



**UNIVERSITI PUTRA MALAYSIA**

**NEGOTIATION APPROACHES, INITIAL POSITION AND CHOICE OF  
COMMUNICATION MEDIUM IN SOLVING ENVIRONMENTAL CASES IN  
MALAYSIA**

**NORHAYATI RAFIDA ABDUL RAHIM**

**FBMK 2016 48**



**NEGOTIATