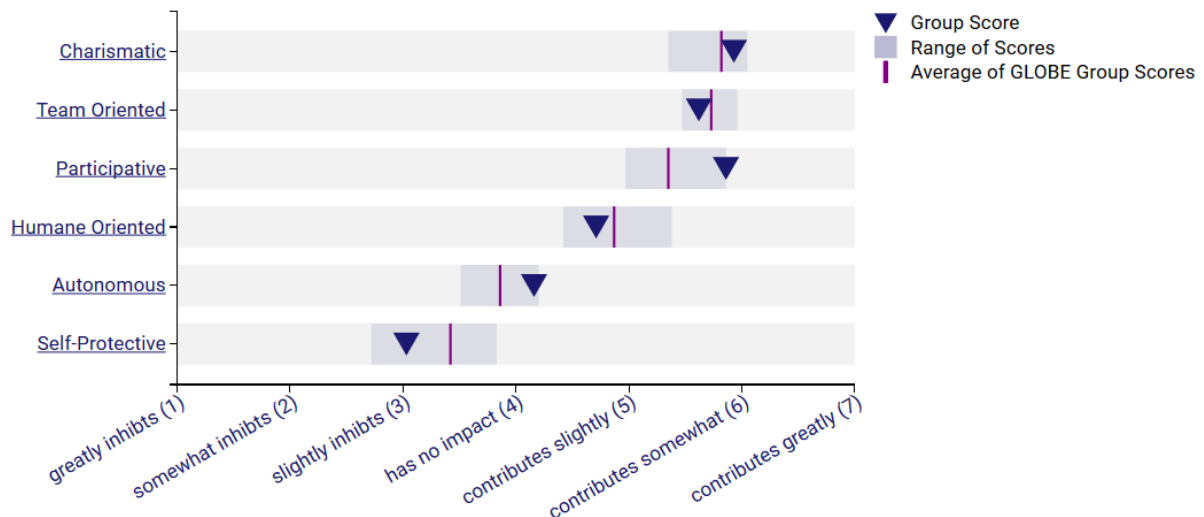


Figure 2:2: Leadership Scores for Outstanding Leadership in the Germanic Europe Group (retrieved from <https://globeproject.com/results/clusters/germanic-europe?menu=list#list>, on 28<sup>th</sup> June 2020)

There has been much discussion on the GLOBE Culture and Leadership Study 2004 among scholars, e.g., on the question what the scales applied did actually measure, and on whether the differentiation between the actual state and the desired state of a cultural dimension is actually help- or useful (cf. Hofstede, 2010, for a summary). Nevertheless, the project was succeeded by the GLOBE CEO study 2014 which explored leadership behaviors and leadership effectiveness in 24 countries.

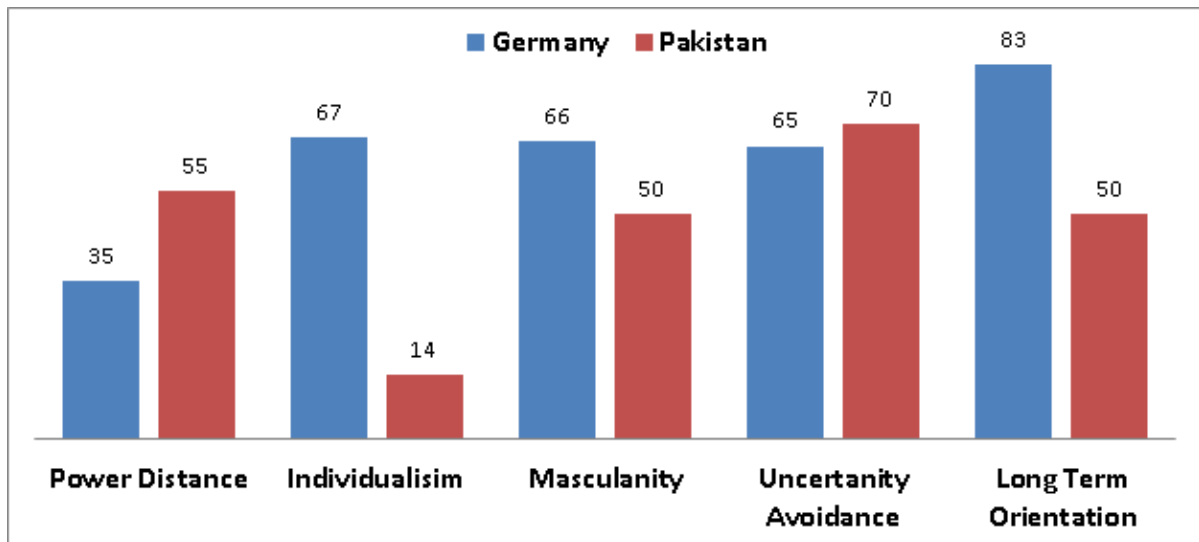
## 2.2 Cultural measurement approaches

As to define culture is a complex matter, the measurement of cultural values and dimensions is also complicated. Taras et al. (2009) describe that there are two approaches to study national culture which may be used to define and measure national cultures. These are emic and etic approaches. The emic ap-

proach is limited to describe only one culture of one country and cannot be used to describe and compare cultures of two different countries. The etic approach on the other hand follows the assumption that there are some cultural dimensions which are universal and can be relevant to any culture. The vast majority of researchers followed etic approach in culture oriented research. However it also has some limitation, for instance long term orientation scores are not homogeneous and do not reflect eastern or western culture suggesting a limitation of the etic approach alone to provide proper justification (Bala et al., 2012). Gannon et al. (2005) used a set of questionnaires to conduct a study in six countries. In order to include the emic aspect, they used metaphors. Some of the cultural studies can be categorized as etic (Denison, 1984; Hofstede, 1980; Hofstede & Bond, 1988; House et al., 2004) and some as emic (Miller et al., 2001; Gannon, 1994, 2004). Some studies also used a combination of emic and etic approaches (Sinha, 1990; Gannon et al., 2005) as described in the work of Bala et al. (2012).

Hofstede (1980) has stated that due to the universal nature of the cultural dimensions, different societies can be compared with each other. Figure 2:3 presents a comparison of scores of cultural dimensions for Germany and Pakistan. These scores are meaningful only when compared with each other. Hence, in a short digression, the following three paragraphs will compare the two cultures.

Brodbeck et al. (2002) stress the high level of uncertainty avoidance of Germans. Similar to other countries of middle and Northern Europe, German society scores high on long term orientation as well. Gender inequality is a topic that is being discussed with increasing frequency and the relatively high score on masculinity reflects a society dominated by masculine values. In the management arena, Germans strongly focus on performance and technical ability (Foster, 2015). What is more, effective German managers “are attributed with low compassion, low team orientation, high autonomy, and high participation.” (Foster, 2015, p. 18)



*Figure 2:3: Comparison of cultural dimensions of Germany and Pakistan (based on scores from Hofstede, 1980)*

The comparison of scores in this figure shows that Pakistan has a high score for power distance, and a low one for individualism (which means high tendency towards collectivism) as compared to Germany. Pakistani society is scoring high for long term orientation in comparison with Germany. There are not high differences between two countries regarding masculinity and uncertainty avoidance. Nazim and Wajidi (2016) have mentioned that Pakistani culture is in consistence with scores of Hofstede (1980) regarding high scores for uncertainty avoidance and power distance, low score for individualism and medium ranged score for masculinity.

Salman (2015) has stated that due to high power distance, organizational members at lower level in organizational hierarchy are not involved in the decision making by the higher authorities until and unless they are asked by upper level managers to do so and decision making then is centralized in Pakistani society especially in business organizations. Islam (2004) has mentioned Pakistan as an autocratic society with reference to their conduct of decision making style in businesses and these decisions are most of the times made at superior levels in organizations. Islam has concluded that in contemporary managerial practices, different practices and traditions; adherence for hierarchal levels,

centralization, autocracy, gender discrimination, favoritism and corruption have emerged in Pakistani society due to high power distance, high inclination towards uncertainty avoidance and masculinity and strong orientation towards collectivism.

There are other different researchers who used etic approach to develop their models to evaluate cultural orientations of different countries, for example Trompenaars (1993) and Schwartz (1994). A recent attempt in this regard is the GLOBE project by House et al. (2004), presenting nine cultural dimensions and developed by using framework of Hofstede (1980).

Different researchers put their efforts to develop instruments to measure cultural values and dimensions at the individual level. Yoo et al. (2011) developed an individual level scale to compute the five dimensions of Hofstede's cultural values. Sharma (2010) developed and validated a scale consisting of ten cultural orientations. Maznevski et al. (2002) also developed an individual level cultural values measurement scale.

Kamakura and Novak (1992) have argued that to observe the cultural orientations of managers, it is more imperative and pertinent to study the culture at individual level.

In terms of this research endeavor an etic approach to study national culture has been adopted.

## **2.3 Decision making and national culture**

Decision making is one of the major tasks that managers have to perform in order to carry out their daily obligations for their organizations. Decision making is considered to be a cognitive phenomenon in which assessments of potential consequences and uncertainties are made for a complicated process of consideration (Müller et al., 2009). A good quality decision may provide competitive



advantage to a company. Due to its prime importance, Robbins et al. (2009) have stated that, “management is decision-making.”

Different researchers have developed instruments to measure the decision styles of individuals. Scott and Bruce (1995) developed a new measure to assess decision patterns of individuals and they identified five styles: rational, intuitive, dependent, and avoidant.

The pervasiveness of culture in the process of decision making can be realized from a number of research studies in this context (Hofstede et al., 2010; Müller et al., 2009; LeFebvre & Franke, 2013; Kazi, 2012; Dimitratos et al., 2011; Dabić et al., 2015). A field survey was conducted to show the differences in culture and decision making style adopted to take business decisions. The results of the study showed that the choice of the decision making style is subject to the values and convictions of the individuals who are part of the process of decision making (Yousef, 1998).

Müller et al. (2009) studied German and Swedish culture to highlight differences in decision making styles. They found Swedish teams make decisions based on consensus. On the other hand German teams' decisions are based on expert opinion. They also found that decision making in mixed international teams is critical and needs to be studied for better decision making in projects. Hofstede (1983) describes differences in national culture as specific challenge for the managers operating in projects across international borders. Pannavalee and Rafique (2007) highlighted in their study conducted in Thailand and India that team acceptance of the decision also varies from culture to culture and consequently also has an impact on decision implementation. The importance to study national culture in the context of decision making has also been explored by many other researchers, for instance Henrie and Sousa-Poza (2005) and Hoffmann (2004).

LeFebvre and Franke (2013) studied the decision making process and found involvement of individualistic and societal cultural attributes in decision making. Dabić et al. (2015) studied Hungary, Croatia and Slovenia and found differences concerning the influence of cultural values on decision making behavior. Hofstede et al. (2010) concurred that the circumspect and tolerant administration way is well dealt with in feminine societies. Culture is a standout amongst the most essential determinants of business in today's reality and additionally is an essential determinant of drawing decisions in an ethical manner. Culture influences how man sees moral issues, decision, and outcomes. "Culture impacts ethical decision making fundamentally in two ways: direct and indirect interfacing with different variables" (Christie et al., 2003).

Trompenaars and Hampden-Turner (2006) compared communitarian cultural attributes with the individualistic cultures to find out decision making behavioral differences. They found that people that live in individualist cultures take quick decisions, while members of communitarian cultures take more time to achieve a consensus and form decisions. Dabić et al. (2015) studied the impact of national culture on decision making styles in four countries with reference to Hofstede's (1980) cultural dimension framework. They argued that cultural values are a contingent factor in decision making. Fong and Wyer (2003) also observed the influence of cultural variations on the behavioral differences in decision making. They also pointed out that the type of decision is the main contributor in drawing the decision in both American and Chinese culture.

Khairullah and Khairullah (2013) explored out the impact of social estimations of senior chiefs of multinational organizations on decision making behavior in China. Another research inspected the administrative decision making styles in India, Finland and Bangladesh (Kazi, 2012). Freitas (1997, 1998a, 1998b) studied the relationship of national culture and decision making and developed a qualitative-quantitative tool to explore their mutual relationship. Guss et al. (2012) dissected the impact of instability shirking on the process of decision making in different cultures. Kohun and Skovira (2011) investigated decision

making and its socio-cultural environment. Srnka (2004) found in his study that particular cultural measurements do not have the same effect on the different phases of the process of decision making. It is assumed that the more extensive social environment has a predominant impact on the stages in or near the effective part of the procedure, such as moral perception, values and ethical thinking; while the closer environment, especially small scale society, appears to fundamentally impact the behavioral part of making decisions ethically.

Javidan and House (2001) studied the cultural dimensions by GLOBE project and showed linkage of these dimensions with decision making behavior. They showed that in cultures with low power distance individuals tend to actively participate in decision making processes. They also concluded that high long term orientation increases decision making time. Similarly, Dimitratos et al. (2011) concluded in their study that long term strategic decision making is strongly influenced by national culture. They showed power distance and its association with decentralization and hierarchical positions, linkage of lateral communication with individualism and connection of formalization with uncertainty avoidance.

The interpretations of the strategic issues in an organization and managers' response in dealing and making decision were also found to be strongly influenced by national culture (Schneider & De Meyer, 1991). Project portfolio management which is a vital aspect in long term strategic decision making was found to be different in different cultures (Killen and Kjaer, 2012). Other studies were conducted by Ali and his colleagues (Ali, 1993; Ali et al., 1997). They focused on approaches to decision making in Arabian cultures. They found decision styles are strongly affected by the cultural attribute of collectivism or individualism. The Arab society is collectivist and they are engaged in participative decision making. Sagie and Aycan (2003) also found that there is a strong linkage of participative decision style with cultural attributes of power distance and collectivism.

Müller et al. (2009) have reported that the decision making process of project managers is influenced by culture and project managers belonging to different cultures may reflect their cultural differences through their varied decision making behavior. They reported differences in decision making styles of project managers in German and Swedish project teams. Rowe and Mason (1987) developed the Decision Style Inventory (DSI) which provides four decision making styles; *directive*, *analytical*, *conceptual* and *behavioral* (Figure 2:4). This inventory is developed on the basis of cognitive complexity, individual's tolerance for ambiguity and task structure.

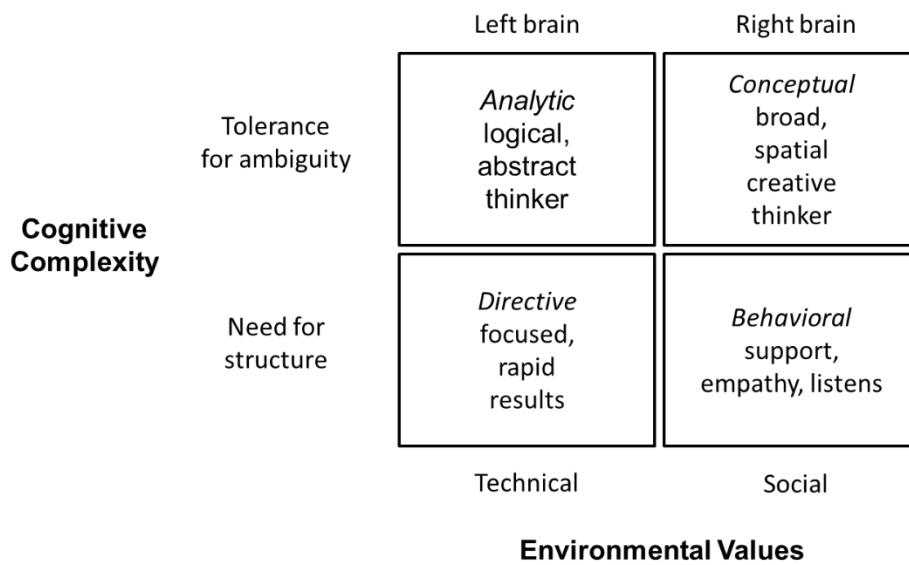


Figure 2:4: The Cognitive-Contingency Decision Style Model (adapted from Rowe & Boulgarides, 1983, p. 5)

Ali and Swiercz (1985) developed a scale measuring six decision making styles: *autocratic*, *pseudo-consultative*, *consultative*, *participative*, *pseudo-participative* and *delegative*. The details are provided in next chapter.

Review of literature suggests relationships between national culture and decision making styles. This phenomenon is also important to consider when making decisions in projects in a multicultural environment. In this research six decision making styles as proposed by Ali and Swiercz (1985) and four decision styles proposed by Rowe and Mason (1987) are studied in the context of Hof-

stede's (1980) cultural dimensions. The structural equation modelling (SEM) technique is applied to study the influence of culture on the above mentioned decision making styles. Four decision styles as proposed by Rowe and Mason (1987) in cognitive context have been measured and compared by using a descriptive approach. The details of the study and adapted methodology is described in methodology chapter.

## 3 Research methodology

### 3.1 Research plan

This study is both descriptive and explanatory in its nature. The descriptive research permits to recognize and depict the variability in diverse phenomena and explanatory research provides the ability to observe and elucidate relationship among variables of interest (Saunders et al., 2012). It is further indicated by Saunders et al. (2012) that questionnaires are compatible with this category of research for data collection. A field survey has been conducted to collect the data from Germany and Pakistan.

### 3.2 Constructs and instruments

The decision making styles have been measured both in social and cognitive context. Regarding social context, these styles have been assessed in both countries by using the scale developed and used by Ali (cf. Ali & Swiercz, 1985; Ali, 1989; and Ali, 1993). The DSI developed by Rowe and Mason (1987) has been used to assess the decision styles in cognitive context. These both scales have been adapted for this purpose

Ali and Swiercz (1985) developed a scale to measure the decision styles in social context. This scale can differentiate the individuals on the basis of six decision styles: *autocratic*, *pseudo-consultative*, *consultative*, *participative*, *pseudo-participative* and *delegative*. This is a single item scale in which each style has been measured by one item response. Yousef (1998) used this scale to measure the decision styles of managers in the United Arab Emirates.

Boussif (2010) used these decision styles to identify the decision making behavior of Tunisian managers belonging to different organizations. Naz et al. (2015) used the decision styles proposed by Ali (Ali & Swiercz, 1985; Ali, 1989,

1993) to study the relationship of organizational culture and decision making styles of managers in the textile industry of Pakistan. Podrug (2011) also used the framework of Ali (Ali & Swiercz, 1985; Ali, 1989, 1993) to study impact of national culture on decision making of managers in Croatia, Slovenia, Bosnia and Herzegovina and Hungary.

Ybema et al. (2010) used a single item scale to measure job satisfaction. The range of the scale was from 1 to 4, indicating “not at all satisfied” to “very satisfied”, respectively. Nagy (2002) also used single item scale for measurement of job satisfaction. The study of Wanous et al. (1997) has also confirmed the use of single item scales to be reliable and valid. Spörrle and Bekk (2014) have provided support for single item constructs in their meta-analysis.

Drolet and Morrison (2001) have strongly favored single item scales due to their quality of occupying less space in the questionnaire and requiring less time to record the responses from participants. Single item constructs can be used where small sample size is expected and in order to keep the overall number of items in the questionnaire at a low level.

The DSI measures the styles of respondents using a form consisting of twenty questions. Each one question has four likely answers associated to one of the subsequent decisions styles (*directive, analytical, conceptual, and behavioral*, respectively). The four alternatives for each one question are to be ranked according to their matching with the respondents' attitudes by using the numbers 1, 2, 4, and 8 respectively. None of these response rankings may be repeated for all four possible options against one question. Numbers ranging from 1, 2, 3 and 4 have been used as an alternative to avoid the difficulty for the respondent. Afterwards in the data sheet these numbers 1, 2, 3, and 4 were translated as 1, 2, 4, and 8 as were used in original format of DSI. This technique was also used by Jacoby (2007). After development of DSI different researchers have used it in their studies and have reported it as a reliable and valid instrument (cf. Al-Omari, 2013; Alqarni, 2003; Bei, 2006; Jacoby, 2007; Mech, 1993). Fox (1999)

used this inventory to describe the decision styles of project managers. Misra and Srivastava (2012) also used this instrument to measure four decision making styles of managers. These styles included *behavioral, conceptual, analytical* and *directive*. They used categorical scale to measure these styles and mentioned that Cronbach's alpha was not needed for such type of scale.

To measure the cultural dimensions at individual level a scale was formed by Yoo et al. (2011) known as Individual Cultural Values Scale (CVSCALE). Yoo et al. (2011) have claimed that results of Hofstede (1980) measurement of culture are at national level and cannot distinguish the specific groups from their respective national populations. Hofstede's scores for national culture are already older than thirty years (Hofstede et al. 2010). Moreover, it is also assumed that changes in national culture have occurred with the passage of time (Baskerville, 2003; Johnson & Turner, 2010; Needle, 2010).

The CVSCALE scale has both strong reliability and validity (Yoo et al., 2011). This scale was developed on the basis of Hofstede's (1980) cultural dimensions which are *power distance, uncertainty avoidance, collectivism/individualism, masculinity/femininity, and long term/short term orientation*. This scale measures the above mentioned dimensions at individual level by using a five point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (5). To assess each dimension multiple items were used in this scale. The total number of items in this scale is twenty six. Each five items are measuring *power distance* and *uncertainty avoidance*, whereas each six items were used to measure responses for *individualism/collectivism* and *long term/short term orientation*. The remaining dimension *masculinity/femininity* has been measured by using four items. This scale has also been adapted for this study.



### 3.3 Development of questionnaire

Mayer (2004) and Saunders et al. (2012) consider the reliability and validity to be an important matter which a questionnaire should exhibit. To address this issue, in this study, previously tested tools have been adapted.

For the face and content validity, the questionnaire was discussed with two senior professors of management sciences. Sekeran and Bougie (2016) have described that if an instrument (items used for measurement of a variable) is capable of measurement of a concept (variable of interest) then it holds content validity. They have further discussed that if the experts could validate that instrument used for measurement of a concept appears to reflect appropriately the intended concept then it has face validity. Saunders et al. (2012) have described that if the questionnaire is making sense to be able to measure the intended concepts then it holds face validity.

Both countries Germany and Pakistan are culturally diversified. In addition, the native language of these both is not English. Whereas, the language of the questionnaire used in this study is English. This could lead to ambiguities regarding the understanding of statements and questions used in the measurement tool. Therefore, one professor from Germany and another from Pakistan were selected as experts to obtain content and face validity of the questionnaire. These professors were Prof. Dr. Dr. Peter Reusch and Prof. Dr. Hayat Muhammad Awan. Prof. Reusch was German while Prof. Awan belonged to Pakistan. Both professors were selected because of their vast experience related to managerial and administrative positions, projects planning and implementation and academic and research activities.

Prof. Reusch had been dean and head of business department for almost ten years at the University of Applied Sciences and Arts, Dortmund, Germany. He also managed the master program “European Master in Project Management (Euro MPM)” for more than five years at the same university. He had supervised

different students in that program. He had also worked as PhD supervisor for the doctoral program in the subject of project management at the University of the Basque Country, Bilbao, Spain. He was well familiar with project management concepts. He had also been involved in major decision making activities being dean and head of department.

Prof. Awan had served more than ten years as head of department of business administration and also as dean of the faculty of management sciences at Bahauddin Zakariya University, Multan, Pakistan. He also held the position of acting Vice Chancellor there for some time. Moreover, he was director of Air University Multan campus and also served as head of department of business administration there. He had planned different projects and was involved in top level decision making in both universities. He also served as a supervisor of students at both Master and PhD level. He was a well-known researcher in Southern Punjab in the fields related to management sciences.

Both professors described that the questionnaire had been understandable and could be used for data collection regarding cultural dimensions and decision styles of German and Pakistani individuals associated with project management activities. Minor improvements were suggested by them. Prof. Awan suggested to use some simple and easy to understand synonyms of some English words used in the questionnaire. These synonyms were provided in parentheses along with original words. For example, in part two, table A, in item number nine and seventeen, the words “awareness” and “nervous” have been used respectively to explain “intuition” and “anxious”. Prof. Reusch suggested mentioning some words in part five, section A, as for example to add clarity about required information. For example, under the heading, “Personal Factors” in the second column of the table there, the words “personality”, “morality”, “experience” and “attitude” had been written. Both professors confirmed and validated the content and face validity of the instrument in general.

The major part of the questionnaire developed for this study is quantitative in nature; however, there is a small qualitative section as well. The demographic information and data about the decision making styles of Pakistani and German individuals who are working in the organizations in which project management activities are carried out has been collected. The information about dimensions of national culture in both countries has also been collected in the context of Hofstede's (1980) cultural dimension framework. The information about decision styles and dimensions of national culture has been used for quantitative purpose.

The information about personal, organizational, and general environmental factors have been collected for the qualitative purpose which may affect the decision making process and styles of the respondents.

The questionnaire consists of six parts. In the first three parts there are items which are measuring cultural dimensions and decision styles of individuals. These items have been adapted from scales already used in research to measure cultural dimensions and decision styles at individual level. The quantitative data is to be collected through these parts. The fourth and fifth part of the questionnaire will mainly be used to obtain qualitative data about decision criteria and different factors affecting decision behaviors of individuals. The final part of the questionnaire will be used to acquire demographic information of the individuals, for example their age, education, gender, experience etc.

### **3.4 Sampling and unit of analysis**

In the research design process, the last step is to develop an approach for data collection (Saunders et al. 2012).

For the purpose of data collection for this research, a field survey was conducted. Non probability sampling technique was used regarding sample selection for data collection. In both countries Germany and Pakistan, personal

contacts were used to access the individuals who had been working at managerial positions and were involved in project related activities. The individuals approached through these contacts helped to gain further access to other persons who would eventually become respondents. Saunders et al. (2012) have described that use of known contacts may be used in ethnographic research strategy. This study focuses on cultural aspects and decision styles of individuals of two countries and may be considered related to ethnographic research. Saunders et al. (2012) have further explained that this type of strategy can be used for purposive or snowball sampling where research has to be focused on a small sample in which respondents are selected for some specific purpose.

Overall, fifty five questionnaires from Germany and eighty eight from Pakistan have been included into the final set of data after sorting out, e.g., incomplete responses. The German respondents came from twenty companies, while the Pakistani respondents came from thirty companies. This data was collected during the years 2013 and 2014.

In Germany, questionnaires in Microsoft Word format were sent through email and were provided in person in flash drive. Sixty questionnaires were received back and five responses were not included in data because of almost fifty per cent incomplete part.

In Pakistan, the same technique was used for data collection with an additional method, which was personal visits. One hundred and four questionnaires were collected back and sixteen responses were rejected due to majority incomplete entries (these were the respondents who have not been contacted personally).

### **3.5 Software tools and statistical techniques**

Different software tools have been used to address the research questions presented in this study. For presenting the descriptive statistics and to perform the t-tests SPSS 21 has been used. To report the differences in decision styles both

in social and cognitive context; independent sample t-test technique has been used with the help of the same software. The same technique has also been used to assess the differences in cultural dimensions in both countries. T-test is an appropriate technique to compare the mean value scores for two groups (Sekaran & Bougie, 2016; Saunders et al., 2012).

To trace out the relationship between decision styles and cultural imprint, SEM technique has been applied, using SmartPLS3 software. Nonetheless, it has been performed only for decision styles in social context and not for the DSI due to different and categorical nature of that scale. All the cultural dimensions (i.e., *power distance*, *uncertainty avoidance*, *collectivism/individualism*, *masculinity/femininity* and *long term/short term orientation*) and the decision making styles in social context (i.e., *autocratic*, *pseudo-consultative*, *consultative*, *participative*, *pseudo-participative* and *delegative*) have been taken and measured as latent and reflective variables, respectively. The relationships of all the cultural dimensions with all the above mentioned decision styles have been explored by taking cultural dimensions as independent and decision making styles as dependent variables. The statistical discussion about, e.g., reliability and validity of these measures will be presented in Chapter 4, which deals with data analysis.

## 3.6 Definitions of terms in scales

### 3.6.1 Decision styles as per Decision Style Inventory

In the following, the definitions and description of four styles of this inventory are presented as mentioned by Rowe and Boulgarides (1983, p. 5-6):

**Directive:** “These individuals have a low tolerance for ambiguity and tend to focus on technical problems. They have a high need for power and prefer tangible to intrinsic rewards. They emphasise speed and action and thus use limited information and few alternatives. They tend to be aggressive and authoritarian and focus internally to the organisation with short-range and tight

controls. They are very effective at achieving results.” (Rowe and Boulgarides, 1983, p. 5)

**Analytic:** “This style is typical of the abstract thinkers who have a high tolerance for ambiguity and thus use considerable information and are very careful in the examination of alternatives. They tend to optimise problem solutions and enjoy challenges. They often reach top posts in their companies and are innovative in their solution to problems. They prefer written reports and look for variety in their work.” (Rowe and Boulgarides, 1983, p. 5)

**Conceptual:** “Because of their high cognitive complexity and people orientation, they tend to want elaborate treatment of problems and want to consider many alternatives. They are generally broad thinkers who take a systems perspective and are future oriented. They value quality and prefer openness and shared goals with subordinates. They are highly creative and have a high organisational commitment. They are high achievers who need praise and recognition. They tend to be very independent and refuse to be pressured. They prefer loose control to power and enjoy interacting with others.” (Rowe and Boulgarides, 1983, p. 6)

**Behavioral:** “This style has a deep concern for their fellow employees and have a strong need for affiliation. They are supportive, are good listeners, receptive to suggestions and communicate easily. They exhibit warmth and will accept loose control. They prefer meetings to reports and do not use much data in arriving at decisions. Their focus tends to be people oriented with short-range goals.” (Rowe and Boulgarides, 1983, p. 6)

For a more detailed description of these styles Rowe and Boulgarides (1983), and Rowe and Mason (1987) may be consulted.

### 3.6.2 Decision styles in social context

These decision styles are defined as per framework of Ali (Ali & Swiercz, 1985; Ali, 1989, 1993).

**Autocratic:** As per this style, the individuals make decisions on the basis of information they have and there is no consultation with subordinates. This style is strongly linked with organizational hierarchy and structure. The managers at higher managerial positions possess authority due to their legitimate positions. Most of the time they exhibit authoritarian behavior. They do not confer with their subordinates and impose the decision which they make to solve the problem.

**Pseudo-consultative:** In this style, the feeling of consultation with subordinates is created, but decisions are actually drawn individually. Managers discuss about the problem and possible solutions with people lower in hierarchy. They do, however, not make a real consultation. They give an impression to their subordinates that they are listening to them and they want opinions from them to arrive at a decision. These managers gather ideas and suggestions from subordinates and make the decision as per their own thinking. It is not true consultation like the concept of consultation which prevails in Western countries. The intention of the manager is just to create a false feeling of consultation for the subordinates.

**Consultative:** As per this style, consultation with subordinates is made but final decision may or may not reflect the impact of that consultation. The manager conducts discussions with subordinates prior to the decision implementation. Then it is the discretion of the manager that the ideas and suggestions provided by the subordinates may or may not be considered and included in final decision.

**Participative:** In this style, the decision is made in a group on the basis of majority opinion. The manager who adopts this style shares the problem with

subordinates. They all together analyze it as a group. The possible solutions are discussed mutually. The alternatives are developed and evaluated in a participative way. Finally, a decision is made which represents the ideas and suggestions of the majority. It may therefore be considered a majority decision. In this style there is equalization of power and influence between subordinates and managers while involved in discussions and decision making process.

***Pseudo-participative:*** As per this style, information is shared, and the decision problem is transparent. Prior discussion is also made but the final opinion of the manager is communicated in advance to others and then decision voting is performed. The shared information and problem are analyzed mutually in group. The alternatives for solution are developed and discussed with subordinates as a group. The group opinion is obtained about right decision but the final decision may not be true representative of suggestions of subordinates because of earlier knowledge of intended decision of their boss. The managers using this style declare to the subordinates that manager's choices finally will have to be endorsed.

***Delegative:*** In this style, subordinates are allowed to make decisions on the basis of their own judgment and opinion. The manager asks the subordinates to analyze the problem and to develop and evaluate those alternatives on their own. The choices are made, implemented and communicated to manager. The subordinates have delegated authority in this decision style.

### **3.6.3 Cultural dimensions as per Hofstede**

Hofstede and Hofstede (2005) define the cultural dimensions as follows:

***Power distance (PD)*** is defined as “the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally.” (Hofstede & Hofstede, 2005, p. 46)



***Uncertainty avoidance (UA)*** is defined as “the extent to which the members of a culture feel threatened by ambiguous or unknown situations.” (Hofstede & Hofstede, 2005, p. 167)

***Masculinity (MAS)*** in a society is defined as “when emotional gender roles are clearly distinct: 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.” (Hofstede & Hofstede, 2005, p. 120)

***Long term orientation (LTO)*** is defined as “the fostering of virtues orientated toward future rewards—in particular, perseverance and thrift.” (Hofstede & Hofstede, 2005, p. 210)

***Collectivism (COLLEC)*** is implied as “societies in which people from birth onward are integrated into strong, cohesive, in-groups, which throughout people’s lifetimes continue to protect them in exchange for unquestioning loyalty.” (Hofstede & Hofstede, 2005, p. 76)

# 4 Analysis of data and interpretation of results

## 4.1 Descriptive statistics

This section presents the descriptive statistics for German and Pakistani participants. Table 4:1 presents information about minimum, maximum, mean and standard deviation values for age, job experience, managerial experience and project experience of German participants. The average age, job experience, managerial experience and project experience are 47.9, 21.3, 13.3 and 11.573 years, respectively.

Descriptive statistics (German sub-sample)					
	N	Minimum	Maximum	Mean	Std. deviation
	Statistic	Statistic	Statistic	Statistic	Statistic
Age	55	29.0	64.0	47.982	8.4951
Job experience	55	4.0	36.0	21.3909	8.26062
Managerial experience	55	2.5	28.0	13.3091	6.73609
Project experience	55	1.0	27.0	11.573	7.2460

*Table 4:1: Descriptive statistics of the German sub-sample*

Table 4:2 describes frequencies and percentages of gender types, education and managerial levels of German participants. 92 % of all participants were men. The highest education level of 70.9 % of the participants is the diploma degree, while 7.3 % held a master's degree, and another 18.2 % had a PhD. 3.6 % of the respondents had degrees other than those mentioned above. Regarding the managerial level, 52.7 % are at middle and 47.3 % at lower level of management in their organizations.

	Frequency	Percent
<b>Gender</b>		
Male	51	92.7
Female	4	7.3
<b>Education</b>		
Diplom	39	70.9
Master	4	7.3
PhD	10	18.2
Other	2	3.6
<b>Managerial Level</b>		
Middle Level	29	52.7
Lower Level	26	47.3
<b>Total</b>	<b>55</b>	<b>100.0</b>

*Table 4:2: Frequencies and percentages of types of gender, education and managerial levels of German participants*

<b>Descriptive statistics (Pakistani sub-sample)</b>					
	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. deviation</b>
	<b>Statistic</b>	<b>Statistic</b>	<b>Statistic</b>	<b>Statistic</b>	<b>Statistic</b>
Age	88	24.0	59.0	41.432	8.5067
Job experience	88	5.0	35.0	17.1733	8.09084
Managerial experience	88	2.0	31.0	11.7926	7.30004
Project experience	88	1.0	28.0	8.358	5.7064

*Table 4:3: Descriptive statistics of the Pakistani sub-sample*

Table 4:3 presents information about minimum, maximum, mean and standard deviation values for age, job experience, managerial experience and project experience of Pakistani participants. The average age, job experience, managerial experience and project experience are 41.4, 17.1, 11.7 and 8.3 years, respectively.

Table 4:4 describes frequencies and percentages of gender types, education and managerial levels of Pakistani participants. 94.3 % of all participants were men. The level of education of 6.8 % of the participants is the diploma degree, while 13.6 % had a bachelor and another 68.2 % had a master's degree. There are 11.4 % who had other types of educational certificates. Regarding the managerial level, 15.9 % belong to the top, 72.7 % to the middle, and 11.4 % to the lower level of management in their organizations.

	Frequency	Percent
<b>Gender</b>		
Male	83	94.3
Female	5	5.7
<b>Education</b>		
Diploma	6	6.8
Bachelor	12	13.6
Master	60	68.2
Other	10	11.4
<b>Managerial Level</b>		
Top Level	14	15.9
Middle Level	64	72.7
Lower Level	10	11.4
<b>Total</b>	<b>88</b>	<b>100.0</b>

*Table 4:4: Frequencies and percentages of types of gender, education and managerial levels of Pakistani participants*

## 4.2 Comparison of decision styles of Germans and Pakistanis in social context

This section presents the comparison of decision styles of project managers in Germany and Pakistan.

Table 4:5 presents the group statistics, mean, standard deviation and standard error mean for all the decision styles for both Germany and Pakistan.

Group statistics					
	Country	N	Mean	Std. deviation	Std. error mean
<b><i>Autocratic</i></b>	Germany	55	2.109	.7116	.0960
	Pakistan	88	3.193	1.3118	.1398
<b><i>Pseudo-consultative</i></b>	Germany	55	2.145	.8259	.1114
	Pakistan	88	2.750	1.0854	.1157
<b><i>Consultative</i></b>	Germany	55	3.545	.8989	.1212
	Pakistan	88	3.500	.8442	.0900
<b><i>Participative</i></b>	Germany	55	3.491	1.0160	.1370
	Pakistan	88	3.102	1.0288	.1097
<b><i>Pseudo-participative</i></b>	Germany	55	2.636	1.0429	.1406
	Pakistan	88	3.011	1.1295	.1204
<b><i>Delegative</i></b>	Germany	55	2.527	1.1198	.1510
	Pakistan	88	1.784	.6856	.0731

Table 4:5: Group statistics; mean, standard deviation and standard error mean for the decision styles for both Germany and Pakistan

Table 4:6 presents the results of independent sample t-test for decision styles for Germany and Pakistan. The comparison of mean values in Table 4:5 and of p-values in Table 4:6 describe that Pakistani project managers are *more autocratic*, *more pseudo-consultative* and *more pseudo-participative* as compared to German managers. The p-values for these three comparisons are less than .05 in all cases which is an indicator of significant differences between the mean values for above three styles for both countries. Regarding the *participative* and *delegative* styles, German project managers have higher mean values with significant p-values. This implies that Germans are more *participative* and *delegative* as compared to Pakistani project managers. For *consultative* style, the p-value is higher than .05, which means there is no significant difference in this decision making style.

Independent samples test						
		Levene's test for equality of variances		t-test for equality of means		
		F	Sig.	t	df	Sig. (2-tailed)
<b>Autocratic</b>	Equal variances assumed	56.239	.000	-5.628	141	.000
	Equal variances not assumed			-6.392	138.680	.000
<b>Pseudo-consultative</b>	Equal variances assumed	13.875	.000	-3.538	141	.001
	Equal variances not assumed			-3.764	135.502	.000
<b>Consultative</b>	Equal variances assumed	.234	.630	.306	141	.760
	Equal variances not assumed			.301	109.319	.764
<b>Participative</b>	Equal variances assumed	.004	.947	2.208	141	.029
	Equal variances not assumed			2.215	115.851	.029
<b>Pseudo-participative</b>	Equal variances assumed	1.202	.275	-1.989	141	.049
	Equal variances not assumed			-2.026	121.628	.045
<b>Delegative</b>	Equal variances assumed	25.540	.000	4.926	141	.000
	Equal variances not assumed			4.430	79.560	.000

Table 4:6: Results of independent sample t-test for decision styles for Germany and Pakistan

### 4.3 Differences between German and Pakistani project managers with reference to Hofstede's cultural dimensions

Table 4:7 presents the mean values and standard deviations of the cultural dimensions *power distance*, *uncertainty avoidance*, *collectivism*, *masculinity*, and *long term orientation* for both countries Germany and Pakistan.

Group statistics					
	Country	N	Mean	Std. deviation	Std. error mean
<b>PD</b>	Germany	55	2.033	.6144	.0828
	Pakistan	88	3.018	.9982	.1064
<b>UA</b>	Germany	55	3.756	.6437	.0868
	Pakistan	88	4.468	.4157	.0443
<b>COLLEC</b>	Germany	55	3.403	.6726	.0907
	Pakistan	88	4.165	.4890	.0521
<b>MAS</b>	Germany	55	2.2318	.72625	.09793
	Pakistan	88	3.6420	1.06323	.11334
<b>LTO</b>	Germany	55	3.879	.3986	.0538
	Pakistan	88	4.343	.4109	.0438

Table 4:7: Group statistics; mean, standard deviation, and standard error mean of cultural dimensions for Germany and Pakistan

Table 4:8 presents the results of independent sample t-test of cultural dimensions for both countries Germany and Pakistan. The p-values are equal to 0.000 for comparison of all the mean scores indicating that the differences regarding cultural dimensions between these two countries are statistically very significant. For all the dimensions *power distance*, *uncertainty avoidance*, *collectivism*, *masculinity*, and *long term orientation*, Pakistani project managers show significantly high mean score values.

Independent samples test						
		Levene's test for equality of variances		t-test for equality of means		
		F	Sig.	t	df	Sig. (2-tailed)
<b>PD</b>	Equal variances assumed	33.458	.000	-6.579	141	.000
	Equal variances not assumed			-7.308	140.981	.000
<b>UA</b>	Equal variances assumed	11.054	.001	-8.040	141	.000
	Equal variances not assumed			-7.304	82.341	.000
<b>COLLEC</b>	Equal variances assumed	7.487	.007	-7.824	141	.000
	Equal variances not assumed			-7.282	89.514	.000

Independent samples test						
		Levene's test for equality of variances		t-test for equality of means		
		F	Sig.	t	df	Sig. (2-tailed)
<b>MAS</b>	Equal variances assumed	10.703	.001	-8.650	141	.000
	Equal variances not assumed			-9.415	139.831	.000
<b>LTO</b>	Equal variances assumed	.007	.934	-6.645	141	.000
	Equal variances not assumed			-6.692	117.392	.000

Table 4:8: Results of independent sample t-test of cultural dimensions for both countries Germany and Pakistan

## 4.4 Relationship of cultural dimensions and decision styles in social context

In this section, the relationships of cultural dimensions and decision making styles in social context have been explored by using SEM in SmartPLS3. This analysis has been performed by taking cultural dimensions as independent and decision styles as dependent variables for all the cultural dimensions with all the decision styles for both countries Germany and Pakistan respectively.

The validation of this analysis can be assessed through the estimation of measurement and structural models which are also known as outer and inner models respectively. Path modeling approach has been used to estimate the appropriateness of these two models.

### 4.4.1 Acceptable statistical criteria for measurement or outer model

In measurement model the reliability, composite reliability, convergent validity and discriminant validity are checked for the appropriate fitness of the model as per statistical standards.



For internal consistency, to measure the reliability, the value of Alpha ( $\alpha$ ) should be greater or equal to 0.6 (Cronbach, 1951; Hair et al., 2011). Composite reliability is also a measure of internal consistency and is considered to be a better criterion to assess the reliability of the model (Werts et al., 1974). A value higher or equal to 0.6 is statistically satisfactory for composite reliability (Werts et al., 1974; Tenenhaus et al., 2005). It is also suggested by Nunnally and Bernstein (1994) that 0.6 is an acceptable standard for composite reliability.

Campbell and Fiske (1959) describe that convergent validity is a measure of relationship of different items of a constructs with each other. For convergent validity, the value of average variance extracted (AVE) should be equal or greater than 0.4 (Henseler et al., 2009; Hair et al., 2013). This value is suggested to be greater or equal to 0.5 (Bagozzi & Yi, 1988).

Campbell and Fiske (1959) explain that discriminant validity of the model ensures that the measures of one construct are less related to the measures of another construct. For discriminant validity a new measure – Heterotrait-Monotrait (HTMT) ratio – has been used in this study. The statistical standard for this ratio may range from 0.85 to 0.90 (Henseler et al., 2015). Kline (2011) has suggested its value up to 0.85; also Clark and Watson (1995) presented the same standard. Gold et al. (2001) suggest its value up to 0.90. Henseler et al. (2015) have described the value of 0.85 as conservative and the value of 0.90 as a comparatively liberal standard to assess discriminant validity. If the value of HTMT is greater than the threshold standard of 0.90 then there would be low discriminant validity (Gold et al., 2001; Teo et al., 2008).

#### **4.4.2 Acceptable statistical criteria for structural or inner model**

The structural or inner model describes the relationship between the independent and dependent variables. In SmartPLS, three algorithms are used to

validate this model, which are named as PLS algorithm, bootstrapping and blindfolding algorithms respectively.

### **PLS-SEM – factor loadings**

The empirical output of SmartPLS is explained in two separate steps: First, the output of the measurement model, and, second, the output of the structural model. In the former, potential relationship existence between constructs and items used to reflect those constructs is presented. Whereas, the potential relationship existence is presented by later model. There are two further categories of this model which are known as reflective and formative measurement models respectively. For the purpose of this study the reflective model has been applied.

There are different steps and techniques used, which are involved in evaluating the output of a reflective model. Initially, individual indicators are evaluated based on factor outer loadings. These loadings describe the strength of association existing between the variable and items used for its reflection. Different researchers (Hair et al., 2017a; Hair et al., 2017b; Hair et al., 2011; Sarstedt et al., 2017) have described this concept and they explain that the values of outer loadings are considered acceptable when higher than 0.708; it means indicators are explaining the 50 % construct theme.

Researchers from the field of social sciences may obtain weaker factor loadings (i.e., less than 0.708) many times, specifically, when the scale is newly developed or used in new settings (Hulland, 1999). In this context, it is suggested that the loadings between 0.4 and 0.708 are also accepted conditionally (Hair et al., 2017b; Hulland, 1999). Different considerations are made for the items that have loadings less than 0.708. First, the author should account the issue of content validity. If the deletion of an indicator leads to affect content validity, then that indicator must not be dropped. Second, if the removal of weaker indicators does not lead to an increase in composite reliability, then it

should not be deleted. Hence, the researchers should be cautious in deleting indicators that have loadings less than 0.708.

### **R square ( $R^2$ )**

$R^2$  explains the variance in the dependent variable and it indicates the power of prediction of a particular model. The value higher than 0.6, of  $R^2$  is statistically considered to be stronger. Whereas, a value lesser than 0.20 is considered to be weak (Chin 2010; Hair et al., 2014; Henseler et al., 2009; Götz et al., 2010). For the estimation of path coefficients, PLS algorithm is used which provides the approximate calculations for positive or negative signs and magnitude of path coefficients.

### **Bootstrapping**

It is assumed that in PLS-SEM the data used is not normally distributed (Hair et al., 2017b; Sarstedt et al., 2017). Johnson (2001) has described that due to this violation, researchers are unable to apply parametric tests (used in a regression) to check the significance of path coefficients, outer loadings and weights. However, PLS-SEM depends on a non-parametric technique called a bootstrap to check the significance of coefficients (Davison & Hinkley, 1997).

In bootstrapping, sub-samples are generated by using the original data set, and these sub-samples are used to calculate the significance of the estimates. This procedure is continued until the maximum number of sub-samples has been generated. These sub-samples should be in large numbers to establish the stability and reliability of the results. Hair et al. (2011; 2017b) have described that it is generally recommended to use 5,000 sub-samples for appropriate significance. Furthermore, the parameter estimates calculated by using these sub-samples are utilized to calculate the standard errors of the estimates. Then the  $p$  and  $t$  values are estimated for assessment and significance of measurement and structural model (Sarstedt et al., 2017).

According to Wood (2005), the bootstrapping technique has various benefits for the researchers. Firstly, this technique is simple and demands a low-level knowledge of probability theory and mathematics. Secondly, the bootstrapping technique is broadly applicable and acceptable. It provides a solution to the situation where traditional methods may not be applied easily. Thirdly, the assumptions on which this technique relies are non-restrictive. Researchers can use this technique on data sets that violate multivariate assumptions such as normality and it can provide valid results.

### **Blindfolding algorithm**

Blindfolding algorithm is used to estimate the value of Stone Geisser ( $Q^2$ ). A value greater than 0 for  $Q^2$  is a predictive indicator that the model will be able to regenerate the similar relationships among the variables (Geisser, 1974; Stone, 1976).

### **4.4.3 Relationship of *power distance* with decision styles in Germany**

Figure 4:1 presents the relationship between the cultural dimension *power distance* and the decision styles *autocratic*, *pseudo-consultative*, *consultative*, *participative*, *pseudo-participative* and *delegative*, respectively, for the German sub-sample.

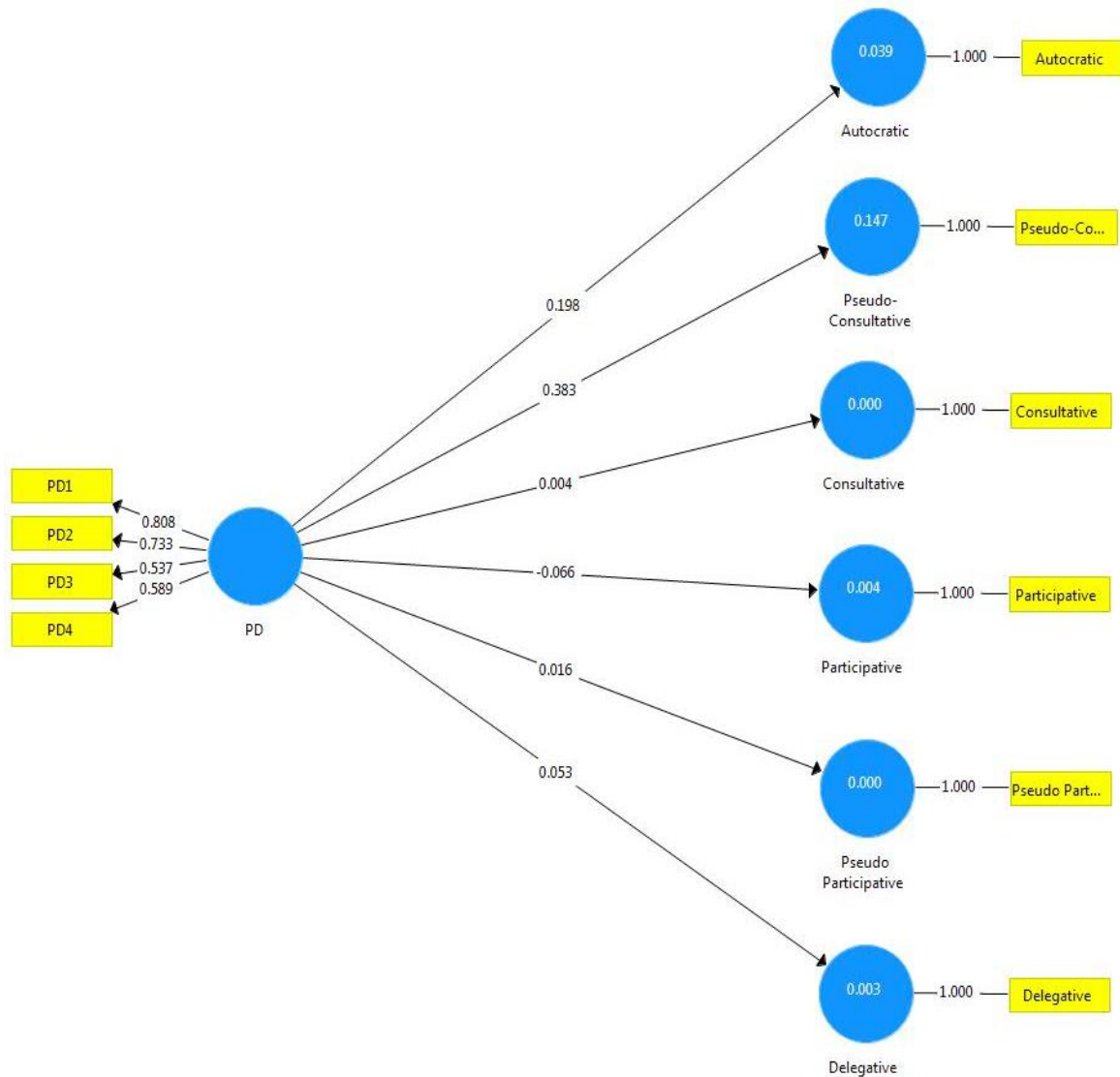


Figure 4:1: Relationship of power distance with decision styles in Germany

In Table 4:9, the results of the internal consistency, reliability and convergent validity are shown. The table presents the results of the outer model for first order and reflective constructs. The loading of the items for power distance are .808, .733, .537, and .589 for PD1, PD2, PD3, and PD4, respectively. The value of alpha for power distance is 0.603. This value of alpha is acceptable at  $\geq 0.6$  level.

Construct	Items	Loadings	Alpha	CR	AVE
<b>Cultural dimension <i>power distance</i></b>	PD1	0.808	0.603	0.766	0.457
	PD2	0.733			
	PD3	0.537			
	PD4	0.589			
<b>Decision styles</b>	Single item constructs				
<b><i>Autocratic</i></b>					
<b><i>Pseudo-consultative</i></b>					
<b><i>Consultative</i></b>					
<b><i>Participative</i></b>					
<b><i>Pseudo-participative</i></b>					
<b><i>Delegative</i></b>					

Table 4:9: Measurement model: power distance – decision styles (Germany)

The composite reliability of the dimension *power distance* is 0.766 which is also significant. The level of significance of composite reliability value is  $\geq 0.6$ . The value of AVE of *power distance* is 0.457, which is acceptable because it is higher than 0.4. All variables of the decision styles are single item constructs, their values for reliability and validity measures are calculated equal to 1.00 by SmartPLS3. These single items constructs are *autocratic*, *pseudo-consultative*, *consultative*, *participative*, *pseudo-participative*, and *delegative*.

Discriminant validity can be described through cross loadings and HTMT ratio criteria. Table 4:10 represents the values of HTMT ratio for all the constructs. All the values of HTMT ratios are lower than 0.9. If the value of HTMT is greater than this threshold then there would be low discriminant validity.

Constructs	<i>Auto- cratic</i>	<i>Consul- tative</i>	<i>Delegative</i>	<i>PD</i>	<i>Partici- pative</i>	<i>Pseudo- partici- pative</i>	<i>Pseudo- consul- tative</i>
<b><i>Autocratic</i></b>							
<b><i>Consultative</i></b>	0.066						
<b><i>Delegative</i></b>	0.159	0.059					
<b><i>PD</i></b>	0.243	0.180	0.072				

Constructs	<i>Auto-cratic</i>	<i>Consul-tative</i>	<i>Delegative</i>	<i>PD</i>	<i>Partici-pative</i>	<i>Pseudo-partici-pative</i>	<i>Pseudo-consul-tative</i>
<i>Participative</i>	0.229	0.015	0.175	0.152			
<i>Pseudo-participative</i>	0.295	0.022	0.326	0.119	0.067		
<i>Pseudo-consultative</i>	0.319	0.009	0.256	0.474	0.090	0.020	

Table 4:10: Discriminant validity: Heterotrait-Monotrait ratio; power distance – decision styles (Germany)

Table 4:11 describes the relationship between independent variable *power distance* and dependent variables, i.e. the decision styles.

Construct relationships	Path coef-ficients ( $\beta$ )	t-value	p-value	R square	Q square
<i>PD -&gt; Autocratic</i>	0.198	1.023	0.306	0.039	-0.087
<i>PD -&gt; Pseudo-Consultative</i>	0.383	2.799	0.005	0.147	0.094
<i>PD -&gt; Consultative</i>	0.004	0.021	0.984	0.000	-0.135
<i>PD -&gt; Participative</i>	-0.066	0.307	0.759	0.004	-0.084
<i>PD -&gt; Pseudo Participative</i>	0.016	0.098	0.922	0.000	-0.044
<i>PD -&gt;Delegative</i>	0.053	0.327	0.743	0.003	-0.066

Table 4:11: Structural model: power distance – decision styles (Germany)

The relationship of *power distance* with *participative* style is negative but it is insignificant because the p-value is higher than .05. On the other hand, the relationship of power distance is positive with other decision styles but that is also insignificant for all of those because of p-values higher than .05 except for *pseudo-consultative* style. The p-value for this relationship is lower than .05 and its t-value is 2.799. The beta coefficient is .383, the R<sup>2</sup> value is 0.147 and the value of Q square is greater than 0.

### 4.4.4 Relationship of *masculinity* with decision styles in Germany

Figure 4:2 presents the relationship between cultural dimension *masculinity* and decision styles *autocratic*, *pseudo-consultative*, *consultative*, *participative*, *pseudo-participative* and *delegative*, respectively.

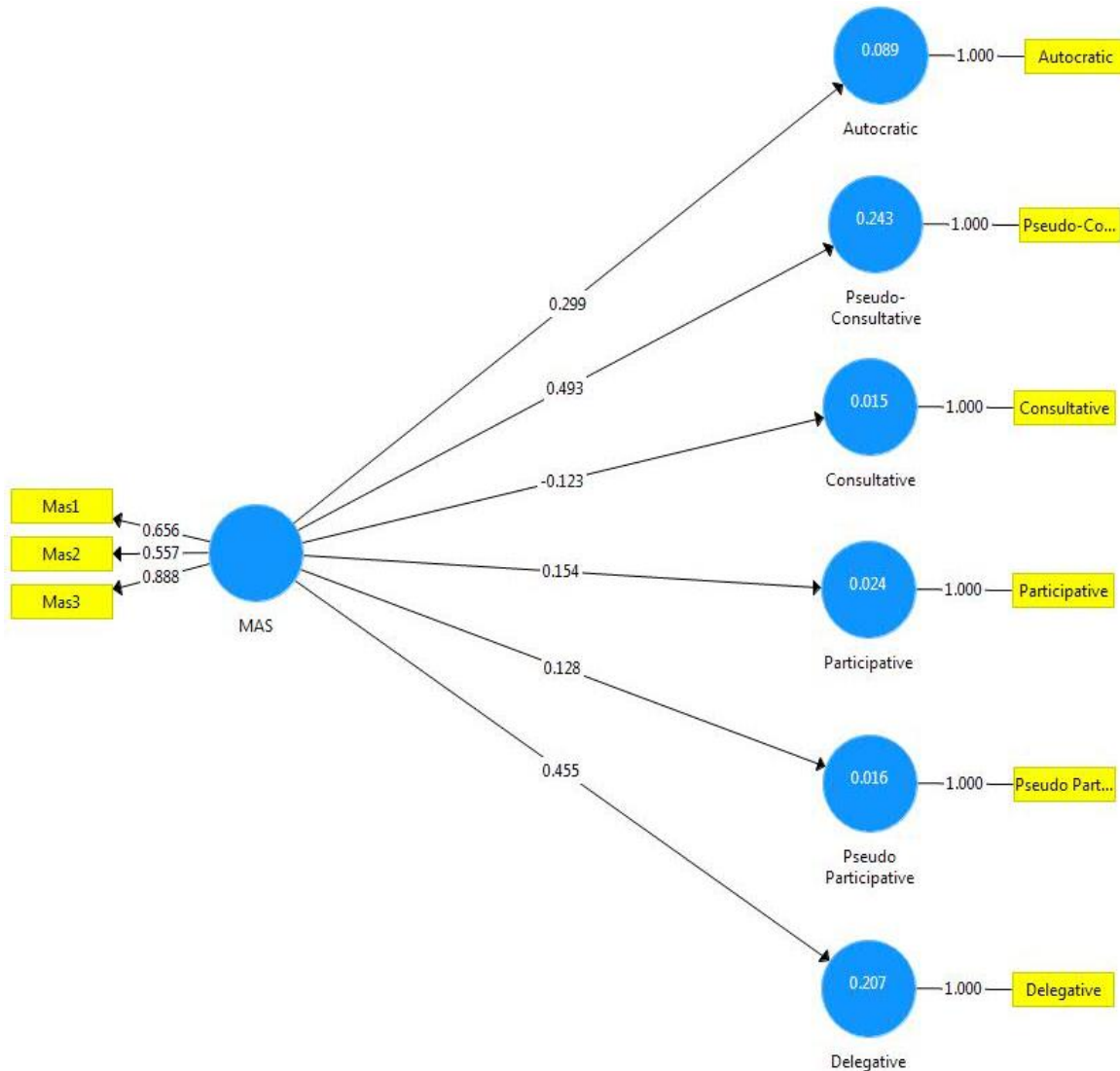


Figure 4:2: Relationship of masculinity with decision styles in Germany



Construct	Items	Loadings	Alpha	CR	AVE
<b>Cultural dimension <i>masculinity</i></b>	MAS1	0.656	0.501	0.750	0.510
	MAS2	0.557			
	MAS3	0.888			
<b>Decision styles</b>	Single item constructs				
<b><i>Autocratic</i></b>					
<b><i>Pseudo-consultative</i></b>					
<b><i>Consultative</i></b>					
<b><i>Participative</i></b>					
<b><i>Pseudo-participative</i></b>					
<b><i>Delegative</i></b>					

Table 4:12: Measurement model: *masculinity* – decision styles (Germany)

In Table 4:12, the results of the internal consistency, reliability and convergent validity are shown. The loading of the items for *masculinity* are .656, .557 and .888 for MAS1, MAS2 and MAS3, respectively. The value of alpha for *masculinity* is 0.501, which is slightly lower than the level of significance which is acceptable at  $\geq 0.6$ . The composite reliability of *masculinity* is 0.750 which is significant (the level of significance of composite reliability value is  $\geq 0.6$ ). The value of AVE of *masculinity* is 0.510 which is acceptable. The value of average variance extracted (AVE), which is used to measure convergent validity should be  $\geq 0.5$ . All variables of the decision styles are single item constructs.

Discriminant validity can be illuminated through cross loadings and HTMT ratio criteria. Table 4:13 represents the values of HTMT ratio for *masculinity* and all the other constructs. All the values of HTMT ratios are lower than 0.9.

Constructs	<i>Auto-cratic</i>	<i>Consul-tative</i>	<i>Delega-tive</i>	<i>MAS</i>	<i>Partici-pative</i>	<i>Pseudo-partici-pative</i>	<i>Pseudo-consul-tative</i>
<i>Autocratic</i>							
<i>Consul-tative</i>	0.066						
<i>Delegative</i>	0.159	0.059					
<i>MAS</i>	0.468	0.296	0.654				
<i>Participative</i>	0.229	0.015	0.175	0.258			
<i>Pseudo-participative</i>	0.295	0.022	0.326	0.167	0.067		
<i>Pseudo-consultative</i>	0.319	0.009	0.256	0.651	0.090	0.020	

Table 4:13: Discriminant validity: Heterotrait-Monotrait ratio; masculinity – decision styles (Germany)

Construct relationships	Path coef-ficients ( $\beta$ )	t-value	p-value	R square	Q square
<i>MAS -&gt; autocratic</i>	0.299	2.398	0.017	0.089	0.059
<i>MAS -&gt; pseudo-consultative</i>	0.493	4.892	0.000	0.243	0.195
<i>MAS -&gt; consultative</i>	-0.123	0.787	0.432	0.015	-0.022
<i>MAS -&gt; participative</i>	0.154	1.166	0.244	0.024	-0.023
<i>MAS -&gt; pseudo-participative</i>	0.128	1.005	0.315	0.016	-0.007
<i>MAS -&gt;delegative</i>	0.455	3.915	0.000	0.207	0.130

Table 4:14: Structural model: masculinity – decision styles (Germany)

Table 4:14 describes the relationship between independent variable *masculinity* and dependent variables which are decision styles. The relationship of *masculinity* with *consultative* style is negative, while the relationship of *masculinity* is positive with other decision styles but that is also insignificant for all of those because of p-values higher than .05 except for *autocratic*, *pseudo-consultative* and *delegative* styles. The p-values for these relationships are less than .05 and t-values are 2.398, 4.892 and 3.915 respectively. The beta coefficient is 0.299,

0.493 and 0.455 respectively.  $R^2$  values are 0.089, 0.243 and 0.207 respectively and the values of  $Q^2$  are greater than 0 for these decision styles.

#### 4.4.5 Relationship of *uncertainty avoidance* with decision styles in Germany

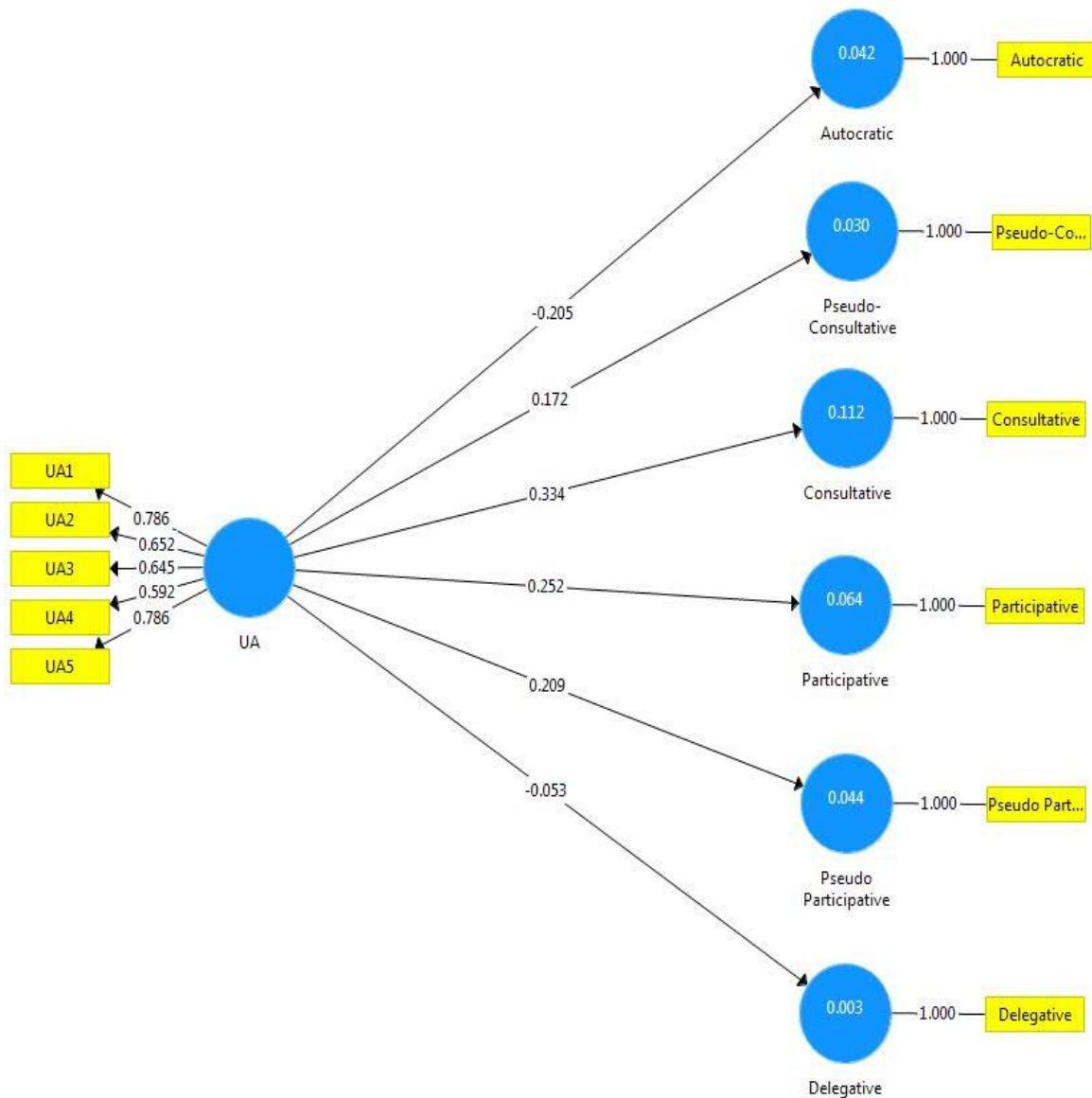


Figure 4:3: Relationship of uncertainty avoidance with decision styles in Germany

Figure 4:3 presents the relationship between the cultural dimension *uncertainty avoidance* and decision styles *autocratic*, *pseudo-consultative*, *consultative*, *participative*, *pseudo-participative* and *delegative*, respectively.

Construct	Items	Loadings	Alpha	CR	AVE
<b>Cultural dimension <i>uncertainty avoidance</i></b>	UA1	0.786	0.732	0.823	0.486
	UA2	0.652			
	UA3	0.645			
	UA4	0.592			
	UA5	0.786			
<b>Decision styles</b>	Single item constructs				
<b><i>Autocratic</i></b>					
<b><i>Pseudo-consultative</i></b>					
<b><i>Consultative</i></b>					
<b><i>Participative</i></b>					
<b><i>Pseudo-participative</i></b>					
<b><i>Delegative</i></b>					

Table 4:15: Measurement model: uncertainty avoidance – decision styles (Germany)

In Table 4:15, the results of the internal consistency, reliability and convergent validity are shown. The table presents the results of the outer model for first order and reflective constructs. The loading of the items for uncertainty avoidance are 0.786, 0.652, 0.645, 0.592 and 0.786, respectively. The value of alpha for *uncertainty avoidance* is 0.732. The level of significance is acceptable at  $\geq 0.6$ . The composite reliability of the uncertainty avoidance is 0.823 which is also significant. The level of significance of composite reliability value is  $\geq 0.6$ . The value of AVE for *uncertainty avoidance* is 0.486 which is acceptable. The value of average variance extracted (AVE), which is used to measure convergent validity should be  $\geq 0.5$ . All the dependent variables are decision styles and are single item constructs.

<b>Constructs</b>	<b>Auto-cratic</b>	<b>Consul-tative</b>	<b>Delega-tive</b>	<b>Partici-pative</b>	<b>Pseudo-Partici-pative</b>	<b>Pseudo-consul-tative</b>	<b>UA</b>
<b>Autocratic</b>							
<b>Consultative</b>	0.066						
<b>Delegative</b>	0.159	0.059					
<b>Participative</b>	0.229	0.015	0.175				
<b>Pseudo-participative</b>	0.295	0.022	0.326	0.067			
<b>Pseudo-consultative</b>	0.319	0.009	0.256	0.090	0.020		
<b>UA</b>	0.230	0.400	0.178	0.277	0.250	0.253	

Table 4:16: Discriminant validity: Heterotrait-Monotrait ratio; uncertainty avoidance – decision styles (Germany)

Table 4:16 represents the values of HTMT ratio for all the constructs. All the values of HTMT ratios are lower than 0.9. If the value of HTMT is greater than this threshold then there would be low discriminant validity. The exact level of threshold may be 0.85 and 0.9.

Table 4:17 describes the relationship between the independent variable *uncertainty avoidance* and a number of dependent variables which are the decision styles. The relationship of *uncertainty avoidance* with *autocratic* and *delegative* styles is negative and insignificant, while the relationship of *uncertainty avoidance* is positive with other decision styles but that is also insignificant for all of those because of p-values higher than .05 except for *consultative* decision style. The p-value for this relationship is less than .05 and its t-value is 2.496. The beta coefficient is 0.334, the value of  $R^2$  is 0.112 and the value of Q square is greater than 0.

Construct relationships	Path coefficients ( $\beta$ )	t-value	p-value	R square	Q square
<i>UA -&gt; Autocratic</i>	-0.205	1.197	0.231	0.042	-0.013
<i>UA -&gt; Pseudo-consultative</i>	0.172	0.990	0.322	0.030	-0.039
<i>UA -&gt; Consultative</i>	0.334	2.496	0.013	0.112	0.065
<i>UA -&gt; Participative</i>	0.252	1.516	0.130	0.064	-0.007
<i>UA -&gt; Pseudo-participative</i>	0.209	1.508	0.132	0.044	-0.017
<i>UA -&gt;Delegative</i>	-0.053	0.279	0.780	0.003	-0.159

Table 4:17: Structural model: uncertainty avoidance – decision styles (Germany)

#### 4.4.6 Relationship of *collectivism* with decision styles in Germany

Figure 4:4 presents the relationship between cultural dimension *collectivism* and decision styles; *autocratic*, *pseudo-consultative*, *consultative*, *participative*, *pseudo-participative* and *delegative* respectively.

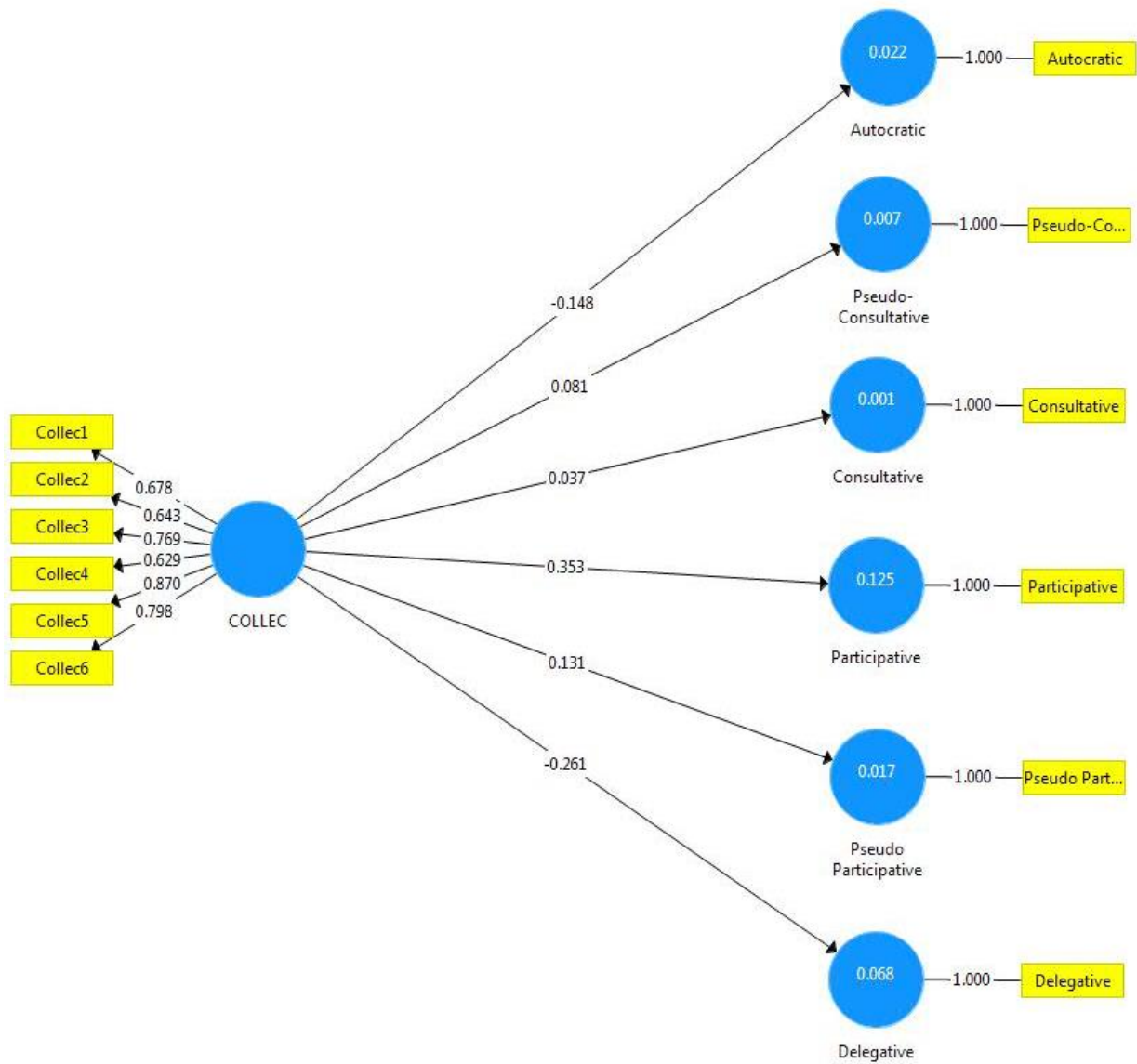


Figure 4:4: Relationship of collectivism with decision styles in Germany

Construct	Items	Loadings	Alpha	CR	AVE
Cultural dimension <i>collectivism</i>	COLLEC1	0.678	0.832	0.875	0.542
	COLLEC2	0.643			
	COLLEC3	0.769			
	COLLEC4	0.629			
	COLLEC5	0.870			
	COLLEC6	0.798			

Construct	Items	Loadings	Alpha	CR	AVE
<b>Decision styles</b>	Single item constructs				
<i>Autocratic</i>					
<i>Pseudo-consultative</i>					
<i>Consultative</i>					
<i>Participative</i>					
<i>Pseudo-participative</i>					
<i>Delegative</i>					

Table 4:18: Measurement model: collectivism – decision styles (Germany)

In Table 4:18, the results of the internal consistency, reliability and convergent validity are shown. The table presents the results of the outer model for first order and reflective constructs. The loading of the items for collectivism are .678, .643, .769, .629, .870 and .798 for COLLEC1, COLLEC2, COLLEC3, COLLEC4, COLLEC5 and COLLEC6, respectively. The value of alpha for collectivism is 0.832. The level of significance is acceptable at  $\geq 0.6$ . The composite reliability of *collectivism* is 0.875, which is also significant. The level of significance of composite reliability value is  $\geq 0.6$ . The value of AVE of *collectivism* is 0.542, which is acceptable (should be  $\geq 0.5$ ). All the decision styles are dependent variables and are single item constructs.

Constructs	<i>Auto-cratic</i>	<i>COLLEC</i>	<i>Consul-tative</i>	<i>Dele-gative</i>	<i>Partici-pative</i>	<i>Pseudo-partici-pative</i>	<i>Pseudo-consul-tative</i>
<i>Autocratic</i>							
<i>COLLEC</i>	0.141						
<i>Consultative</i>	0.066	0.104					
<i>Delegative</i>	0.159	0.307	0.059				



Constructs	<i>Auto-cratic</i>	<i>COLLEC</i>	<i>Consul-tative</i>	<i>Dele-gative</i>	<i>Partici-pative</i>	<i>Pseudo-partici-pative</i>	<i>Pseudo-consul-tative</i>
<i>Participative</i>	0.229	0.355	0.015	0.175			
<i>Pseudo-participative</i>	0.295	0.203	0.022	0.326	0.067		
<i>Pseudo-consultative</i>	0.319	0.106	0.009	0.256	0.090	0.020	

Table 4:19: Discriminant validity: Heterotrait-Monotrait ratio; collectivism – decision styles (Germany)

Table 4:19 describes the values of HTMT ratio for independent variable *collectivism* and all the dependent decision styles variables. All the values of HTMT ratios are lower than 0.9. If the value of HTMT is greater than this threshold then there would be low discriminant validity.

Construct relationships	Path Coef-ficients ( $\beta$ )	t-value	p-value	R square	Q square
<i>COLLEC -&gt; autocratic</i>	-0.148	0.906	0.365	0.022	-0.155
<i>COLLEC -&gt; pseudo-consultative</i>	0.081	0.489	0.625	0.007	-0.061
<i>COLLEC -&gt; consultative</i>	0.037	0.260	0.795	0.001	-0.034
<i>COLLEC -&gt; participative</i>	0.353	2.221	0.026	0.125	-0.051
<i>COLLEC -&gt; pseudo-participative</i>	0.131	0.694	0.488	0.017	-0.046
<i>COLLEC -&gt; delegative</i>	-0.261	1.447	0.148	0.068	0.027

Table 4:20: Structural model: collectivism – decision styles (Germany)

Table 4:20 explains the relationship between the independent variable *collectivism* and the dependent variables *autocratic*, *pseudo-consultative*, *consultative*, *participative*, *pseudo participative* and *delegative* decision styles. The relationship of *collectivism* with *autocratic* and *delegative* styles is negative but it is insignificant because the p-value is higher than .05 however, the relationship of *collectivism* is positive with other decision styles but that is also

insignificant for all of those because of p-values higher than 0.05 except for *participative* style. The p-value for this relationship is higher than 0.05 and its t-value is 2.221. The beta coefficient is 0.353, the  $R^2$  value is 0.125 and the value of  $Q^2$  is greater than 0.

#### 4.4.7 Relationship of *long term orientation* with decision styles in Germany

Figure 4:5 presents the relationship between cultural dimension *long term orientation* and decision styles; *autocratic*, *pseudo-consultative*, *consultative*, *participative*, *pseudo-participative* and *delegative*, respectively.

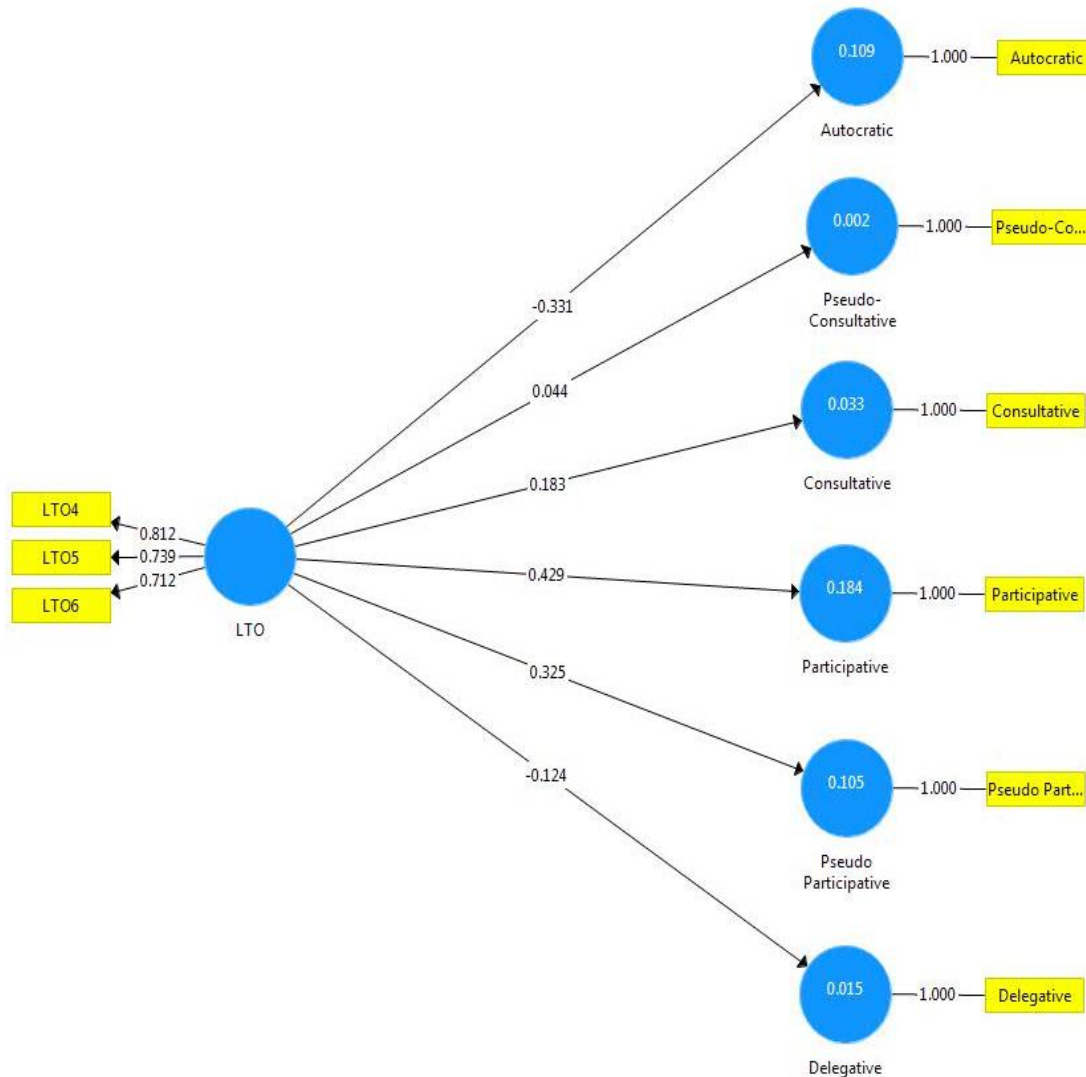


Figure 4:5: Relationship of long term orientation with decision styles in Germany

Construct	Items	Loadings	Alpha	CR	AVE
<b>Cultural dimension <i>long term orientation</i></b>	LTO4	0.812	0.622	0.799	0.571
	LTO5	0.739			
	LTO6	0.712			
<b>Decision styles</b>	Single item constructs				
<b><i>Autocratic</i></b>					
<b><i>Pseudo-consultative</i></b>					
<b><i>Consultative</i></b>					
<b><i>Participative</i></b>					
<b><i>Pseudo-participative</i></b>					
<b><i>Delegative</i></b>					

Table 4:21: Measurement model: long term orientation – decision styles (Germany)

In Table 4:21, the results of the internal consistency, reliability and convergent validity are shown. The table presents the results of the outer model for first order and reflective constructs. The loading of the items for long term orientation are .812, .739 and 0.712 for LTO4, LTO5 and LTO6. The value of alpha for long term orientation is 0.622. The level of significance is acceptable at  $\geq 0.6$ . The composite reliability of the long term orientation is 0.799 which is also significant. The level of significance of composite reliability value is  $\geq 0.6$ . The value of AVE for *long term orientation* is 0.571 which is acceptable (should be  $\geq 0.5$ ). All the decision styles are single item constructs and are dependent variables.

Constructs	<i>Auto- cratic</i>	<i>Consul- tative</i>	<i>Delega- tive</i>	<i>LTO</i>	<i>Partici- pative</i>	<i>Pseudo- partici- pative</i>	<i>Pseudo- consul- tative</i>
<b><i>Autocratic</i></b>							
<b><i>Consultative</i></b>	0.066						

Constructs	<i>Auto-cratic</i>	<i>Consul-tative</i>	<i>Delega-tive</i>	<i>LTO</i>	<i>Partici-pative</i>	<i>Pseudo-partici-pative</i>	<i>Pseudo-consul-tative</i>
<i>Delegative</i>	0.159	0.059					
<i>LTO</i>	0.422	0.222	0.157				
<i>Participative</i>	0.229	0.015	0.175	0.554			
<i>Pseudo-participative</i>	0.295	0.022	0.326	0.401	0.067		
<i>Pseudo-consultative</i>	0.319	0.009	0.256	0.069	0.090	0.020	

Table 4:22: Discriminant validity: Heterotrait-Monotrait ratio; long term orientation – decision styles (Germany)

Table 4:22 represents the values of HTMT ratio for *LTO* and all the other constructs. All the values of HTMT ratios are lower than 0.9 showing that significant discriminant validity exists for this model.

Construct relationships	Path Coef-ficients ( $\beta$ )	t-value	p-value	R square	Q square
<i>LTO -&gt; autocratic</i>	-0.331	2.221	0.026	0.109	-0.035
<i>LTO -&gt; pseudo-consultative</i>	0.044	0.419	0.676	0.002	-0.015
<i>LTO -&gt; consultative</i>	0.183	0.986	0.324	0.033	-0.065
<i>LTO -&gt; participative</i>	0.429	2.780	0.005	0.184	0.088
<i>LTO -&gt; pseudo-participative</i>	0.325	2.131	0.033	0.105	0.073
<i>LTO -&gt; delegative</i>	-0.124	0.824	0.410	0.015	-0.046

Table 4:23: Structural model: long term orientation – decision styles (Germany)

Table 4:23 describes the relationship between independent variable *long term orientation* and dependent variables which are different decision styles. The relationship of *long term orientation* with *autocratic* style is negative and significant but the value of  $Q^2$  is negative, whereas, the relationship of *long term orientation* is positive and significant with *participative* and *pseudo-participative* decision

styles. The p-value for these relationships is less than .05 and t-values are 2.780 and 2.131 respectively. The beta coefficient is 0.429 and 0.325. R<sup>2</sup> value is 0.184 and 0.105 respectively and the value of Q<sup>2</sup> is greater than 0 for these both relationships.

#### 4.4.8 Relationship of *power distance* with decision styles in Pakistan

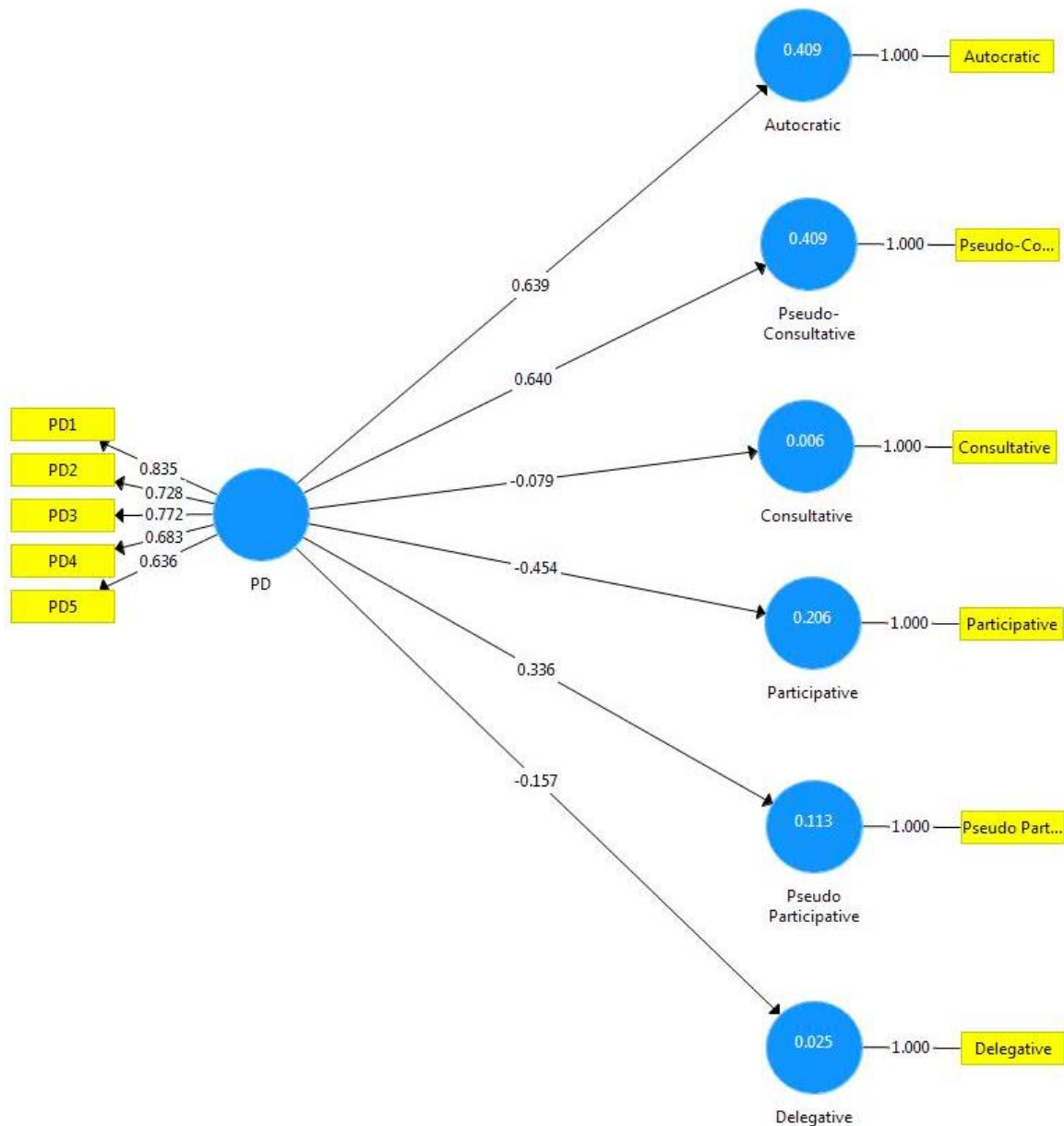


Figure 4:6: Relationship of power distance with decision styles in Pakistan

Figure 4:6 presents the relationship between cultural dimension *power distance* and decision styles; *autocratic*, *pseudo-consultative*, *consultative*, *participative*, *pseudo-participative* and *delegative*, respectively.

Construct	Items	Loadings	Alpha	CR	AVE
<b>Cultural dimension <i>power distance</i></b>	PD1	0.835	0.784	0.853	0.539
	PD2	0.728			
	PD3	0.772			
	PD4	0.683			
	PD5	0.636			
<b>Decision styles</b>	Single item constructs				
<b><i>Autocratic</i></b>					
<b><i>Pseudo-consultative</i></b>					
<b><i>Consultative</i></b>					
<b><i>Participative</i></b>					
<b><i>Pseudo-participative</i></b>					
<b><i>Delegative</i></b>					

Table 4:24: Measurement model: *power distance* – decision styles (Pakistan)

In Table 4:24, the results of the internal consistency, reliability and convergent validity of *power distance* and decision styles *autocratic*, *pseudo-consultative*, *consultative*, *participative*, *pseudo-participative* and *delegative* are presented. The loading of the items for *power distance* are .835, .728, .772, .683 and .636 for PD1, PD2, PD3, PD4 and PD5, respectively. The value of alpha for *power distance* is 0.784 which is higher than the acceptable level of significance  $\geq 0.6$ . The composite reliability of the *power distance* is 0.853 which is also significant. The level of significance of composite reliability value is  $\geq 0.6$ . The value of AVE

of *power distance* is 0.539 which is acceptable. All the dependent variables which are decision styles are single item constructs.

Constructs	<i>Auto-cratic</i>	<i>Consul-tative</i>	<i>Delega-tive</i>	<i>Power distance</i>	<i>Partici-pative</i>	<i>Pseudo-partici-pative</i>	<i>Pseudo-consul-tative</i>
<i>Autocratic</i>							
<i>Consultative</i>	0.234						
<i>Delegative</i>	0.158	0.010					
<i>Power distance</i>	0.718	0.107	0.200				
<i>Participative</i>	0.483	0.324	0.113	0.504			
<i>Pseudo-participative</i>	0.425	0.380	0.092	0.373	0.120		
<i>Pseudo-consultative</i>	0.511	0.050	0.228	0.705	0.481	0.293	

Table 4:25: Discriminant validity: Heterotrait-Monotrait ratio; power distance – decision styles (Pakistan)

Table 4:25 represents the values of HTMT ratio for cultural dimension *power distance* and decision styles; *autocratic*, *pseudo-consultative*, *consultative*, *participative*, *pseudo-participative* and *delegative*. All the values of HTMT ratios are lower than 0.9.

Table 4:26 describes the relationship between independent variable *power distance* and dependent variables which are decision styles; *autocratic*, *pseudo-consultative*, *consultative*, *participative*, *pseudo-participative* and *delegative*. The relationship of *power distance* with *consultative* and *delegative* styles is negative but it is insignificant because the p-value is higher than 0.05. The relationship of *power distance* with *participative* style is negative and significant. The p-value is less than 0.05, t- value is 5.423 and value of R<sup>2</sup> is 0.206. The beta coefficient for this relationship is -0.54. The relationship of *power distance* is positive with *autocratic*, *pseudo-consultative*, and *pseudo-participative* styles. The p-values for these relationships are lower than 0.05 and the t-values for *autocratic*, *pseudo-consultative*, and *pseudo-participative* styles are 9.035, 11.021, and 3.225, respectively. The beta coefficients of *autocratic*, *pseudo-*

*consultative*, and *pseudo-participative* styles are 0.639, 0.640, and 0.336 respectively. The  $R^2$  values of *autocratic*, *pseudo-consultative* and *pseudo-participative* styles are 0.409, 0.409 and 0.113 respectively. The values of  $Q^2$  for all these relationships are greater than 0.

Construct relationships	Path Coefficients ( $\beta$ )	t-value	p-value	R square	Q square
<i>PD -&gt; autocratic</i>	0.639	9.035	0.000	0.409	0.380
<i>PD -&gt; pseudo-consultative</i>	0.640	11.021	0.000	0.409	0.388
<i>PD -&gt; consultative</i>	-0.079	0.738	0.461	0.006	-0.018
<i>PD -&gt; participative</i>	-0.454	5.423	0.000	0.206	0.150
<i>PD -&gt; pseudo-participative</i>	0.336	3.225	0.001	0.113	0.089
<i>PD -&gt;delegative</i>	-0.157	1.546	0.122	0.025	0.010

Table 4:26: Structural model: power distance – decision styles (Pakistan)

#### 4.4.9 Relationship of *masculinity* with decision styles in Pakistan

Figure 4:7 presents the relationship between the cultural dimension *masculinity* and the decision styles *autocratic*, *pseudo-consultative*, *consultative*, *participative*, *pseudo-participative* and *delegative*, respectively.



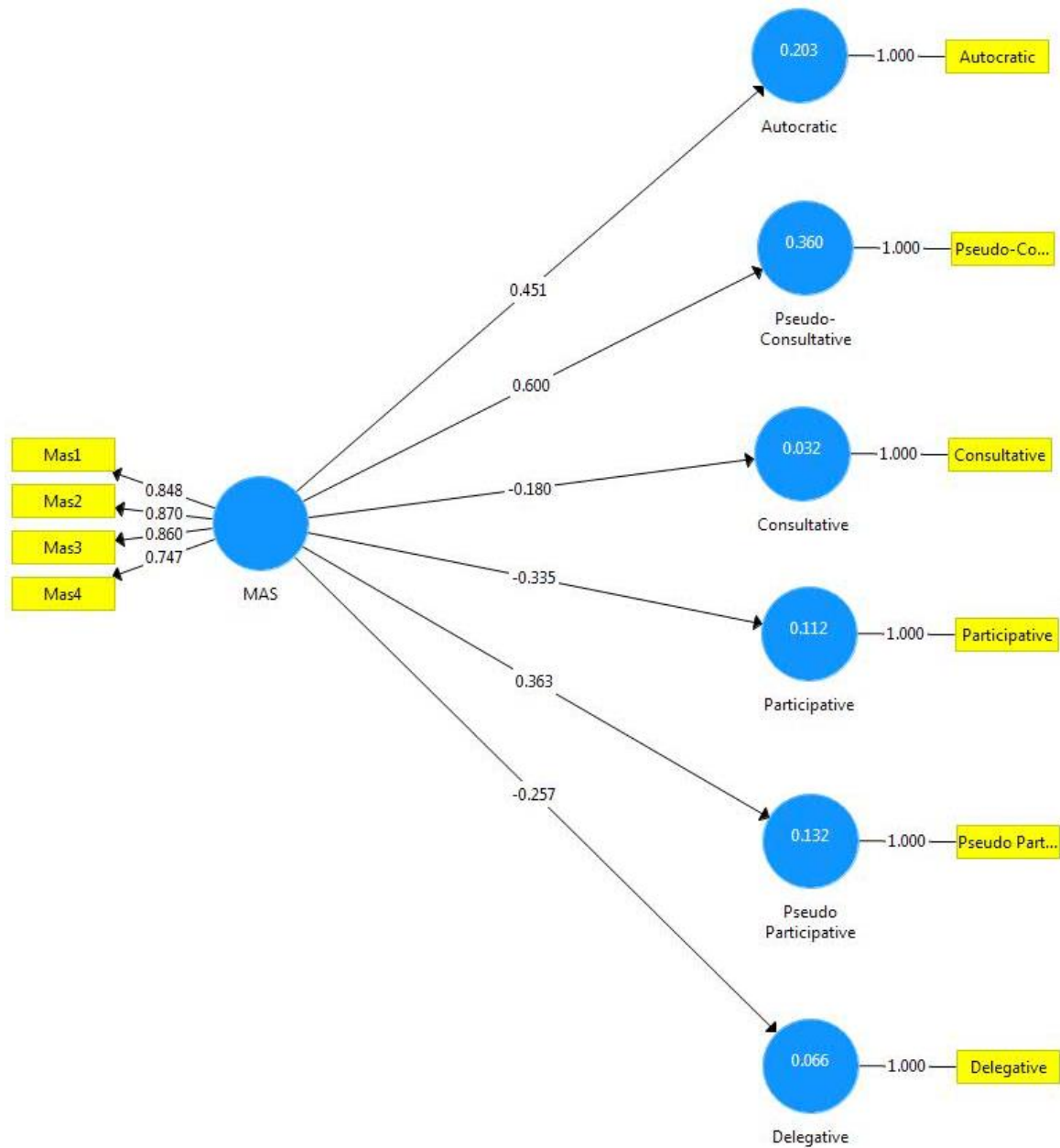


Figure 4:7: Relationship of masculinity with decision styles in Pakistan

Construct	Items	Loadings	Alpha	CR	AVE
Cultural dimension masculinity	MAS1	0.848	0.853	0.900	0.694
	MAS2	0.870			
	MAS3	0.860			
	MAS4	0.747			

Construct	Items	Loadings	Alpha	CR	AVE
Decision styles	Single item constructs				
<i>Autocratic</i>					
<i>Pseudo-consultative</i>					
<i>Consultative</i>					
<i>Participative</i>					
<i>Pseudo-participative</i>					
<i>Delegative</i>					

Table 4:27: Measurement model: masculinity – decision styles (Pakistan)

In Table 4:27, the results of the internal consistency, reliability and convergent validity for the relationship of cultural dimension *masculinity* with different decision styles. The table presents the results of the outer model for first order and reflective constructs. The loading of the items for *masculinity* are .848, .870 .860 and .747 for MAS1, MAS2, MAS3 and MAS4, respectively. The value of alpha for this model is 0.853. The level of significance is acceptable at  $\geq 0.6$ . The composite reliability of the model is 0.900 which is also significant. The level of significance of composite reliability value is  $\geq 0.6$ . The value of AVE is 0.694 which is acceptable. All the decision styles are dependent variables and are single item constructs.

Table 4:28 represents the values of HTMT ratio for cultural dimension *masculinity* and decision styles; *autocratic*, *pseudo-consultative*, *consultative*, *participative*, *pseudo-participative* and *delegative*. All the values of HTMT ratios are lower than 0.9 which presents high discriminant validity of the model.

Constructs	<i>Auto-c</i> <i>cratic</i>	<i>Consul-</i> <i>tative</i>	<i>Delega-</i> <i>tive</i>	<i>MAS</i>	<i>Partici-</i> <i>pative</i>	<i>Pseudo-</i> <i>participative</i>	<i>Pseudo-</i> <i>consul-</i> <i>tative</i>
<i>Autocratic</i>							
<i>Consultative</i>	0.234						
<i>Delegative</i>	0.158	0.010					
<i>MAS</i>	0.478	0.190	0.276				
<i>Participative</i>	0.483	0.324	0.113	0.345			
<i>Pseudo-</i> <i>participative</i>	0.425	0.380	0.092	0.399	0.120		
<i>Pseudo-</i> <i>consultative</i>	0.511	0.050	0.228	0.634	0.481	0.293	

Table 4:28: Discriminant validity: Heterotrait-Monotrait ratio; masculinity – decision styles (Pakistan)

Table 4:29 describes the relationship between independent variable *masculinity* and dependent variables *autocratic*, *pseudo-consultative*, *consultative*, *participative*, *pseudo-participative* and *delegative* decision making styles.

Construct relationships	Path Coef- ficients (β)	t-value	p-value	R square	Q square
<i>MAS -&gt; autocratic</i>	0.451	5.251	0.000	0.203	0.194
<i>MAS -&gt; pseudo-consultative</i>	0.600	10.868	0.000	0.360	0.347
<i>MAS -&gt; consultative</i>	-0.180	1.824	0.068	0.032	0.019
<i>MAS -&gt; participative</i>	-0.335	3.800	0.000	0.112	0.103
<i>MAS -&gt; pseudo-participative</i>	0.363	3.604	0.000	0.132	0.102
<i>MAS -&gt; delegative</i>	-0.257	2.203	0.028	0.066	0.027

Table 4:29: Structural model: masculinity – decision styles (Pakistan)

The relationship of *masculinity* with *consultative* style is negative but it is insignificant because the p-value is higher than 0.05. The relationship of *masculinity* with *participative* and *delegative* styles is negative and significant. The relation-

ship of *masculinity* is positive with *autocratic*, *pseudo-consultative* and *pseudo-participative* styles. The p-values for these relationships are lower than 0.05 and the t-values for *autocratic*, *pseudo-consultative*, *participative*, *pseudo-participative* and *delegative* styles are 5.251, 10.868, 3.800, 3.604 and 2.203, respectively. The beta coefficients for these relationships are 0.451, 0.600, -0.335, 0.363 and -0.257 respectively. The values of  $R^2$  are 0.203, 0.360, 0.112, 0.132 and 0.066, respectively. The values of  $Q^2$  for all relationships is greater than 0 which is showing the predictive capability of the model for the discussed relationships.

#### **4.4.10 Relationship of *uncertainty avoidance* with decision styles in Pakistan**

Figure 4:8 presents the relationship between cultural dimension *uncertainty avoidance* and decision styles; *autocratic*, *pseudo-consultative*, *consultative*, *participative*, *pseudo-participative* and *delegative*, respectively.

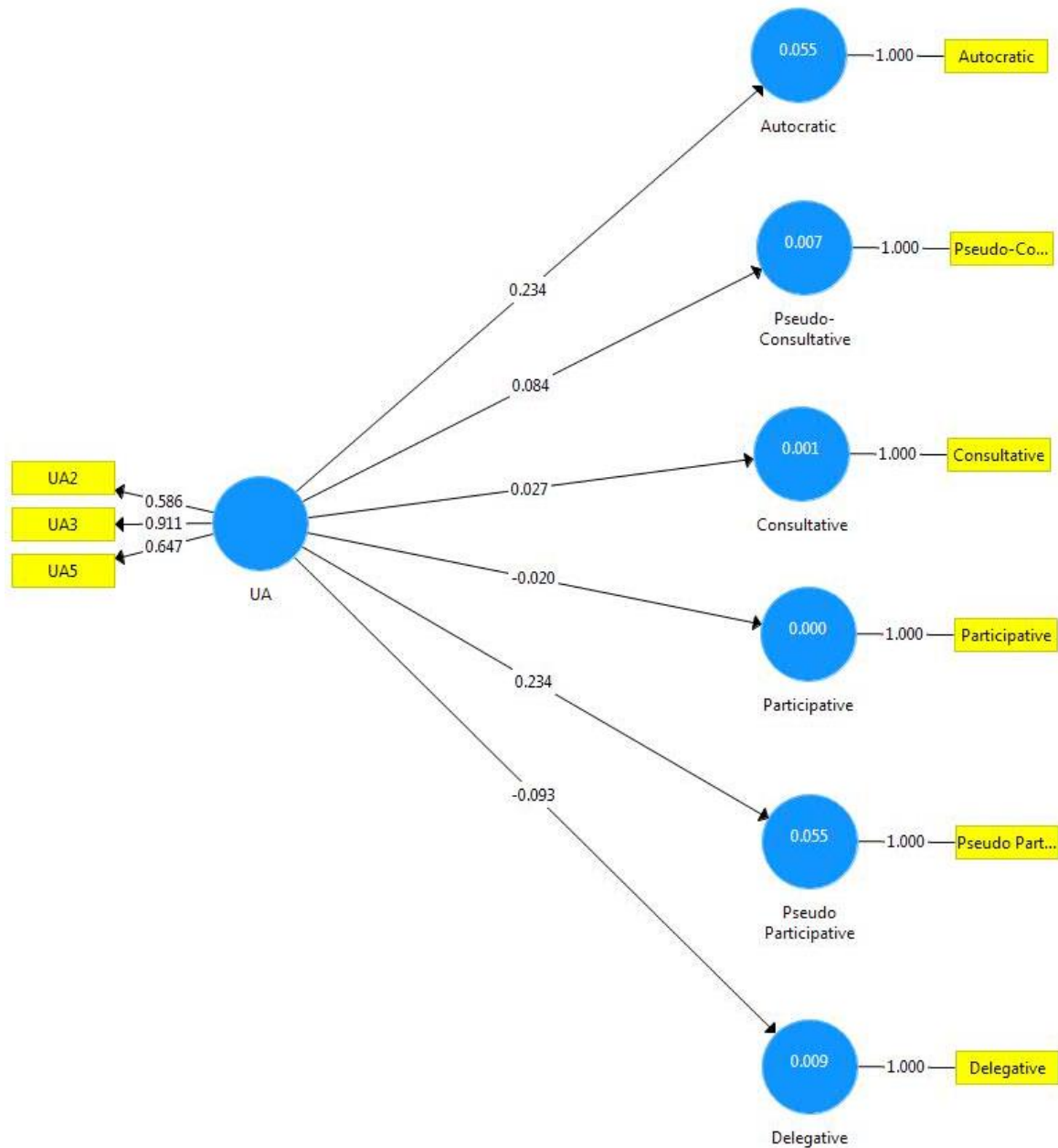


Figure 4:8: Relationship of uncertainty avoidance with decision styles in Pakistan

Construct	Items	Loadings	Alpha	CR	AVE
Cultural dimension uncertainty avoidance	UA2	0.586	0.612	0.766	0.531
	UA3	0.911			
	UA5	0.647			

Construct	Items	Loadings	Alpha	CR	AVE
<b>Decision styles</b>	Single item constructs				
<i>Autocratic</i>					
<i>Pseudo-consultative</i>					
<i>Consultative</i>					
<i>Participative</i>					
<i>Pseudo-participative</i>					
<i>Delegative</i>					

Table 4:30: Measurement model: uncertainty avoidance – decision styles (Pakistan)

In Table 4:30, the results of the internal consistency, reliability and convergent validity have been presented for the relationship of cultural dimension *uncertainty avoidance* and decision styles. The table presents the results of the outer model for first order and reflective constructs. These constructs are *uncertainty avoidance*, *autocratic*, *pseudo-consultative*, *consultative*, *participative*, *pseudo-participative* and *delegative* decision styles. The loading of the items for *uncertainty avoidance* are .586, .911 and .647 for UA1, UA3 and UA5, respectively. The value of alpha for *uncertainty avoidance* is 0.612. The level of significance is acceptable at  $\geq 0.6$ . The composite reliability of *uncertainty avoidance* is 0.766 which is also significant. The level of significance of composite reliability value is  $\geq 0.6$ . The value of AVE for *uncertainty avoidance* is 0.531 which is acceptable. All dependent variables are decision styles and are single item constructs.

Constructs	<i>Auto-cratic</i>	<i>Consul-tative</i>	<i>Delega-tive</i>	<i>Partici-pative</i>	<i>Pseudo-partici-pative</i>	<i>Pseudo-consul-tative</i>	UA
<i>Autocratic</i>							
<i>Consultative</i>	0.234						

Constructs	<i>Auto-cratic</i>	<i>Consul-tative</i>	<i>Delega-tive</i>	<i>Partici-pative</i>	<i>Pseudo-partici-pative</i>	<i>Pseudo-consul-tative</i>	UA
<i>Delegative</i>	0.158	0.010					
<i>Participative</i>	0.483	0.324	0.113				
<i>Pseudo-participative</i>	0.425	0.380	0.092	0.120			
<i>Pseudo-consultative</i>	0.511	0.050	0.228	0.481	0.293		
UA	0.235	0.219	0.218	0.157	0.257	0.102	

Table 4:31: Discriminant validity: Heterotrait-Monotrait ratio; uncertainty avoidance – decision styles (Pakistan)

Table 4:31 represents the values of HTMT ratio for all the constructs. *Uncertainty avoidance* is the cultural dimension and *autocratic*, *pseudo-consultative*, *consultative*, *participative*, *pseudo-participative* and *delegative* are decision styles. All the values of HTMT ratios are lower than 0.9 indicating high level of discriminant validity for this model.

Construct relationships	Path Coef-ficients ( $\beta$ )	t-value	p-value	R square	Q square
UA -> <i>autocratic</i>	0.234	1.351	0.177	0.055	0.026
UA -> <i>pseudo-consultative</i>	0.084	0.634	0.526	0.007	-0.001
UA -> <i>consultative</i>	0.027	0.149	0.882	0.001	-0.024
UA -> <i>participative</i>	-0.020	0.116	0.908	0.000	-0.030
UA -> <i>pseudo-participative</i>	0.234	1.673	0.094	0.055	0.031
UA -> <i>delegative</i>	-0.093	0.516	0.606	0.009	-0.013

Table 4:32: Structural model: uncertainty avoidance – decision styles (Pakistan)

Table 4:32 describes the relationship between independent variable *uncertainty avoidance* and dependent variables; *autocratic*, *pseudo-consultative*, *consultative*, *participative*, *pseudo-participative* and *delegative* decision styles. The

relationship of *uncertainty avoidance* with *participative* and *delegative* style is negative but it is insignificant because the p-value is higher than 0.05. The relationship of *uncertainty avoidance* is positive with other decision styles but that is also insignificant for all of those because of p-values higher than 0.05.

#### 4.4.11 Relationship of *collectivism* with decision styles in Pakistan

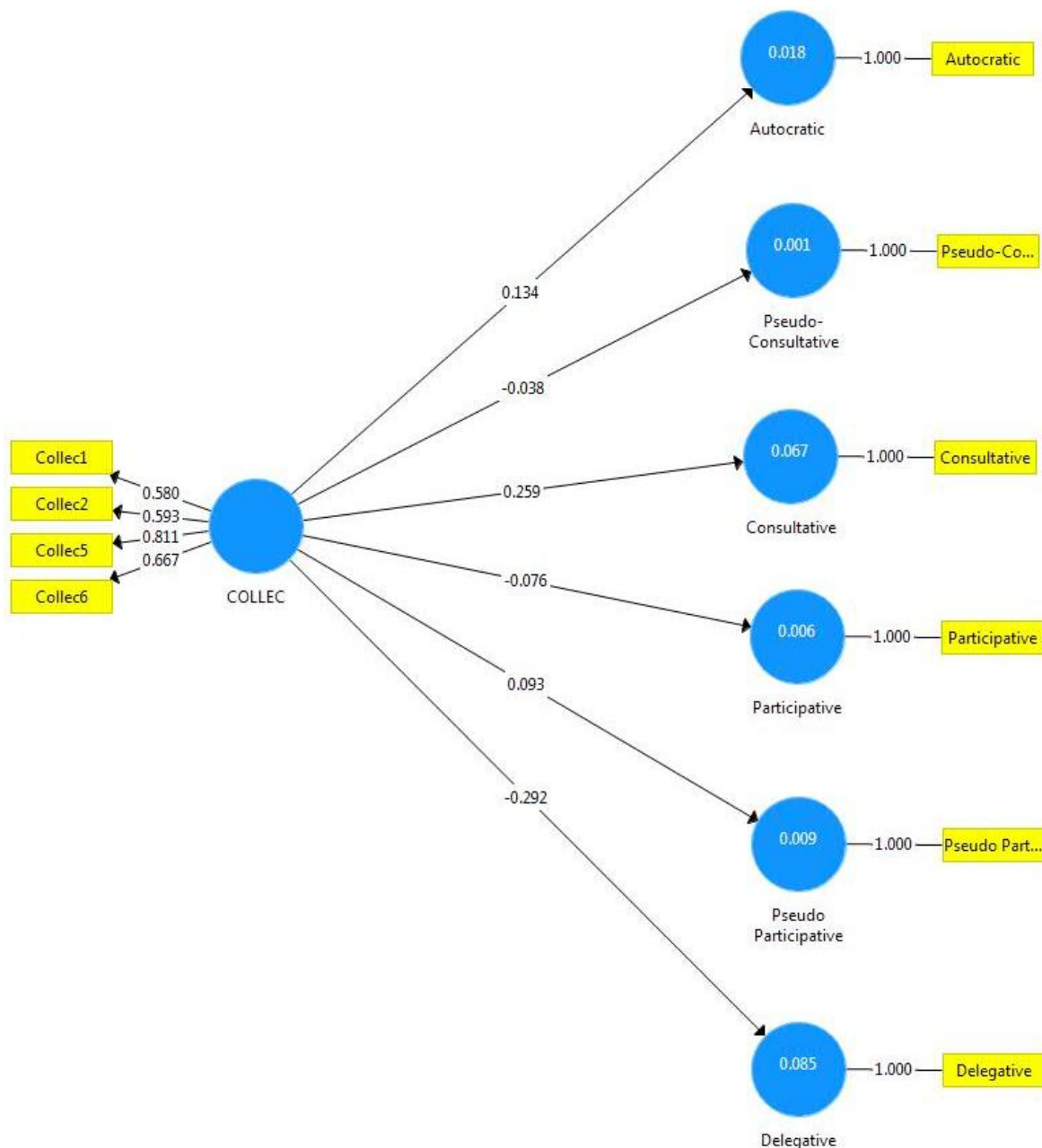


Figure 4:9: Relationship of *collectivism* with decision styles in Pakistan



Figure 4:9 presents the relationship between cultural dimension *collectivism* and decision styles; *autocratic*, *pseudo-consultative*, *consultative*, *participative*, *pseudo-participative* and *delegative*, respectively.

Construct	Items	Loadings	Alpha	CR	AVE
<b>Cultural dimension <i>collectivism</i></b>	COLLEC1	0.580	0.599	0.761	0.447
	COLLEC2	0.593			
	COLLEC5	0.811			
	COLLEC6	0.667			
<b>Decision styles</b>	Single item constructs				
<b><i>Autocratic</i></b>					
<b><i>Pseudo-consultative</i></b>					
<b><i>Consultative</i></b>					
<b><i>Participative</i></b>					
<b><i>Pseudo-participative</i></b>					
<b><i>Delegative</i></b>					

Table 4:33: Measurement model: *collectivism* – decision styles (Pakistan)

In Table 4:33, the results of the internal consistency, reliability and convergent validity are shown. The table presents the results of the outer model for first order and reflective constructs which include cultural dimension *collectivism* and six different decision styles. The loading of the items for *collectivism* are 0.580, 0.593 0.811 and 0.589 for COLLEC1, COLLEC2, COLLEC5 and COLLEC6, respectively. The value of alpha for COLLEC is 0.599. The composite reliability of the *collectivism* is 0.761 which is significant. The level of significance of composite reliability value is  $\geq 0.6$ . The value of AVE of *collectivism* is 0.447 which is acceptable. All dependent variables are the decision styles and are single item constructs. These single items constructs are; *auto-*

*cratic, pseudo-consultative, consultative, participative, pseudo-participative and delegative styles.*

Constructs	<i>Auto-cratic</i>	<i>COLLEC</i>	<i>Consul-tative</i>	<i>Delega-tive</i>	<i>Partici-pative</i>	<i>Pseudo-partici-pative</i>	<i>Pseudo-consul-tative</i>
<i>Autocratic</i>							
<i>COLLEC</i>	0.214						
<i>Consultative</i>	0.234	0.318					
<i>Delegative</i>	0.158	0.352	0.010				
<i>Participative</i>	0.483	0.160	0.324	0.113			
<i>Pseudo-participative</i>	0.425	0.184	0.380	0.092	0.120		
<i>Pseudo-consultative</i>	0.511	0.246	0.050	0.228	0.481	0.293	

Table 4:34: Discriminant validity: Heterotrait-Monotrait ratio; collectivism – decision styles (Pakistan)

Table 4:34 represents the values of HTMT ratio for all the constructs *collectivism* and *autocratic, pseudo-consultative, consultative, participative, pseudo-participative and delegative* decision styles. All the values of HTMT ratios are lower than 0.9.

Construct relationships	Path Coef-ficients (β)	t-value	p-value	R square	Q square
<i>COLLEC -&gt; autocratic</i>	0.134	0.747	0.455	0.018	-0.015
<i>COLLEC -&gt; pseudo-consultative</i>	-0.038	0.196	0.844	0.001	-0.031
<i>COLLEC -&gt; consultative</i>	0.259	2.100	0.036	0.067	0.013
<i>COLLEC -&gt; participative</i>	-0.076	0.475	0.635	0.006	-0.013
<i>COLLEC -&gt; pseudo-participative</i>	0.093	0.618	0.537	0.009	-0.010
<i>COLLEC -&gt; delegative</i>	-0.292	1.901	0.057	0.085	0.053

Table 4:35: Structural model: collectivism – decision styles (Pakistan)

Table 4:35 describes the relationship between independent variable *collectivism* and dependent variables which are decision styles; *autocratic*, *pseudo-consultative*, *consultative*, *participative*, *pseudo-participative* and *delegative*. The relationship of *collectivism* with *pseudo-consultative*, *participative* and *delegative* is negative but it is insignificant because the p-value is higher than 0.05. The relationship of *collectivism* is positive with other decision styles but that is also insignificant for all of those because of p-values higher than .05 except for *consultative* style. The p-value for this relationship is lower than 0.05 and its t-value is 2.100. The beta coefficient is 0.259, the value of  $R^2$  is 0.067 and the value of Q square is greater than 0. The low value of  $R^2$  shows limited capacity of independent variable to explain the variance in dependent variable.

#### **4.4.12 Relationship of *long term orientation* with decision styles in Pakistan**

Figure 4:10 presents the relationship between cultural dimension *long term orientation* and decision styles *autocratic*, *pseudo-consultative*, *consultative*, *participative*, *pseudo-participative* and *delegative*, respectively.

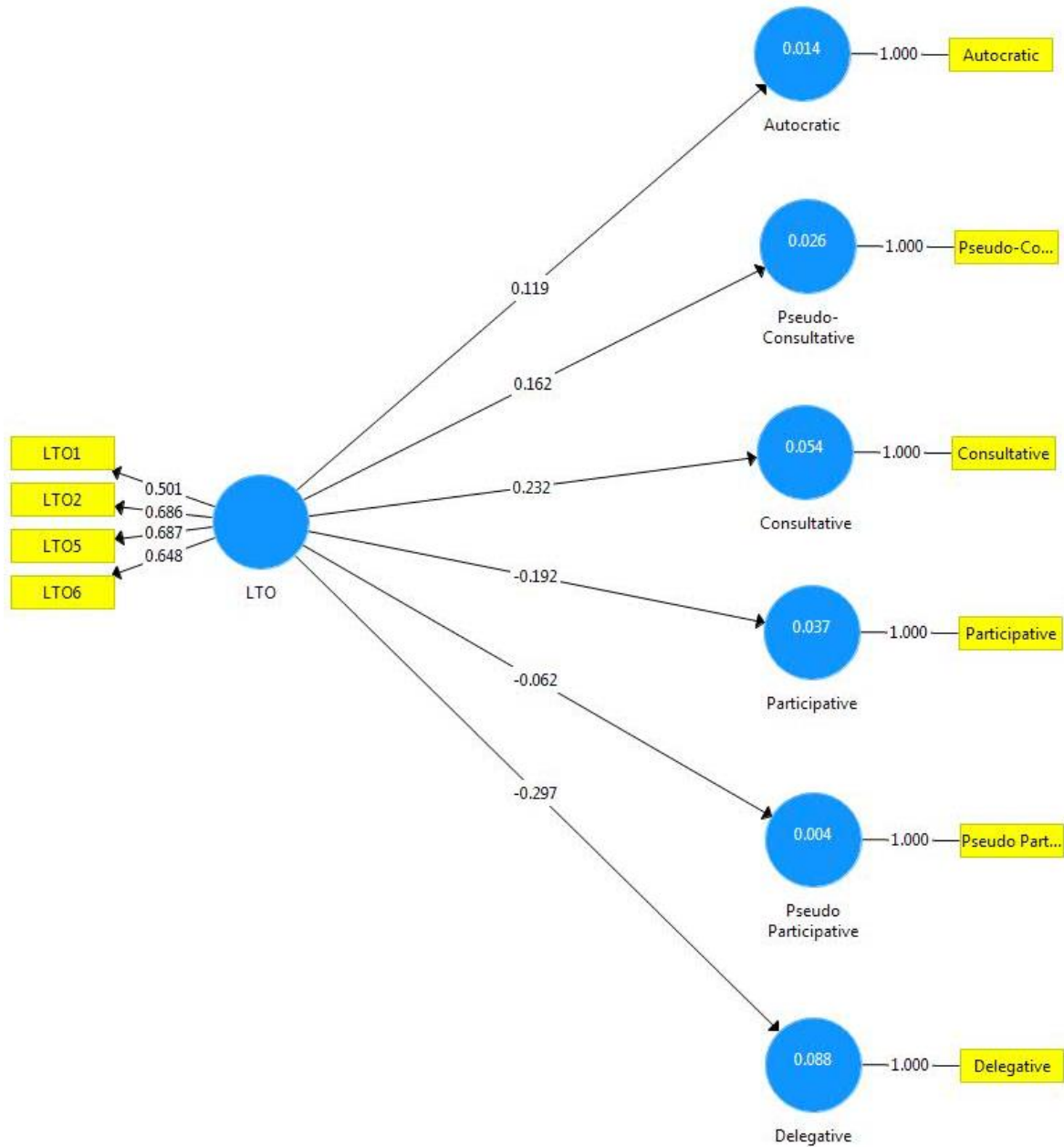


Figure 4:10: Relationship of long term orientation with decision styles in Pakistan

Construct	Items	Loadings	Alpha	CR	AVE
<b>Cultural Dimension long term orientation</b>	LTO1	0.501	0.506	0.727	0.403
	LTO2	0.686			
	LTO5	0.687			
	LTO6	0.648			

Construct	Items	Loadings	Alpha	CR	AVE
<b>Decision styles</b>	Single item constructs				
<i>Autocratic</i>					
<i>Pseudo-consultative</i>					
<i>Consultative</i>					
<i>Participative</i>					
<i>Pseudo-participative</i>					
<i>Delegative</i>					

Table 4:36: Measurement model: long term orientation – decision styles (Pakistan)

In Table 4:36, the results of the internal consistency, reliability and convergent validity are shown. The table presents the results of the outer model for first order and reflective constructs. The cultural dimension *long term orientation* is the independent variable while the decision styles *autocratic*, *pseudo-consultative*, *consultative*, *participative*, *pseudo-participative* and *delegative* are the dependent variables. The loading of the items for *long term orientation* are 0.501, 0.686 0.687 and 0.648 for LTO1, LTO2, LTO5 and LTO6, respectively. The value of alpha for *long term orientation* is 0.508. The level of significance is adequate at  $\geq 0.6$ . The composite reliability of *long term orientation* is 0.727 which is also significant. The adequate level for its value is  $\geq 0.6$ . The value of AVE for *long term orientation* is 0.403 which is acceptable. All dependent variables are decision styles and are single item constructs.

Constructs	<i>Auto- cratic</i>	<i>Consul- tative</i>	<i>Delega- tive</i>	<i>LTO</i>	<i>Partici- pative</i>	<i>Pseudo- partici- pative</i>	<i>Pseudo- Consul- tative</i>
<i>Autocratic</i>							
<i>Consultative</i>	0.234						
<i>Delegative</i>	0.158	0.010					

Constructs	<i>Auto-cratic</i>	<i>Consul-tative</i>	<i>Delega-tive</i>	<i>LTO</i>	<i>Partici-pative</i>	<i>Pseudo-partici-pative</i>	<i>Pseudo-Consul-tative</i>
<i>LTO</i>	0.207	0.314	0.410				
<i>Participative</i>	0.483	0.324	0.113	0.278			
<i>Pseudo-participative</i>	0.425	0.380	0.092	0.254	0.120		
<i>Pseudo-consultative</i>	0.511	0.050	0.228	0.243	0.481	0.293	

Table 4:37: Discriminant validity: Heterotrait-Monotrait ratio; long term orientation – decision styles (Pakistan)

Table 4:37 represents the values of HTMT ratio for all the constructs. *Long term orientation* is cultural dimension and decision styles are; *autocratic*, *pseudo-consultative*, *consultative*, *participative*, *pseudo-participative* and *delegative*. All the values of HTMT ratios are lower than 0.9 representing high discriminant validity of this model.

Construct relationships	Path Coefficients ( $\beta$ )	t-value	p-value	R square	Q square
<i>LTO -&gt; autocratic</i>	0.119	0.729	0.466	0.014	-0.007
<i>LTO -&gt; pseudo-consultative</i>	0.162	1.150	0.250	0.026	-0.001
<i>LTO -&gt; consultative</i>	0.232	1.684	0.092	0.054	0.041
<i>LTO -&gt; participative</i>	-0.192	1.536	0.125	0.037	0.007
<i>LTO -&gt; pseudo-participative</i>	-0.062	0.350	0.726	0.004	-0.014
<i>LTO -&gt; delegative</i>	-0.297	2.619	0.009	0.088	0.067

Table 4:38: Structural model: long term orientation – decision styles (Pakistan)

Table 4:38 describes the relationship between independent variable *long term orientation* and dependent decision style variables; *autocratic*, *pseudo-consultative*, *consultative*, *participative*, *pseudo-participative* and *delegative*. The relationship of *long term orientation* with *participative* and *pseudo-participative*

styles is negative but it is insignificant because the p-value is higher than 0.05. The relationship of *long term orientation* is positive with other decision styles but that is also insignificant for all of those because of p-values higher than 0.05 except for the relationship of *long term orientation* with *delegative* style which is negative and significant. The p-value for this relationship is lower than 0.05 and its t-value is 2.619. The beta coefficient is -0.297. The value of R square is 0.088 and the value of Q square is greater than 0. This very low value of  $R^2$  is an indicator of very low power of *LTO* to explain variance in *delegative* decision making style.

## **4.5 Significant relationships of cultural dimensions with decision styles (Germany)**

In statistical evaluations the relationship of independent and dependent variable can be understood by three main parameters which are effect size represented by beta value, significance of the relationship which is represented by p-value or t-value and coefficient of determination represented by  $R^2$ .

Beta ( $\beta$ ) value represent how much changes in the dependent variable is caused by 1 unit change in individual independent variable e.g. the beta value of 0.20 represent that increase of 1 mean value in independent variable increases the mean value of dependent variable by 0.20. Higher the value of beta higher is the effect size, positive value represent increase in independent variable value causes increase in the dependent variable while negative beta value represent increase in independent variable causes decrease in the value of dependent variable. Any value of beta can be relevant and important as long as the relationship is significant. Hair et al. (2011) described that a beta value of 0.02 can be viewed as weak effect size while the beta value of 0.15 is considered as medium effect size and beta value of 0.35 is regarded as large effect size. It is generally observed if the  $\beta$  values are 0.2 or  $> 0.2$  then the relationship

most probably is significant. And if the value is less than 0.10 more chances are that relationship will not be significant, however this is not always true.

In order to judge the reliability of the beta value, it is important to consider the significance of the relationship. The authenticity of the beta value is determined by significance of the relationship which determines the confidence on the obtained results. The relationship is believed to be significant if the confidence level on the obtained value is 95 % or more (Craparo, 2007). The significance of a relationship is represented by p-value or t-value. Both of these values correspond with each other, e.g. at 95 % confidence interval p-value is 5 % or 0.05 and its corresponding t-value is 1.96. This means that results are significant if p-value is equal to or less than 0.05 and corresponding t-values are equal to or greater than 1.96; otherwise the results are not significant. Non-significant or insignificant relationship represent that the gained results may be by chance or random and do not properly explain an underlying phenomenon.

The coefficient of determination R square is a statistical tool which measures the closeness of data to the fitted regression line. R square values range from 0 to 1 or in terms of percentages from 0 % to 100 %. The higher the value, the higher is the data closely packed on the regression line. High value of R square is always good because they represent higher quality of the data and a good model fit. Chin (1998) described the  $R^2$  value of 0.67 as substantial,  $R^2$  value of 0.33 as moderate, and  $R^2$  value of 0.19 as weak. A regression model fits the data well if the differences between the observations and the predicted values are small. The R square values below 0.20 are generally considered as weak (Hair et al., 2014).

Table 4:39 presents the significant relationships of cultural dimensions with decision styles in social context for German managers. These relationships are discussed individually in the following.



*Power distance* is showing positive and significant relationship with *pseudo-consultative* style. The value of  $\beta$  coefficient is .383 which means 1 unit increase of power distance value will increase *pseudo-consultative* style by 0.383 .The p-value is 0.005 and t-value is 2.799 showing the results are highly significant. The value of R square is 0.147 which is very nominal showing a weak model fit.

*Masculinity* is showing positive relationship with *autocratic* style but the value of R square is 0.089 here which is very low, the value of  $\beta$  coefficient is 0.229.

With *pseudo-consultative* style the relationship of *masculinity* is positive and significant and here the value of  $\beta$  coefficient is 0.493 and R square is 0.243. This is also not very high but as compared to previous two relationships it is exhibiting stronger connection. Furthermore, *masculinity* is having significant and positive relationship with *delegative* style, although the value of R square 0.207 is not prominent. The value of  $\beta$  coefficient is 0.455 which is good effect size.

Construct relationships	Path Coefficients ( $\beta$ )	t-value	p-value	R square	Q square
<i>PD -&gt; pseudo-consultative</i>	0.383	2.799	0.005	0.147	0.094
<i>MAS -&gt; autocratic</i>	0.299	2.398	0.017	0.089	0.059
<i>MAS -&gt; pseudo-consultative</i>	0.493	4.892	0.000	0.243	0.195
<i>MAS -&gt;delegative</i>	0.455	3.915	0.000	0.207	0.130
<i>UA -&gt; consultative</i>	0.334	2.496	0.013	0.112	0.065
<i>COLLEC -&gt; participative</i>	0.353	2.221	0.026	0.125	-0.051
<i>LTO -&gt; autocratic</i>	-0.331	2.221	0.026	0.109	-0.035
<i>LTO -&gt; participative</i>	0.429	2.780	0.005	0.184	0.088
<i>LTO -&gt; pseudo-participative</i>	0.325	2.131	0.033	0.105	0.073

Table 4:39: Significant relationships of cultural dimensions with decision styles in social context for German managers

The relationships *COLLEC* -> *participative* and *LTO* -> *autocratic* have significant p-values and values of  $\beta$  coefficients are 0.353 and -0.331, respectively, but due to the negative value of  $Q^2$  there is an issue of predictive validity in these relationships.

*Uncertainty avoidance* is showing a significant and positive relationship with *consultative* decision style. The value of  $\beta$  coefficient is 0.334. The value of R square is 0.11.

*LTO* -> *participative* and *LTO* -> *pseudo-participative* relationships are significant and positive where values of  $\beta$  coefficient are 0.429 and 0.325, respectively. R square values are 0.184 and 0.105.

## 4.6 Significant relationships of cultural dimensions with decision styles (Pakistan)

Construct relationships	Path coefficients ( $\beta$ )	t-value	p-value	R square	Q square
<i>PD</i> -> <i>autocratic</i>	0.639	9.035	0.000	0.409	0.380
<i>PD</i> -> <i>pseudo-consultative</i>	0.640	11.021	0.000	0.409	0.388
<i>PD</i> -> <i>participative</i>	-0.454	5.423	0.000	0.206	0.150
<i>PD</i> -> <i>pseudo-participative</i>	0.336	3.225	0.001	0.113	0.089
<i>MAS</i> -> <i>autocratic</i>	0.451	5.251	0.000	0.203	0.194
<i>MAS</i> -> <i>pseudo-consultative</i>	0.600	10.868	0.000	0.360	0.347
<i>MAS</i> -> <i>consultative</i>	-0.180	1.824	0.068	0.032	0.019
<i>MAS</i> -> <i>participative</i>	-0.335	3.800	0.000	0.112	0.103
<i>MAS</i> -> <i>pseudo-participative</i>	0.363	3.604	0.000	0.132	0.102
<i>MAS</i> -> <i>delegative</i>	-0.257	2.203	0.028	0.066	0.027
<i>COLLEC</i> -> <i>consultative</i>	0.259	2.100	0.036	0.067	0.013

Construct relationships	Path coefficients ( $\beta$ )	t-value	p-value	R square	Q square
<i>LTO -&gt; delegative</i>	-0.297	2.619	0.009	0.088	0.067

Table 4:40: Significant relationships between cultural dimensions and decision style of project managers in Pakistan

Table 4:40 describes the significant relationships between cultural dimensions and decision style of project managers in Pakistan.

*Power distance* is showing positive and significant relationship with *autocratic*, *pseudo-consultative* and *pseudo-participative* styles. The p-values are  $< 0.05$ . The value of  $\beta$  coefficients are 0.639, 0.64 and 0.336, while the values of R square are 0.409, 0.409 and 0.113, respectively. *Power distance* is showing a negative relationship with *participative* decision style. The value of  $\beta$  coefficient is -0.454. The positive values of Q square greater than 0 for these relationships assure predictive validity as well.

*Masculinity* is showing a positive and significant relationship with *autocratic*, *pseudo-consultative* and *pseudo-participative* styles. The p-values are  $< 0.05$ . The value of  $\beta$  coefficients are 0.451, 0.6 and 0.363, and the values of R square are 0.203, 0.360 and 0.132, respectively.

With *consultative* and *participative* decision styles the relationship of *masculinity* is negative and significant and here the values of  $\beta$  coefficient are -0.18 and -0.335. The values of R square are 0.032 and 0.112. R square is 0.243. This is also not very high but as compared to previous two relationships it is exhibiting stronger connection. Furthermore, *masculinity* is having significant and positive relationship with *delegative* style, although the value of R square 0.207 is not prominent.

*Masculinity* is also showing negative relationship with *delegative* style but the value of R square is 0.089 here which is very low, the value of  $\beta$  coefficient is -0.257.

COLLEC -> *consultative* relationship is appearing as positive and significant. The value for  $\beta$  coefficient is 0.259 and the value of R square is 0.067.

*Long term orientation* is having negative and significant relationship with *delegative* decision style. The value of  $\beta$  coefficient is -0.297 and the value of R square is 0.08 which is very low.

It appears from the analysis of the data presented in the above table that the cultural dimensions; *power distance* and *masculinity* have the ability to strongly and positively influence the decision making styles *autocratic*, *pseudo-consultative* and *pseudo-participative* of Pakistani managers working in projects. The values of R square for these relationships are higher than 0.20, whereas, in other relationships the R square values are lower than 0.20. Higher values are describing the higher power of independent variables to explain the variance in dependent variables.

## **4.7 Comparison of cognitive decision styles on the basis of Decision Style Inventory**

This section presents the description and differentiation of decision styles of German and Pakistani project managers, on the basis of DSI developed by Rowe and Mason (1987).

Rowe and Mason (1987) have presented four basic decision making styles, i.e. *directive*, *analytical*, *conceptual* and *behavioral*. The typical scores provided for each style or to describe the typical person using these styles are 75 for *directive*, 90 for *analytical*, 80 for *conceptual* and 55 for *behavioral* respectively. This typical person is that who is obtaining these scores as per average score of the population for any particular of these styles. The main four styles are further subdivided into four categories for each style as per preferences and variability of the individuals regarding use of these styles. These are *least preferred*, *backup*, *dominant* and *very dominant*. The variation in scores of the

respondents for each category may be due to intensity or dominance in using of that particular style. For the assessment of this dominance or intensity, average scores and standard deviation for each style have been used. Rowe and Mason (1987, pp. 39-43) presented that the standard deviation for the range of scores to determine a typical *directive* style as per their data was fifteen. They used this same score of fifteen to explain the variability in all four styles. These categories as per Rowe and Mason have been explained in following according to the level of dominance and intensity of use:

1. *Least preferred*: This is the style category which is rarely used. The style is called least preferred if the score obtained by the individual is below the average more than seven points. These seven points are almost half of the standard deviation which was fifteen.
2. *Backup*: This style is used as per some demand by occasion. If the score obtained by the individual is seven points higher or lower than the average then the style category is known as backup.
3. *Dominant*: The dominant style category is associated with an individual scoring minimum seven but not exceeding fifteen points higher than the average. An individual obtaining score in this category uses this style very often.
4. *Very dominant*: This style is used very exclusively by an individual in most of the situations. The style is known to be dominant when an individual obtains fifteen points higher than the average.

The range of scores to interpret particular category for each style is presented in Table 4:41.

	<i>Least preferred</i>	<i>Backup</i>	<i>Dominant</i>	<i>Very dominant</i>
<i>Directive</i>	20 to 67	68 to 81	82 to 89	90 to 160
<i>Analytical</i>	20 to 82	83 to 96	97 to 104	105 to 160
<i>Conceptual</i>	20 to 72	73 to 86	87 to 94	95 to 160
<i>Behavioral</i>	20 to 47	48 to 61	62 to 69	70 to 160

Table 4:41: Decision making styles and corresponding scores by Rowe and Mason (1987, p. 44)

Table 4:42 presents the mean values for German and Pakistani participants for all the four decision making styles *directive*, *analytical*, *conceptual* and *behavioral*.

Group Statistics					
	Country	N	Mean	Std. deviation	Std. error mean
<i>Directive</i>	Germany	55	74.236	11.5277	1.5544
	Pakistan	88	84.818	14.6402	1.5606
<i>Analytical</i>	Germany	55	82.145	17.1350	2.3105
	Pakistan	88	73.705	15.3863	1.6402
<i>Conceptual</i>	Germany	55	76.600	15.0057	2.0234
	Pakistan	88	65.602	10.8443	1.1560
<i>Behavioral</i>	Germany	55	67.018	16.9110	2.2803
	Pakistan	88	75.875	20.3039	2.1644

Table 4:42: Group statistics for decision styles of Pakistani project managers as per DSI

These mean values are higher for *directive* and *behavioral* styles in Pakistani project managers. For *analytical* and *conceptual* styles the mean values are higher for German Project managers. The mean score value for *directive* style of Pakistani project managers is 84.8 which is higher than typical score of 75 for this style. This is indicating that Pakistani project managers are typically of *directive* style. Regarding the *behavioral* style, both Pakistani and German project managers are typically of *behavioral* style. The mean score values for both

countries are 67.018 and 75.875 respectively which are higher than typical score of 55 for this style.

Table 4:43 presents the results of independent sample t-test to compare the mean scores of German and Pakistani project managers for all the four decision styles as per DSI. The p-values less than 0.05 for all these styles are indicating that the project managers from one country are significantly different from the managers belonging to other countries. The comparison of mean score and significant p-values are indicating that German project managers exercise more *analytical* and *conceptual* style as compared to Pakistani managers while involved in decision making. Pakistani project managers use more *directive* and *behavioral* approach of decision making as compared to German managers.

Independent samples test						
		Levene's test for equality of variances		t-test for equality of means		
		F	Sig.	t	df	Sig. (2-tailed)
<b>Directive</b>	Equal variances assumed	4.016	.047	-4.549	141	.000
	Equal variances not assumed			-4.804	133.525	.000
<b>Analytical</b>	Equal variances assumed	.052	.819	3.054	141	.003
	Equal variances not assumed			2.979	105.508	.004
<b>Conceptual</b>	Equal variances assumed	2.806	.096	5.077	141	.000
	Equal variances not assumed			4.719	89.113	.000
<b>Behavioral</b>	Equal variances assumed	1.858	.175	-2.701	141	.008
	Equal variances not assumed			-2.817	129.760	.006

Table 4:43: Results of independent sample t-test to compare the mean scores of German and Pakistani project managers for all the four decision styles as per DSI

Table 4:44 presents the frequencies and percentages of the *least preferred*, *backup*, *dominant* and *very dominant* categories for all four decision styles of German project managers, as per DSI. The highest percentage (52.7 %) is ob-

servable in *backup* category for *directive* style and 5.5 % are very dominant in using *analytical* style.

Germany						
	<i>Directive</i>			<i>Conceptual</i>		
	Frequency		Percent	Frequency		Percent
<i>Least preferred</i>	12		21.8	24		43.6
<i>Backup</i>	29		52.7	19		34.5
<i>Dominant</i>	8		14.5	5		9.1
<i>Very dominant</i>	6		10.9	7		12.7
	<b>Total</b>	<b>55</b>	<b>100.0</b>	<b>Total</b>	<b>55</b>	<b>100.0</b>
	<i>Analytical</i>			<i>Behavioral</i>		
	Frequency		Percent	Frequency		Percent
<i>Least preferred</i>	27		49.1	6		10.9
<i>Backup</i>	18		32.7	17		30.9
<i>Dominant</i>	7		12.7	10		18.2
<i>Very dominant</i>	3		5.5	22		40.0
	<b>Total</b>	<b>55</b>	<b>100.0</b>	<b>Total</b>	<b>55</b>	<b>100.0</b>

Table 4:44: Frequencies and percentages of the least preferred, backup, dominant and very dominant categories for all four decision styles of German project managers

Table 4:45 presents the frequencies and percentages of the *least preferred*, *backup*, *dominant* and *very dominant* categories for all four decision styles of Pakistani project managers, as per DSI. Regarding the *analytical* and *conceptual* styles, 69.3 % and 75 % Pakistani managers respectively are in *least preferred* categories of these two styles. There is no participant in *very dominant* category of *analytical* style and only 1.1 % in this category for *conceptual* style. Regarding *very dominant* category for *directive* and *behavioral* styles the percentage score is 35.2 % and 58 % respectively.



Pakistan						
	<i>Directive</i>			<i>Conceptual</i>		
	Frequency		Percent	Frequency		Percent
<i>Least preferred</i>	10		11.4	66		75.0
<i>Backup</i>	28		31.8	19		21.6
<i>Dominant</i>	19		21.6	2		2.3
<i>Very dominant</i>	31		35.2	1		1.1
	<b>Total</b>	<b>88</b>	<b>100.0</b>	<b>Total</b>	<b>88</b>	<b>100.0</b>
	<i>Analytical</i>			<i>Behavioral</i>		
	Frequency		Percent	Frequency		Percent
<i>Least preferred</i>	61		69.3	3		3.4
<i>Backup</i>	19		21.6	20		22.7
<i>Dominant</i>	8		9.1	14		15.9
<i>Very dominant</i>	—		—	51		58.0
	<b>Total</b>	<b>88</b>	<b>100.0</b>	<b>Total</b>	<b>88</b>	<b>100.0</b>

Table 4:45: Frequencies and percentages of the least preferred, backup, dominant and very dominant categories for all four decision styles of Pakistani project managers

Rowe and Mason (1987) have described that some basic or style patterns can also be derived by using DSI. These basic patterns can be calculated by different combination of four pure decision styles; *directive, analytical, conceptual and behavioral*. There are two hundred and fifty six possible patterns. In this study, four prominent basic style patterns have been calculated. These are *left brain, right brain, idea orientation and action orientation*. Fox and Spence (1999) have also used these four patterns for evaluation of decision styles of project managers to observe how these styles are related to decision making activities in projects. The brief description of these patterns as per Rowe and Mason is given below:

1. *Left brain*: The score for left brain is obtained by adding scores for analytical and directive styles. These people think in logical way and they possess a strong ability to focus on technical issues.

2. *Right brain*: The score for right brain is obtained by adding scores for conceptual and behavioral styles. These people are creative minded. They exhibit strong concern for other people and their thinking style is broad.
3. *Idea orientation*: The score for idea orientation is obtained by adding scores for analytical and conceptual styles. The people using this style have orientation towards ideas and thinking.
4. *Action orientation*: The score for action orientation is obtained by adding scores for directive and behavioral styles. These people feel delight in dealing with people and they have inclination towards taking quick actions.

Table 4:46 presents the results of mean score values and standard deviations for use of *left brain*, *right brain* and *idea orientation* and *action orientation* attitudes of German and Pakistani managers.

Group Statistics					
	Country	N	Mean	Std. deviation	Std. error mean
<i>Left brain</i>	Germany	55	156.38	18.742	2.527
	Pakistan	88	158.52	20.223	2.156
<i>Right brain</i>	Germany	55	143.62	18.742	2.527
	Pakistan	88	141.48	20.223	2.156
<i>Idea orientation</i>	Germany	55	158.75	20.218	2.726
	Pakistan	88	139.31	19.455	2.074
<i>Action orientation</i>	Germany	55	141.25	20.218	2.726
	Pakistan	88	160.69	19.455	2.074

*Table 4:46: Results of mean score values and standard deviations for use of left brain, right brain and idea orientation and action orientation attitudes of German and Pakistani managers*

The results presented in this table are showing that the mean values for use of *left brain* and *action orientation* for Pakistani managers are 158.2 and 160.69, respectively. These are higher than mean values of 156.38 and 141.25 for the same styles respectively for German sample. Whereas, German managers are having higher mean values of 143.62 and 158.75 in use of *right brain* and *idea orientation* styles respectively as compared to mean values of 141.48 and 139.31 for Pakistani sample. These results are showing that Pakistani managers have higher tendency in use of *left brain* and *action orientation* styles, while German managers have higher inclination towards use of *right brain* and *idea orientation* styles.

Table 4:47 presents the results of independent sample t-test to compare the mean scores of German and Pakistani project managers to analyze their behavior regarding use of their *left brain* and *right brain* for decision making. The score for *left brain* is obtained by adding scores for *analytical* and *directive* styles, whereas, the score for *right brain* is obtained by adding scores for *conceptual* and *behavioral* styles. This table is also presenting the comparison of their attitude regarding *idea orientation* and *action orientation*. The score for *idea orientation* is obtained by adding scores for *analytical* and *conceptual* styles, whereas score for *action orientation* is obtained by adding scores for *directive* and *behavioral* styles.

Independent samples test						
		Levene's test for equality of variances		t-test for equality of means		
		F	Sig.	t	df	Sig. (2-tailed)
<i>Left brain</i>	Equal variances assumed	.042	.837	-.633	141	.528
	Equal variances not assumed			-.645	121.310	.520
<i>Right brain</i>	Equal variances assumed	.042	.837	.633	141	.528
	Equal variances not assumed			.645	121.310	.520

<i>Idea orientation</i>	Equal variances assumed	.002	.963	5.726	141	.000
	Equal variances not assumed			5.675	111.425	.000
<i>Action orientation</i>	Equal variances assumed	.002	.963	-5.726	141	.000
	Equal variances not assumed			-5.675	111.425	.000

*Table 4:47: Results of independent sample t-test to compare the mean scores of German and Pakistani project managers to analyze their behavior regarding use of their left brain and right brain for decision making*

The results of this table for t-test are showing that there are no significant differences between both German and Pakistani samples in use of *left brain* and *right brain* styles, although there are differences in mean values of these two styles as discussed previously in interpretation of Table 4:46. Whereas, regarding *idea orientation* and *action orientation*, the values of t are higher than 5 and highly significant at the level of .000 for both these styles. This on the basis of mean values discussed in Table 4:46 implies significant preference of use of *idea orientation* style of German managers over Pakistani managers. Regarding *action orientation* style, Pakistani managers have shown significant preference over German managers in use of this style, again on the basis of mean values presented in Table 4:46.

## 4.8 Qualitative data analysis

This section presents the factors other than cultural dimensions influencing the decisions making in Germany and Pakistan. These include personal, organizational, environmental and other miscellaneous factors reported by participants.

### 4.8.1 Germany

In the following, factors that influence decision making in Germany are discussed. Table 4:48 indicates the personal factors that affect the decision making. Among the sub-categories, “attitude and behavior” is affecting the decision making more frequently, which is followed by “education and experience”.

In the category of “attitude and behavior”, morality and personality are frequently mentioned influencing the decision making. While in “education and experience”, experience has been frequently pointed out to affect decision making.

<b>Personal factors</b>			
<b>Motivation</b>	<b>Attitude and behavior</b>	<b>Education and experience</b>	<b>Miscellaneous</b>
Motivated employees	Trust-ness	Logic (2)	Resources
Fair and motivating superiors	Attitude (3)	Ability	Communication
Dedication	Morality (4)	Skill level (2)	Social network (2)
Success	Personality (4)	Work progress	Complexity (2)
Social relationship	Ethical behavior	Culture (2)	
	Team spirit	Expertise (2)	
	Satisfaction	Experience (4)	
	Integrity code (2)	Practicability	
	Safety (2)	Economic feasibility	
	Ability to understand people (2)	Personal qualification	
	Ability to accept different opinion (2)	Time (2)	
	Flexibility regarding personal time management		
	Mental flexibility		
	Personal environment (Family, friends and social contacts)		
	Moral values		
	Attitude against black labor and corruption		

Table 4:48: Personal factors affecting decision making (Germany)

Among the three tables related to Germany, organizational factors are the most quoted factors which affect decision making. We observe more entries and diversified factors in Table 4:49.

<b>Organizational factors</b>				
<b>Environment and culture</b>	<b>Rules and regulations</b>	<b>Resources (financial and human)</b>	<b>Expertise</b>	<b>Miscellaneous</b>
Good and working company infrastructure (IT, purchase, financial department)	Policies (4)	Financial budget	Technical feasibility	Time for decision (3)
Culture (2)	Rules & regulations (8)	Economics	Different tasks	Organizational form
Values	Company procedures (2)	Growth		Involved parties
Intercultural competence	Type of organization	Economic ability		Number of involved stakeholders
Behavior	Freedom of decision (2)	Funding (2)		
Workers council (2)	Company strategy	Man power (2)		
Decisions from plants of our production network (2)	Procedure	Economic feasibility		
Structure (2)	Guideline	Capacities		
Responsibility consequences	Hierarchy	Budget		
Schedule	Compliance with the guidelines of the city of Kassel			
Available tools	Priority			
Occupational safety	Company compliance (2)			
Hidden competition	Data protection rules (2)			
Workload of associates				

Table 4:49: Organizational factors affecting decision making (Germany)

Among the sub-categories “environment and culture” along with “rules and regulations” are the most important factors influencing decision making, which is followed by “financial and human resource factors”. Here again, just like in Table

4:50 related to environmental factors, policies are most of the time mentioned which affect decision making.

Environmental factors				
Law and policies	Economic factors	Industrial competition	Miscellaneous	Norms
Government policies	Oil and gas prices	International reputation	Politics (3)	Collective agreement among different stakeholders
Compliance	Currency exchange factors	Research competition in industry	Common sense	Growing up as German
Company HSE regulations	Energy consumption (2)	Competition between universities	Safety	Social environment
Operator of choice for NOCs		Cost competition (3)	Unions (2)	General framework
Laws (5)		Customer expectation		Norms
Legal restriction (2)		Customer specification		
Legal standard		Best practices		

Table 4:50: Environmental factors affecting decision making (Germany)

Table 4:50 shows environmental factors that affect decision making. “Law and policies” and “industrial competition” are shown to be affecting the decision making equally and significantly. The factor law is mentioned five times showing its importance influencing decision making. Norms is the third significant factor which plays a part in decision making.

## 4.8.2 Pakistan

In the following, factors that influence decision making in Pakistan have been discussed.

<b>Personal factors</b>			
<b>Motivation</b>	<b>Attitude and behavior</b>	<b>Education and experience</b>	<b>Miscellaneous</b>
Team player	Behavior	Professional qualification (2)	Salary & benefits
Quick at uptake	Hard work	Leadership skills	Communication
Blessings of ALLAH Almighty	Honesty (4)	Interpersonal skills	Self-respect
HALAL Rizq	Attitude (19)	Experience (26)	Growth opportunities
Leadership	Dedication (2)	Education (20)	
Adoptability	Morality (9)	Training (2)	
	Loyalty to task	Skills (6)	
	Commitment	IQ	
	Hardworking	Expertise	
	Punctuality	Professional wisdom	
	Supportiveness	Knowledge diversification	
	Personality (4)	Technical skills	
	Flexibility		
	Power to influence		
	Instantaneous decisions		
	Discipline		
	Work comfortable under stress		
	Convincing power		
	Prayers schedule		
	Being good/Helpful		
	Diligence		
	Vision		
	Temperament		
	Integrity		
	Devotion		
	Punctuality		
	Balance decision		

Table 4:51: Personal factors influencing the decision making for the case of Pakistan

Table 4:51 table shows personal factors found out to be influencing the decision making for the case of Pakistan. As compared to Germany there are more factors influencing the decision making as was enumerated. In both the tables,



“attitude and behavior” is the strongest factor followed by “education and experience”. Attitude was reportedly said to be the highest factor affecting decision making. In case of “education and experience”, experience is again shown to be a major contributing factor for decision making followed by education. In case of Pakistan, we clearly see some respondents mentioning divine factors for personal motivation, for example; blessings of Allah Almighty and halal rizq.

Among the organizational factors affecting decision making as shown in Table 4:52, environment and culture are the leading factors followed by rules and regulations. For case of Germany both were given almost equal importance, while in case of Pakistan, rules and regulation seem to be lagging behind. Organizational culture is mentioned multiple times by respondents as to show its impact on decision making. In case of rules and regulations, regulation law has been most frequently mentioned. Corporate policy is another factor, after rules and regulations, which may affect the decision making process.

Chapter 4 – Analysis of Data and Interpretation of Results

<b>Organizational factors</b>				
<b>Environment and culture</b>	<b>Rules and regulations</b>	<b>Resources (financial and human)</b>	<b>Expertise</b>	<b>Miscellaneous</b>
Independence in decision making	HR policies (3)	Infrastructure (3)	Technical operations	Organization growth trend
Career growth options availability	Corporate policy (11)	Man power	Quick decision	Vision
Job security	HSE policy	Facilities for the task	Training	Behavior
CBA-Interaction	Win-win policy	Growth opportunities	Standard operations procedure	Organizational domains
Structure (11)	Reward policy (5)			Clear objectives
Organizational culture (14)	Client satisfaction policy			Balance
Quality assurance	Safety regulations (2)			Top management behavior
Perks	Safety standards			Past history of deliverable and performance
Management support	Regulation law (13)			Recognition
Organizational environment (3)	Organizational policies (2)			
Compensation package	Decentralization (2)			
Posting/Reward	Periodic pay policies			
Communication	Benefits instruments			
Long term perspective				
High up support				
Information culture				
Justices				
Guidance				
Interaction				
Religious cultural trends				
Attitude of own departments				
Planning				
Ensure quality and diversity				

Table 4:52: Organizational factors affecting decision making

<b>Environmental factors</b>				
<b>Law and policies</b>	<b>Economic factors</b>	<b>Industrial competition</b>	<b>Miscellaneous</b>	<b>Norms</b>
Government direct taxes on salary	Current economic condition of country	Provide favorable environment (2)	Job availability in industry	Security/ terrorism (8)
Law and order (2)	Energy crisis (7)	Industry competition (3)	Relations with neighboring countries	Security threats
Global monitoring	Economy/ inflation	Competition (7)	Team significance	Equal opportunities
Government policies (14)	Pricing mechanism	Positive competition	Political stability (5)	No fraudulence(2)
Environmental Protection Agency (EPA) regulations	Inflation (3)	Not cut throat	Mega projects of electricity	Welfare
Tax policy (3)	Financial matter		Electricity	To ensure safety
Government	Economic activity		Latest changes	Ethics
Safety policies	Opportunities		Political interference (3)	Behavior
Government policies for international affairs			Environment	Ways of work
Policies (2)			Political influence	
Job security				
Government regulation				

*Table 4:53: Environmental factors affecting decision making*

It is shown in Table 4:53 that the sub-category of “law and politics” is largely affecting decision making among the categories related to environmental factors. Government policies seem to be a major contributing factor in this respective category. “Norms” is the second sub-category followed by “economic

factors” affecting the decision making. In case of Pakistan, energy factors are mostly quoted as to its impact on decision making. Pakistan is experiencing energy shortages thereby making it an important factor in decision making. In addition, other factors (miscellaneous reasons) may also largely affect the overall decision making.

The results obtained from the qualitative data have been summarized as follows:

Regarding personal factors; in both countries; Germany and Pakistan, The project managers reported education and experience as the factors more frequently affecting their decision behavior. The other most commonly reported factor was the attitude and behavior of the decision maker. In this category, Germans mentioned personality and morality more frequently. In case of Pakistan, managers mentioned some religious and divine factors as motivators for their decision styles. For example; blessings of Allah Almighty and Halal Rizq (legitimate earnings as per Islamic principles) were mentioned as factors of consideration while making decisions.

Concerning the organizational factors; in countries, organizational culture and environment is most frequently reported and then are rules and regulations. Corporate policy has also been mentioned by managers of both countries as an important influential factor regarding decision making. German project managers especially mentioned availability of financial and human resources at the time of decision making in projects.

Regarding environmental factors; the project managers from both countries reported policies of governments as a major determinant of their decision making behavior. German managers mentioned industrial competition as an important factor for their decision considerations. They also mentioned their social norms; for example; Growing up as a German, as a prominent factor affecting their decision behavior. Pakistani managers mentioned economic conditions of the

country and also factors related to availability of energy resources like electricity which could generally affect their decision behavior.

## 5 Conclusion and discussion

In this chapter, primary results, theoretical and managerial implications and limitations of this study and proposals for future research are being presented.

### 5.1 Primary results

First of all, the main results of the data analysis have been discussed in this chapter. Regarding the first and second research questions, decision styles of Pakistani and German managers working in projects have been described and compared. To address third question the dimensions of national culture for both German and Pakistani participants have been compared (cf. Table 4:7 and Table 4:8). For the purpose of answering the fourth question, structural equation modelling (SEM) / path analysis has been performed by taking cultural dimensions as independent variables and decision styles in social context as dependent variables. It has been traced that with reference to decision making styles in social context (*autocratic, pseudo-consultative, consultative, participative, pseudo-participative* and *delegative*) Pakistanis are more autocratic as compared to Germans. For other styles, Pakistanis are more *pseudo-consultative* and more *pseudo-participative*. Germans are more *participative* and *delegative* as compared to Pakistani managers. These differences are also statistically significant. The independent sample t-test confirms the significance of this comparison (cf. Table 4:5 and Table 4:6). Regarding the *consultative* style, t-test is not reporting a significant difference between the two countries yet the comparison of the mean values 3.54 and 3.50 for German and Pakistani sample is showing that Germans are more tilted towards consultation while making decisions.

The analysis of relationship of cultural dimensions with decision styles in social context has also revealed important results. It appears from the comparisons of

the discussion results of Table 4:39 and Table 4:40 that the cultural dimensions *power distance* and *masculinity* have the ability to strongly influence the decision making styles *autocratic*, *pseudo-consultative* and *pseudo-participative* in a positive direction for Pakistani managers working in projects. *Power distance* has shown a significant and negative relationship with *participative* decision making style. The values of R square are also higher than .20 for all relationships except for *pseudo-participative*. Whereas, in the German sub-sample *power distance* does not show a very dominant role. This dimension has a positive relationship with *consultative* decision style only. It means that these people consult others in terms of the decision making process. Among the other cultural dimensions, *masculinity* has shown positive relationship with *pseudo-consultative* and *delegative* styles. For these two relationships, the value of R square is higher than 0.2. For all the other relationships, the values of R square are lower than 0.2 which means that the cultural dimensions have the ability to explain variance in decision styles lower than twenty percent. This positive relationship of *masculinity* and *delegative* style in Germans pretends that although they might be more masculine yet they have tendency to delegate the decision authority.

Regarding the decision styles in cognitive context, Pakistani managers show more dominance as compared to German managers in *directive* and *behavioral* decision making styles (see Table 4:42 and Table 4:43). Whereas for the other two styles the German managers present their dominance as more *analytical* and *conceptual* (see Table 4:42 and Table 4:43). These differences have been found significant by applying independent sample t-test.

Furthermore, regarding basic style patterns, the results of Table 4:46 and Table 4:47 suggest that German managers have significant preference in use of *idea orientation* style as compared to Pakistani managers. Whereas, regarding *action orientation*, Pakistani managers have shown significant preference in use of this style in comparison with German managers.

To address the fifth research question, different factors at personal and organizational level as well as factors related to the general environment have been explored and discussed in terms of a qualitative analysis.

It is conceived from the analysis of qualitative data that Personal, organizational and environmental factors are important factors to be considered by German and Pakistani project managers. There are some similarities in sub categories of these major factors; for example experience and education in personal factors, organizational culture and corporate policies in organizational factors and government policies in environmental factors have been mentioned by project managers from both countries. Besides these similarities there are also a few differentiating factors. For example religious considerations for Pakistani managers is a prominent point of difference regarding personal factors. Regarding environmental factors; economic conditions and energy related issues were mentioned by Pakistani managers. German managers mentioned that being part of German society itself was a distinctive factor for their decision behavior.

## 5.2 Implications for theory

The primary implication of this study is that the cultural dimension *power distance* is the most important dimension to be addressed in the Pakistani subsample. This result is consistent with findings of Burchell and Gilden (2008). *Power distance* is a determinant of *autocratic*, *pseudo-consultative* and *pseudo-participative* decision making styles for Pakistani project managers. The other important cultural dimension is *masculinity* which also has positive and significant relationships with above mentioned three decision making styles for Pakistani participants. The negative and significant relationship of *power distance* with *participative* decision making style demonstrates that the persons who score higher on *power distance* scale do not involve others in their decision making process and for those persons *power distance* dominates *collectivism*.



The results of DSI analysis suggest that the dominant decision making styles of Pakistani project managers are *directive* and *behavioral* as compared to German project managers, whereas, Germans adopt more *analytical* and *conceptual* styles when making decisions in projects. This should be noted that these preferences for decision making styles of managers in both countries are in comparison with each other.

The results of DSI analysis suggest that the dominant decision making styles of Pakistani project managers are *directive* and *behavioral* as compared to German project managers, whereas, Germans adopt more *analytical* and *conceptual* styles when making decisions in projects. In addition, German managers are more *idea oriented* and Pakistani managers are more *action oriented* with respect to basic decision patterns. This should be noted that these preferences for decision making styles of managers in both countries are in comparison with each other.

### **5.3 Managerial implications**

The results of this study suggest that when German and Pakistani managers have to work together in common projects then differences in decision making styles in cultural context should be considered. For those tasks, where less consultation, participation and analysis is needed, quick and routine decisions are to be made and need for creativity is low, Pakistani project managers may be appropriate. German managers will be suitable on those managerial positions where more consultation and participation is required, the need for creativity and innovation is high, and the tasks to be decided are complex and need more analytical and conceptual analysis.

From the conclusion of qualitative data analysis, it is further recommended that as most of the times, German companies work on projects in Pakistan, therefore, German project managers should keep in considerations these factors while making project related decisions: religious feelings of individuals in project

teams, organizational culture and environment, policies of Government, economic conditions and energy and electricity related issues.

## **5.4 Limitations of this study**

The major limitations of this study are related to the sample that has been used. Instead of random sampling, convenient sampling technique has been used in this study. The data was required from professionals involved both in project management related activities and decision making in their organizations. These both requirements decreased the chances to access a larger number of participants. This limitation may reduce the chances of generalization of the results of this study. The data had to be collected from Germany and Pakistan. It was very difficult due to cultural and financial constraints. There were no additional funds available for field study of this research project. In Pakistan, high risks were associated to travel across different cities due to multiple terrorist's activities. It has been a situation like civil war for last many years. Furthermore, the poor infrastructure for communication and travelling added difficulties to reach the potential participants. These factors limited the sample size. Nonetheless, a reasonable sample size was obtained despite all these difficulties which was appropriate to be used for data analysis purpose in SPSS and SmartPLS3 software.

For the qualitative part of the study, there might exist biasness and subjectivity because the participants allocated the factors to all the categories of decision affecting factors as per their own perceptions and no statistical technique has been used to allocate those factors to already mentioned and to any other additional group of factors.

## **5.5 Proposals for future research**

It is proposed for future studies to use a larger sample size from other types of organizations. It will add more ability of generalization of the results to other

fields of business. Further studies may also validate the results of this present study. There are different scales available to assess the decision styles and cultural orientations of the individuals. The use of these diverse tools and other statistical tests may add more understanding to these researched phenomena.

# Bibliography

Ali, A. J. (1989). Decision style and work satisfaction of Arab Gulf executives: A cross-national study. *International Studies of Management & Organization*, 19(2), 22-37.

Ali, A. J. (1993). Decision-making style, individualism, and attitudes toward risk of Arab executives. *International Studies of Management & Organization*, 23(3), 53-73.

Ali, A. J., & Swiercz, P. (1985). Managerial decision styles and work satisfaction in Saudi Arabia. *Management Decision*, 23(2), 33-42.

Ali, A. J., Taqi, A. A., & Krishnan, K. (1997). Individualism, collectivism, and decision styles of managers in Kuwait. *The Journal of Social Psychology*, 137(5), 629-637.

Al-Omari, A. A. (2013). The relationship between decision making styles and leadership styles among public school principals. *International Education Studies*, 6(7), 100.

Alqarni, A. O. (2003). *Managerial Decision Styles of Florida's State University Libraries' Managers*.

Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the academy of marketing science*, 16(1), 74-94.

Bala, M., Chalil, G. R. B., & Gupta, A. (2012). Emic and Etic: Different Lenses for Research in Culture: Unique Features of Culture in Indian Context. *Management and Labour Studies*, 37(1), 45–60.

Baskerville, R. F. (2003). Hofstede never studied culture. *Accounting, organizations and society*, 28(1), 1-14.

- Bei, Z. (2006). *Comparison of decision styles of business managers in two international companies within a rational decision-making context* (Doctoral dissertation, Cape Peninsula University of Technology).
- Boussif, D. (2010). Decision-making styles of Arab executives: insights from Tunisia. *Communications of the IBIMA*.
- Brew, F. P., Hesketh, B., & Taylor, A. (2001). Individualist-collectivist differences in adolescent decision making and decision styles with Chinese and Anglos. *International Journal of Intercultural Relations*, 25(1), 1-19.
- Brodbeck, F. C., Frese, M., & Javidan, M. (2002). Leadership made in Germany: Low on compassion, high on performance. *Academy of Management Perspectives*, 16(1), 16-29.
- Browaeys, M. J., & Price, R. (2008). *Understanding cross-cultural management*. Harlow, GB: Prentice Hall.
- Burchell, R., & Gilden, A. (2008). Measuring cultural perceptions of western project managers operating in the Asian region: Application of a cultural model. *Management Decision*, 46(7), 1052-1065.
- Burke, P. J., Stets, J. E., & Pirog-Good, M. A. (1988). Gender Identity, Self-Esteem, and Physical and Sexual Abuse in Dating Relationships. *Social Psychology Quarterly*, 51, 272-285.
- Campbell, D. T., & Fiske, D. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, 56(2), 81.
- Chin, W. W. (1998). The Partial Least Squares Approach for Structural Equation Modeling. In: G.A., Marcoulides (Ed.). *Modern Methods for Business Research* (pp. 295-336). Hillsdale, NJ: Lawrence Erlbaum Associates.

- Chin, W. W. (2010). How to write up and report PLS analyses. In: V. E., Vinzi, W., Chin, J., Henseler, & H., Wang (Eds.). *Handbook of partial least squares: concepts, methods and applications* (pp. 655-90). Berlin: Springer.
- Christie, P. J., Kwon, I. W., Stoeberl, P. A., & Baumhart, R. (2003). A cross-cultural comparison of ethical attitudes of business managers. *Journal of business ethics, 46*, 263-287.
- Chu, P. C., & Spires, E. E. (1999). Cross-cultural differences in choice behavior and use of decision aids: A comparison of Japan and the United States. *Organizational Behavior and Human Decision Processes, 77*(2), 147-170.
- Clark, L. A., & Watson, D. (1995). Constructing validity: Basic issues in objective scale development. *Psychological assessment, 7*(3), 309.
- Craparo, Robert M. (2007). Significance level. In: N. J., Salkind (Ed.). *Encyclopedia of Measurement and Statistics* (3<sup>rd</sup> ed., pp. 889-891). Thousand Oaks, CA: Sage Publications.
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika, 16*(3), 297-334.
- Dabić, M., Tipurić, D., & Podrug, N. (2015). Cultural differences affecting decision-making style: A comparative study between four countries. *Journal of Business Economics and Management, 16*(2), 275-289.
- Davison, A. C., & Hinkley, D. V. (1997). *Bootstrap methods and their application*. Cambridge University Press.
- Denison, D. R. (1984). Bringing corporate culture to the bottom line. *Organisational Dynamics, 13*(2), 59–76.

- Dimitratos, P., Petrou, A., Plakoyiannaki, E., & Johnson, J. E. (2011). Strategic decision making process in internationalization: Does national culture of the focal firm matter? *Journal of World Business, 46*(2), 194-204.
- Drolet, A. L., & Morrison, D. G. (2001). Do we really need multiple-item measures in service research? *Journal of service research, 3*(3), 196-204.
- Eagly, A. H. (1987). *Sex Differences in Social Behavior: A Social-Role Interpretation*. Hillsdale, N J: Lawrence Erlbaum.
- Farh, J. L., Hackett, R. D., & Liang, J. (2007). Individual-level cultural values as moderators of perceived organizational support-employee outcomes relationships in China: Comparing the effects of power distance and traditionality. *Academy of Management Journal, 50*(3), 715-729.
- Fischer, R., Vauclair, C.-M., Fontaine, J. R. J., & Schwartz, S. H. (2010). Are individual level and country-level value structures different? Testing Hofstede's legacy with the Schwartz value survey. *Journal of Cross-Cultural Psychology, 41*(2), 135-151.
- Fitzsimons, C. J. (2004). Entscheidungsfindung. In H.-E., Hoffmann, Y.-G., Schoper, & C. J., Fitzsimons (Eds.). *Internationales Projektmanagement: Interkulturelle Zusammenarbeit in der Praxis*. München: Deutscher Taschenbuch Verlag.
- Fong, C. P. S., & Wyer Jr., R. S. (2003). Cultural, social, and emotional determinants of decisions under uncertainty. *Organizational Behavior and Human Decision Processes, 90*(2), 304-322.
- Foster, B. (2015). *How Culture Makes a Difference in Management: Applying Geert Hofstede's Cultural Dimensions to Management in Germany and China*. Senior Honors Thesis. Paper 448.

Fox, T. L., & Spence, J. W. (1999). An examination of the decision styles of project managers: evidence of significant diversity. *Information & management*, 36(6), 313-320.

Francesco, A. M., & Gold, B. A. (2005). *International Organizational Behavior: text, cases, and skills* (2<sup>nd</sup> ed.). New York: Prentice-Hall.

Freitas, H. (1997). Decision-maker profile and national culture differences. Atlanta, *EUA: 5th Annual Cross Cultural Meeting*, December 14.

Freitas, H. (1998a). Decision-Making Process, National Culture, and Decisional Background Cross-Cultural Exploratory Quantitative-Qualitative Survey Research Project: Brazil, France, and USA-Some Preliminary Results. *AMCIS 1998 Proceedings*, 264.

Freitas, H. (1998b). The Design Process of a Cross-Cultural Exploratory Quantitative-Qualitative Survey Research Project to Study the Decision-Making Process. *AMCIS 1998 Proceedings*, 320.

Furrer, O., Liu, B. S. C., & Sudharshan, D., (2000). The relationships between culture and service quality perceptions: basis for cross-cultural market segmentation and resource allocation. *Journal of Service Research*, 2(4), 355–371.

Gannon, M. (1994). *Understanding global cultures, metaphorical journeys through 17 countries*. Thousand Oaks, CA: Sage Publications.

Gannon, M. (2004). *Understanding global cultures: Metaphorical journeys through 28 nations, clusters of nations, and continents* (3<sup>rd</sup> ed.). Thousand Oaks, CA: Sage Publications.

Gannon, M. J., Locke, E. A., Gupta, A., Audia, P., & Kristof-Brown, A. L. (2005). Cultural metaphors as frames of reference for nations: A six-country study. *International Studies of Management & Organization*, 35(4), 37–47.



- Geisser, S (1974). A predictive approach to the random effect model. *Biometrika*, 61(1), 101-107.
- Gold, A. H., Malhotra, A., & Segars, A. H. (2001). Knowledge management: An organizational capabilities perspective. *Journal of management information systems*, 18(1), 185-214.
- Götz, O., Liehr-Gobbers, K., & Krafft, M. (2010). Evaluation of structural equation models using the partial least squares (PLS) approach. In V., Esposito Vinzi, W., Chin, J., Henseler, H., Wang (Eds.). *Handbook of Partial Least Squares* (pp. 691-711). Berlin, Heidelberg: Springer.
- Guss, J. D., Fadil, P., & Strohschneider, S. (2012). The influence of uncertainty avoidance on dynamic business decision making across cultures: A growth mixture modeling approach. *International Business: Research, Teaching and Practice*, 6(2), 12-30.
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing theory and Practice*, 19(2), 139-152.
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2013). Partial least squares structural equation modeling: rigorous applications, better results and higher acceptance. *Long Range Planning*, 46(1–2), 1-12.
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2014). *A primer on partial least squares structural equation modelling (PLS-SEM)*. Thousand Oaks, CA: Sage Publications.
- Hair, J. F., Hollingsworth, C. L., Randolph, A. B., & Chong, A. Y. L. (2017a). An updated and expanded assessment of PLS-SEM in information systems research. *Industrial Management & Data Systems*, 117(3), 442-458.

- Hair, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2017b). *A primer on partial least squares structural equation modeling (PLS-SEM)*. 2nd Ed. Thousand Oaks, CA: Sage Publications.
- Hall, E. T. (1976). *Beyond culture*. New York, NY: Anchor Books/Doubleday.
- Hall, E. T., & Reed Hall, M. (1990). *Understanding cultural differences: Germans, French and Americans*. Yarmouth, ME: Intercultural Press.
- Hanges, P. J., & Dickson, M. W. (2006). Agitation over aggregation: Clarifying the development of and the nature of the GLOBE scales. *The Leadership Quarterly*, 17(5), 522-536.
- Heine, S. J., Lehman, D. R., Peng, K., et al., (2002). What's wrong with cross-cultural comparisons of subjective Likert scales?: The reference-group effect. *Journal of Personality and Social Psychology*, 82(6), 903–918.
- Henrie, M., & Sousa-Poza, A. (2005). Project management: A cultural literary review. *Project Management Journal*, 36(1), 5-14.
- Henseler, J., Ringle, C., & Sinkovics, R. (2009). The use of partial least squares path modeling in international marketing. *Advances in International Marketing (AIM)*, 20, 277-320.
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115-135.
- Hill, C. W. L. (2009). *Global business today* (6<sup>th</sup> ed.). Boston, MA: McGraw-Hill/Irwin.
- Hoffmann, H. E. (2004). Die Bedeutung kultureller Unterschiede. In H. E., Hoffmann, Y. G., Schoper, & C. J. Fitzsimons (Eds.). *Internationales*

*Projektmanagement: Interkulturelle Zusammenarbeit in der Praxis*. München: Deutscher Taschenbuch Verlag.

Hofstede, G. (1980). *Culture's consequences: International differences in work-related values*. Beverly Hills, CA: Sage Publications

Hofstede, G. (1983). Cultural dimensions for project management. *International Journal of Project Management*, 1(1), 41-48.

Hofstede, G. (1984a). Cultural Dimensions In Management And Planning. *Asia Pacific Journal of Management*, 8(1).

Hofstede, G. (1984b). *Culture's consequences: International differences in work-related values*. Newbury Park, CA: Sage Publications.

Hofstede, G. 1986. Cultural Differences in Teaching and Learning. *International Journal of Intercultural Relations*, 10(3), 301-320.

Hofstede, G. R. (1991). *Cultures and organisations: software of the mind*. London: McGraw-Hill.

Hofstede, G. (2001). *Culture's Consequences* (2<sup>nd</sup> ed.). Thousand Oaks: Sage Publications.

Hofstede, G. (2010). The GLOBE debate: Back to relevance. *Journal of International Business Studies*, 41(8), 1339-1346.

Hofstede, G., & Bond, M. H. (1988). The Confucius connection: From cultural roots to economic growth. *Organizational Dynamics*, 16(4), 4–21.

Hofstede, G., & Hofstede, G. J. (2005). *Cultures and Organizations, Software of the Mind: Intercultural Cooperation and Its Importance for Survival* (2<sup>nd</sup> ed.). London, New Delhi, New York: McGraw-Hill.

- Hofstede, G., & Minkov, M. (2011). The evolution of Hofstede's doctrine. *Cross-Cultural Management: An International Journal*, 18(1), 10-20.
- Hofstede, G., Hofstede, G. J., & Minkov, M. (2010). *Cultures and organizations: Software for the mind: Intercultural cooperation and its importance for survival* (3<sup>rd</sup> ed.). New York, NY: McGraw-Hill.
- House, R. J., & Aditya, R. N. (1997). The social scientific study of leadership: Quo vadis?. *Journal of management*, 23(3), 409-473.
- House, R., Javidan, M., Hanges, P., & Dorfman, P. (2002). Understanding cultures and implicit leadership theories across the globe: an introduction to project GLOBE. *Journal of world business*, 37(1), 3-10.
- House, R. J., Hanges, P. J., Javidan, M., Dorfman, P. W., & Gupta, V. (Eds.). (2004). *Culture, leadership, and organizations: The GLOBE study of 62 societies*. Thousand Oaks, CA: Sage publications.
- Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: A review of four recent studies. *Strategic management journal*, 20(2), 195-204.
- Islam, N. (2004). Sifarish, sycophants, power and collectivism: Administrative culture in Pakistan. *International Review of Administrative Sciences*, 70(2), 311-330.
- Iwao, S., & Triandis, H. C. (1993). Validity of auto- and hetero stereotypes among Japanese and American students. *Journal of Cross-Cultural Psychology*, 24(4), 428-444.
- Jacoby, J. M. (2007). *Relationship between Principals' Decision Making Styles and Technology Acceptance & Use* (Doctoral dissertation, University of Pittsburgh).

- Javidan, M., & House, R. J. (2001). Cultural acumen for the global manager: Lessons from project GLOBE. *Organizational Dynamics*, 29(4), 289-305.
- Javidan, M., House, R. J., Dorfman, P. W., Hanges, P. J., & Sully de Luque, M. (2006). Conceptualizing and measuring cultures and their consequences: A comparative review of GLOBE's and Hofstede's approaches. *Journal of International Business Studies*, 37(6), 897-914.
- Johnson, R. W. J. T. S. (2001). An introduction to the bootstrap. *Teaching Statistics*, 23(2), 49-54.
- Johnson, D., & Turner, C. (2010). *International Business: Themes and issues in the modern global economy*. Routledge.
- Kamakura, W. A., & Novak, T. P. (1992). Value-system segmentation: Exploring the meaning of LOV. *Journal of consumer research*, 19(1), 119-132.
- Kaufmann, F. (1970). Decision making—Eastern and western style: A way to synthesize the best of each. *Business Horizons*, 13(6), 81-86.
- Kazi, S. (2012). Managerial Decision-Making Style: India, Bangladesh and Finland Cultural Side of the Game. Creating a sustainable business: managerial implications and challenges. Retrieved from <https://www.doria.fi/bitstream/handle/10024/88846/ICSBMC-12%207-9%202012.pdf?sequence=1> on 20<sup>th</sup> August 2018.
- Khairullah, D. Z., Khairullah, Z. Y. (2013). Cultural values and decision-making in China. *International Journal of Business, Humanities and Technology*, 3(2): 1-12.
- Killen, C. P., & Kjaer, C. (2012). Understanding project interdependencies: The role of visual representation, culture and process. *International Journal of Project Management*, 30(5), 554-566.

- Kirkman, B. L., Lowe, K. B., & Gibson, C. B. (2006). A quarter century of Culture's Consequences: a review of empirical research incorporating Hofstede's cultural values framework. *Journal of International Business Studies*, 37(3), 285-320.
- Kline, R. B. (2011). *Principles and practice of structural equation modeling*. New York: Guilford Press.
- Kluckhohn, F. R., & Strodtbeck, F. L. (1961). *Variations in value orientations*.
- Kohun, F. G., & Skovira, R. J. (2011). Decision-Making and its Social-Cultural Environments: A Proposed Research Model. *Proceedings of Informing Science & IT Education Conference (InSITE)*.
- LeFebvre, R., & Franke, V. (2013). Culture matters: Individualism vs. Collectivism in conflict decision making. *Societies*, 3, 128-146.
- Lu, C. S., Lai, K. H., Lun, Y. V., & Cheng, T. C. E. (2012). Effects of national culture on human failures in container shipping: The moderating role of Confucian dynamism. *Accident Analysis & Prevention*, 49, 457-469.
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, 98, 224-253.
- Mayer, H. O. (2004). *Interview und schriftliche Befragung: Entwicklung, Durchführung und Auswertung* [Interview and Written Survey: Development, Realisation and Analysis]. Oldenbourg Wissenschaftsverlag.
- Maznevski, M. L., Gomez, C. B., DiStefano, J. J., Noorderhaven, N. G., & Wu, P. C. (2002). Cultural dimensions at the individual level of analysis: The cultural orientations framework. *International journal of cross cultural management*, 2(3), 275-295.

- McClelland, D. C. (1985). How motives, skills, and values determine what people do. *American psychologist*, 40(7), 812.
- Mead, R., (2003). *International Management*. Oxford: Blackwell Publishing.
- Mech, T. F. (1993). The managerial decision styles of academic library directors. *College & Research Libraries*, 54(5), 375-386.
- Miller, J. S., Hom, P. W., & Gomez-Mejia, L. R. (2001). The high cost of low wages: Does maquiladora compensation reduce turnover? *Journal of International Business Studies*, 32(3), 585–595.
- Misra, S., & Srivastava, K. B. L. (2012). Decision-making: path to effectiveness. *Human Resource Management Research*, 2(4), 46-52.
- Müller, R., Spang, K., & Özcan, S. (2009). Cultural differences in decision making in project teams. *International Journal of Managing Projects in Business*, 2(1), 70-93.
- Mustafa, L., & Kursat, O. (2015). Influence of Social Culture on Decision-Making Manner: An Analysis with the Structural Equation Model. *The Anthropologist*, 19(2), 341-353.
- Nagy, M. S. (2002). Using a single-item approach to measure facet job satisfaction. *Journal of occupational and organizational psychology*, 75(1), 77-86.
- Nakata, C., & Sivakumar, K. (1996). National culture and new product development: An integrative review. *The Journal of Marketing*, 60(1), 61-72.
- Naz, S., Ilyas, M., & Rehman, C. (2015). Impact of organizational culture on decision making style (empirical findings of textile industry in Pakistan). *Science International*, 27(1).

Nazim, Z., & Abuzar Wajidi, M. (2016). Updated National Culture of Pakistan- Revisiting Hofstede. *New Horizons (1992-4399)*, 10(1).

Needle, D. (2010). *Business in context: An introduction to business and its environment*. Cengage Learning EMEA.

Newman, K. L., & Nollen, S. D. (1996). Culture and Congruence: The Fit between Management Practices and National Culture. *Journal of International Business Studies*, 27(4), 753.

Nunnally, J., & Bernstein, I. (1994). *Psychometric theory* (3<sup>rd</sup> ed.). New York: McGraw-Hill.

Oyserman, D., Coon, H. M., & Kemmelmeier, M. (2002). Rethinking individualism and collectivism: evaluation of theoretical assumptions and meta-analyses. *Psychological Bulletin*, 128(1), 3–72.

Pannavalee, W., & Rafique, G. (2008). *How is decision making in project teams influenced by national cultures?* Umea University, Umea school of business. Retrieved from [www.bibliotek.dk](http://www.bibliotek.dk).

Peterson, M. F., & Castro, S. L. (2006). Measurement metrics at aggregate level of analysis: implications for organizational culture research and the GLOBE project. *Leadership Quarterly*, 17, 506–521.

Podrug, N. (2011). Influence of national culture on decision-making style. *South East European Journal of Economics and Business*, 6(1), 37-44.

Putnam, R. (1993). The prosperous community: Social capital and public life. *The American Prospect*, 13(4).

Ralston, D. A., Giacalone, R. A., & Terpstra, R. H. (1994). Ethical Perspectives of Organizational Politics: A Comparative Evaluation of



American and Hong Kong Managers. *Journal of Business Ethics*, 13(12), 989-999.

Ramirez, A., & Tadesse, S. (2009). Corporate cash holdings, uncertainty avoidance, and the multinationality of firms. *International Business Review*, 18(4), 387-403.

Reimann, M., Lunemann, U. F., & Chase, R. B. (2008). Uncertainty as a moderator of the relationship between perceived service quality and customer satisfaction. *Journal of Service Research*, 11(2), 63-73.

Robbins, S. P., Coulter, M., & Vohra, N. (2009). *Introduction to Management and Organizations. Management* (10<sup>th</sup> ed.). Pearson Education: Publishing Prentice Hall Publications.

Rowe, A. J., & Boulgarides, J. D. (1983). Decision styles—a perspective. *Leadership & Organization Development Journal*, 4(4), 3-9.

Rowe, A. J., & Mason, R. O. (1987). *Managing with style: A guide to understanding, assessing, and improving decision making*. Jossey-Bass.

Roxas, M. L., & Stoneback, J. Y. (1997). An investigation to the ethical decision-making process across varying cultures. *The International Journal of Accounting*, 32(4), 503-535.

Sagie, A., & Aycan, Z. (2003). A cross-cultural analysis of participative decision-making in organizations. *Human Relations*, 56(4), 453-473.

Salman, M. (2015). *Hofstede Dimensions of Culture: A Brief Comparison of Pakistan and New Zealand*. Retrieved from <https://ssrn.com/abstract=2702787>.

Sarstedt, M., Ringle, C. M., & Hair, J. F. (2017). *Partial least squares structural equation modeling*. Handbook of market research, 26, 1-40.

- Saunders, M., Lewis, P., & Thornhill, A. (2012). *Research methods for business students* (6<sup>th</sup> ed.). Harlow, UK: Pearson.
- Schneider, S. C., & De Meyer, A. (1991). Interpreting and responding to strategic issues: The impact of national culture. *Strategic Management Journal*, 12(4), 307-320.
- Schwartz, S.H. (1992). Universals in the content and structure of values: theoretical advances and empirical tests in 20 countries. In M. P., Zanna (Ed.). *Advances in Experimental Social Psychology* (pp. 1-65). San Diego, CA: Academic Press.
- Schwartz, S.H. (1994). Beyond individualism/collectivism: new cultural dimensions of values. In U., Kim et al. (Eds.). *Individualism and Collectivism: Theory, Methods and Applications* (pp. 85-119). London: Sage Publications.
- Schwartz, S. H. (1999). A theory of cultural values and some implications for work. *Applied Psychology: An International Review*, 48(1), 23-47.
- Schwartz, S. H. (2009). Culture matters: National value cultures, sources, and consequences. In R. S., Wyer, C.-y., Chiu, & Y.-y., Hong (Eds.). *Understanding Culture: Theory, research, and application*. New York, NY: Psychological Press.
- Scott, S. G., & Bruce, R. A. (1995). Decision-making style: The development and assessment of a new measure. *Educational and Psychological Measurement*, 55(5), 818-831.
- Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill building approach*. John Wiley & Sons.
- Sharma, P. (2010). Measuring personal cultural orientations: scale development and validation. *Journal of the Academy of Marketing Science*, 38(6), 787-806.

- Sinha, J. B. P. (1990). *Work culture in the Indian context*. New Delhi: Sage Publications.
- Sinha, J. B. P., Sinha, T. N., Verma, J., & Sinha, R. B. N. (2001). Collectivism coexisting with individualism: An Indian scenario. *Asian Journal of Psychology*, 4(2), 133–145.
- Singh, S. (2006). Cultural differences in, and influences on, consumers' propensity to adopt innovations. *International Marketing Review*, 23(2), 173-191.
- Spence, J. T. (1985). Gender Identity and Implications for Concepts of Masculinity and Femininity. In T. B., Sonderegger (Ed.). *Nebraska Symposium on Motivation: Psychology and Gender* (pp. 59-96). Lincoln: University of Nebraska Press.
- Spörrle, M., & Bekk, M. (2014). Meta-analytic guidelines for evaluating single-item reliabilities of personality instruments. *Assessment*, 21(3), 272-285.
- Srnka, K. J. (2004). Culture's role in marketers' ethical decision making: An integrated theoretical framework. *Academy of Marketing Science Review*, 1(04), 1-32.
- Stone, M. (1976). Corrigenda: cross-validatory choice and assessment of statistical predictions. *Journal of the Royal Statistical Society. Series B (Methodological)*, 38(1), 102.
- Tang, L., & Koveos, P. E. (2008). A framework to update Hofstede's cultural value indices: Economic dynamics and institutional stability. *Journal of International Business Studies*, 39(6), 1045-1063.
- Taras, V., Roney, J., & Steel, P. (2009). Half a century of measuring culture: Review of approaches, challenges, and limitations based on the analysis of

121 instruments for quantifying culture. *Journal of International Management*, 15(4), 357-373.

Taras, V., Steel, P., & Kirkman, B. L. (2011). Three decades of research on national culture in the workplace: Do the differences still make a difference. *Organizational Dynamics*, 40(3), 189-198.

Teo, T. S., Srivastava, S. C., & Jiang, L. (2008). Trust and electronic government success: An empirical study. *Journal of management information systems*, 25(3), 99-132.

Tenenhaus, M., Vinzi, V. E., Chatelin, Y. M., & Lauro, C. (2005). PLS path modeling. *Computational Statistics & Data Analysis*, 48(1), 159-205.

Triandis, H. C. (1994). *Culture and social behavior*.

Triandis, H. C. (1995). *Individualism and collectivism*. Boulder, CO: Westview Press.

Triandis, H. C., Bontempo, R., Villareal, M. J., Asai, M., & Lucca, N. (1988). Individualism and collectivism: Cross-cultural perspectives on self-ingroup relationships. *Journal of Personality and Social Psychology*, 54, 323-338.

Trompenaars, F. (1993). *Riding the Waves of Culture: Understanding Diversity in Global Business*. Chicago, IL: Irwin Professional Publishing.

Trompenaars, F., & Hampden-Turner, C. (2006). *Riding the waves of culture: Understanding cultural diversity in business* (2<sup>nd</sup> ed.). London, UK: Nicholas Brealey Publishing.

Trompenaars, F., & Hampden-Turner, C. (2011). *Riding the waves of culture: Understanding diversity in global business* (3<sup>rd</sup> ed.). London, UK: Nicholas Brealey Publishing.

- Vitell, S. J., Nwachukwu, S. L., & Barnes, J. H. (1993). The effects of culture on ethical decision-making: An application of Hofstede's typology. *Journal of Business Ethics, 12*(10), 753-760.
- Wanous, J. P., Reichers, A. E., & Hudy, M. J. (1997). Overall job satisfaction: how good are single-item measures? *Journal of Applied Psychology, 82*(2), 247.
- Weber, E. U., Ames, D. R., & Blais, A. R. (2005). 'How Do I Choose Thee? Let me Count the Ways': A Textual Analysis of Similarities and Differences in Modes of Decision-making in China and the United States. *Management and Organization Review, 1*(1), 87-118.
- Werts, C. L. R., & Joreskog, K. (1974). Interclass reliability estimates: testing structural assumptions. *Education and Psychological Measurement, 34*(1), 25-33.
- Wood, M. (2005). Bootstrapped confidence intervals as an approach to statistical inference. *Organizational Research Methods, 8*(4), 454-470.
- Ybema, J. F., Smulders, P. G., & Bongers, P. M. (2010). Antecedents and consequences of employee absenteeism: A longitudinal perspective on the role of job satisfaction and burnout. *European Journal of Work and Organizational Psychology, 19*(1), 102-124.
- Yoo, B., Donthu, N., & Lenartowicz, T. (2011). Measuring Hofstede's five dimensions of cultural values at the individual level: Development and validation of CVSCALE. *Journal of International Consumer Marketing, 23*(3-4), 193-210.
- Yousef, D. A. (1998). Predictors of decision-making styles in a non-western country. *Leadership & Organization Development Journal, 19*(7), 366-373.

**Further literature used:**

Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: a review and recommended two-step approach. *Psychological Bulletin*, 103(3), 411-423.

Hofstede, G. (1983). National cultures in four dimensions: A research-based theory of cultural differences among nations. *International Studies of Management & Organization*, 13(1-2), 46-74.

Hofstede, G. (2001). Culture's recent consequences: Using dimension scores in theory and research. *International Journal of cross cultural management*, 1(1), 11-17.

Janis, I. L., & Mann, L. (1977). Decision making: A psychological analysis of conflict, choice, and commitment. free press.

Loo, R. (2000). A psychometric evaluation of the general decision-making style inventory. *Personality and individual differences*, 29(5), 895-905.

Mann, L., Burnett, P., Radford, M., & Ford, S. (1997). The Melbourne Decision Making Questionnaire: An instrument for measuring patterns for coping with decisional conflict. *Journal of Behavioral Decision Making*, 10(1), 1-19.

Maznevski, M. L., & DiStefano, J. J. (1995). Measuring culture in international management-the cultural perspectives questionnaire. *Work in progress paper presented at Academy of International Business Annual meeting*.

Routamaa, V., & Hautala, T. M. (2008). Understanding Cultural Differences: The values in a Cross Cultural Context. *International Review of Business Research Papers*, 4(5), 129-137.

Turner, J. R., & Müller, R. (2005). The project manager's leadership style as a success factor on projects: A literature review. *Project management journal*, 36(2), 49-61.

# Appendix



### **General Guidelines to Fill in this Questionnaire**

1. The participation in this survey is voluntary. The identification of the respondents will be kept confidential and no individual responses will be reported.
2. The main objective of this survey is to develop some understanding about cultural orientation and decision making behavior of project managers.
3. This questionnaire has been designed to collect responses from individuals. Therefore, it should be filled in individually and instinctively and not in a group form.
4. The questionnaire will take approximately half an hour to be filled in.
5. The specific instructions to respond each part have been given at the start of that part. Please read the instructions related to part 2 of the questionnaire carefully.
6. All the questions and items should be responded. The questions may be left un-replied which are mentioned as optional.
7. The questions with check boxes can be responded by clicking on the boxes and then you can shift to next box or field by clicking there.
8. There are some questions for which you can write in the space given below or in front of them.
9. Please do not edit the questionnaire form.
10. Please send the filled questionnaire at the email address;  
sohailaslam14@hotmail.com

**Thanks for your participation!**

**Part 1:**

**A). Please mark the level of agreement or disagreement in the following statements.**

1	<p>People in higher positions should make most decisions without consulting people in lower positions.</p> <p>Strongly Disagree    <input type="checkbox"/>    <input type="checkbox"/>    <input type="checkbox"/>    <input type="checkbox"/>    <input type="checkbox"/>    Strongly Agree</p> <p>   1        2        3        4        5</p>
2	<p>People in higher positions should not ask the opinions of people in lower positions too frequently.</p> <p>Strongly Disagree    <input type="checkbox"/>    <input type="checkbox"/>    <input type="checkbox"/>    <input type="checkbox"/>    <input type="checkbox"/>    Strongly Agree</p> <p>   1        2        3        4        5</p>
3	<p>People in higher positions should avoid social interaction with people in lower positions.</p> <p>Strongly Disagree    <input type="checkbox"/>    <input type="checkbox"/>    <input type="checkbox"/>    <input type="checkbox"/>    <input type="checkbox"/>    Strongly Agree</p> <p>   1        2        3        4        5</p>
4	<p>People in lower positions should not disagree with decisions by people in higher positions.</p> <p>Strongly Disagree    <input type="checkbox"/>    <input type="checkbox"/>    <input type="checkbox"/>    <input type="checkbox"/>    <input type="checkbox"/>    Strongly Agree</p> <p>   1        2        3        4        5</p>
5	<p>People in higher positions should not delegate important tasks to people in lower positions.</p> <p>Strongly Disagree    <input type="checkbox"/>    <input type="checkbox"/>    <input type="checkbox"/>    <input type="checkbox"/>    <input type="checkbox"/>    Strongly Agree</p> <p>   1        2        3        4        5</p>
6	<p>It is important to have instructions spelled out in detail so that I always know what I am expected to do.</p> <p>Strongly Disagree    <input type="checkbox"/>    <input type="checkbox"/>    <input type="checkbox"/>    <input type="checkbox"/>    <input type="checkbox"/>    Strongly Agree</p> <p>   1        2        3        4        5</p>
7	<p>It is important to closely follow instructions and procedures.</p> <p>Strongly Disagree    <input type="checkbox"/>    <input type="checkbox"/>    <input type="checkbox"/>    <input type="checkbox"/>    <input type="checkbox"/>    Strongly Agree</p> <p>   1        2        3        4        5</p>
8	<p>Rules and regulations are important for me because they inform me what is expected of me.</p> <p>Strongly Disagree    <input type="checkbox"/>    <input type="checkbox"/>    <input type="checkbox"/>    <input type="checkbox"/>    <input type="checkbox"/>    Strongly Agree</p> <p>   1        2        3        4        5</p>

9	Standardized work procedures are helpful.					
	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Strongly Agree
		1	2	3	4	5
10	Instructions for operations are important.					
	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Strongly Agree
		1	2	3	4	5
11	Individuals should sacrifice self-interest for the group.					
	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Strongly Agree
		1	2	3	4	5
12	Individuals should stick with the group even though difficulties.					
	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Strongly Agree
		1	2	3	4	5
13	Group welfare is more important than individual rewards.					
	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Strongly Agree
		1	2	3	4	5
14	Group success is more important than individual success.					
	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Strongly Agree
		1	2	3	4	5
15	Individuals should only pursue their goals after considering the welfare of the group.					
	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Strongly Agree
		1	2	3	4	5
16	Group loyalty should be encouraged even if individual goals suffer.					
	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Strongly Agree
		1	2	3	4	5
17	It is more important for men to have a professional career than it is for women.					
	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Strongly Agree
		1	2	3	4	5
18	Men usually solve problems with logical analysis while women usually solve problems with intuition.					
	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Strongly Agree
		1	2	3	4	5

19	Solving difficult problems usually requires an active, forcible approach, which is typical of men.						
	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Strongly Agree
		1	2	3	4	5	
20	There are some jobs that a man can always do better than a woman.						
	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Strongly Agree
		1	2	3	4	5	
21	I tend to avoid talking to strangers.						
	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Strongly Agree
		1	2	3	4	5	
22	I prefer a routine way of life to an unpredictable one full of change.						
	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Strongly Agree
		1	2	3	4	5	
23	I would not describe myself as a risk-taker.						
	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Strongly Agree
		1	2	3	4	5	
24	I do not like taking too many chances to avoid making a mistake.						
	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Strongly Agree
		1	2	3	4	5	

**B). Please mark the level of importance or unimportance in the following statements.**

1	Careful management of money (Thrift).						
	Very Unimportant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Very Important
		1	2	3	4	5	
2	Going on resolutely in spite of opposition. (Persistence)						
	Very Unimportant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Very Important
		1	2	3	4	5	
3	Personal steadiness and stability.						
	Very Unimportant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Very Important
		1	2	3	4	5	

4	Long term planning.					Very Important
	Very Unimportant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		1	2	3	4	
5	Giving up today's fun for success in future.					Very Important
	Very Unimportant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		1	2	3	4	
6	Working hard for success in future.					Very Important
	Very Unimportant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		1	2	3	4	

## Part 2:

Please rank your preferences in the statements in each section mentioned in the Table A on next page. Each value must be inserted in the column I, II, III or IV, following the answers to each statement. You can only use the value 1, 2, 3, and 4 once for each statement. Each response in any set of four options must be ranked differently. It means you cannot record the same value twice for each statement.

To make it simple, you may first assign the most like you (4) and least like you (1) values and then you may insert the remaining values 2 and 3 in empty columns.

**The score values are defined as follows:**

Score Values	
1	When the question is least like you
2	When the question is slightly like you
3	When the question is moderately like you
4	When the question is most like you

**The wrong answer:** Two or more responses in one set are having same score value.

Section			I		II		III		IV
1	My prime objective is to:	Have a position with status	4	Be the best in my field	2	Achieve recognition for my work	1	Feel secure in my job	4



**In Columns I and IV, must be ranked differently**

**The correct answer:** Each response in each set is having different score value.

Section			I		II		III		IV
1	My prime objective is to:	Have a position with status	4	Be the best in my field	1	Achieve recognition for my work	2	Feel secure in my job	3

**Your answers should reflect how you see yourself and what you choose to do, not what you consider is correct or desirable.**

**Table A**

Sec. No.			I		II		III		IV
1	<b>My prime objective is to:</b>	Have a position with status		Be the best in my field		Achieve recognition for my work		Feel secure in my job	
2	<b>I enjoy jobs that:</b>	Are technical and well defined		Have considerable variety		Allow independent action		Involve people	
3	<b>I expect people working for me to be:</b>	Productive and fast		Highly capable		Committed and responsive		Receptive to suggestions	
4	<b>In my job I look for:</b>	Practical results		The best solutions		New approaches or ideas		Good working environment	
5	<b>I communicate best with others:</b>	On a direct one-to-one basis		In writing		By having a group discussion		In an informal meeting	
6	<b>In my planning I emphasize:</b>	Current problems		Meeting objectives		Future goals		Developing people's careers	

## Appendix

7	<b>When faced with solving a problem I:</b>	Rely on proven approaches	Apply careful Analysis	Look for creative approaches	Rely on my feelings
8	<b>When using information I prefer:</b>	Specific facts	Accurate and complete data	Broad coverage of many options	Limited data which is easily understood
9	<b>When I am not sure about what to do, I:</b>	Rely on intuition (awareness)	Search for facts	Look for a possible compromise	Wait before making a decision
10	<b>Whenever possible I avoid:</b>	Long debates	Incomplete work	Using numbers or formulas	Conflict with others
11	<b>I am especially good at:</b>	Remembering dates and facts	Solving difficult problems	Seeing many possibilities	Interacting with others
12	<b>When time is important I:</b>	Decide and act quickly	Follow plans and priorities	Refuse to be pressured	Seek guidance or support
13	<b>In social settings I generally:</b>	Speak with others	Think about what is being said	Observe what is going on	Listen to the conversation
14	<b>I am good at remembering:</b>	People's names	Places we met	People's faces	People's personality
15	<b>The work I do provides me:</b>	The power to influence others	Challenging assignments	Achieving my personal goals	Acceptance by the group
16	<b>I work well with those who are:</b>	Energetic and ambitious	Self-confident	Open minded	Polite and trusting
17	<b>When under stress, I:</b>	Become anxious (Nervous)	Concentrate on problem	Become frustrated	Am forgetful (Insensible)
18	<b>Others consider me:</b>	Aggressive	Disciplined	Imaginative	Supportive
19	<b>My decisions typically are:</b>	Realistic and direct	Systematic or abstract	Broad and flexible	Sensitive to the needs of others
20	<b>I dislike:</b>	Losing control	Boring work	Following rules	Being rejected

**Part 3:**

**Please mark the level of agreement or disagreement in the following statements.**

1	Most often, I solve the problem or make my decision using information available, without consulting my subordinate(s).	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Strongly Agree
			1	2	3	4	5	
2	Most often, I consult with my subordinate(s), but that does not mean that I give consideration to his/their ideas and suggestions (not a real consultation, but rather to create its feeling).	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Strongly Agree
			1	2	3	4	5	
3	Most often, I have prior consultation with subordinate(s). Then I make decisions that may or may not reflect my subordinates' influence.	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Strongly Agree
			1	2	3	4	5	
4	Most often, I share and analyze problems with my subordinate(s) as a group, evaluate alternatives, and come to a majority decision.	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Strongly Agree
			1	2	3	4	5	
5	Most often, I share and analyze problems with my subordinate(s) as a group, evaluate alternatives to determine the right decision, but I inform them in advance of what I think is the right one, and then come to decision vote.	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Strongly Agree
			1	2	3	4	5	
6	Most often, I ask my subordinate(s) to make decisions on his/their own.	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Strongly Agree
			1	2	3	4	5	



**Part 4:**

**A). Please mark the level of importance for the following criteria in your job related decisions?**

No.							
1	<b>Cost</b>						
	Very Unimportant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Very Important
		1	2	3	4	5	
2	<b>Schedules</b>						
	Very Unimportant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Very Important
		1	2	3	4	5	
3	<b>Quality aspects</b>						
	Very Unimportant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Very Important
		1	2	3	4	5	
4	<b>Complexity level</b>						
	Very Unimportant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Very Important
		1	2	3	4	5	
5	<b>Risk aspects</b>						
	Very Unimportant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Very Important
		1	2	3	4	5	
6	<b>Safety aspects</b>						
	Very Unimportant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Very Important
		1	2	3	4	5	
7	<b>Technical feasibility</b>						
	Very Unimportant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Very Important
		1	2	3	4	5	
8	<b>Stakeholder's satisfaction</b>						
	Very Unimportant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Very Important
		1	2	3	4	5	
9	<b>Profitability and Performance</b>						
	Very Unimportant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Very Important
		1	2	3	4	5	

**B). Please mention other criteria, which are important for your job related decisions.**

1	
2	
3	
4	
5	

**Part 5:**

**A). Please identify the most important factors which influence your job related decisions in following categories.**

No.	Personal Factors (e.g., Personality, Morality, Experience, Attitude, etc.)	Organizational Factors (e.g., Organizational Culture, Rules, Policies, etc.)	Environmental Factors (e.g., Government policies, Industry competition, etc.)
1			
2			
3			
4			
5			

**B). Please list some tools and techniques which are used in your job related decisions (e.g., checklists and also related to IT, e.g., Internet, MS Office, MS Project & etc.).**

1		4	
2		5	
3		6	

**1. In which kind of decisions are you generally involved when performing your job.**

Non-routine /Non-programmed decisions

                 
 1        2        3        4        5

**2. Do you use computer in your job related activities?**

Rarely                        Frequently  
           1        2        3        4        5

**3. Do you use information technology (IT) tools, for example internet, Microsoft office and other soft wares to help your job related decision making process?**

Rarely                        Frequently  
           1        2        3        4        5

## Part 6:

### Personal and Organizational Data

Name: .....	(Optional)
E-mail: .....	(Optional)
Gender: Male <input type="checkbox"/> Female <input type="checkbox"/>	
Age (in years): .....	
Nationality: .....	
Have you ever been outside of your country for study or living? Yes <input type="checkbox"/> No <input type="checkbox"/> If yes then where and approximate duration?.....	
Highest education that you have completed or in Progress: Diploma <input type="checkbox"/> Bachelor <input type="checkbox"/> Master <input type="checkbox"/> PhD <input type="checkbox"/> Other :.....	
Main area (e.g., engineering) of your education: .....	
Any qualification or certification related to Project Management: .....	
Your Job Title in your organization: .....	
Your area of function which your job position in your organization represents: Accounting/Finance <input type="checkbox"/> Production <input type="checkbox"/> Research and Development (R&D) <input type="checkbox"/> Sales/Marketing <input type="checkbox"/> Purchasing <input type="checkbox"/> Administration/Human Resource <input type="checkbox"/> Computers (IT) <input type="checkbox"/> Other: .....	

Your work position in Organization: Top Management <input type="checkbox"/> Middle Management <input type="checkbox"/> Lower Management <input type="checkbox"/>
Your job experience (in years): .....
Your managerial experience (in years): .....
Your experience as managing project related activities (in years): .....
Which type of projects have you been involved in? Domestic <input type="checkbox"/> International <input type="checkbox"/> Both Domestic and International <input type="checkbox"/>
How many employees do you have under your direct responsibility? .....
How many employees are working in your organization? Less than 100 <input type="checkbox"/> 100 to 500 <input type="checkbox"/> More than 500 <input type="checkbox"/> Other, specify: .....
Type of your organization: Public <input type="checkbox"/> Private <input type="checkbox"/> Mixed <input type="checkbox"/> Other: .....
The capital (ownership) of your organization is: Domestic <input type="checkbox"/> Foreign <input type="checkbox"/> Mixed <input type="checkbox"/>
The main activity area of your organization: Construction Industry <input type="checkbox"/> Automobile Industry <input type="checkbox"/> Electric & Power <input type="checkbox"/> Processing Industry <input type="checkbox"/> Service Industry <input type="checkbox"/> Communication Industry <input type="checkbox"/> Oil and Gas Industry <input type="checkbox"/> Other: .....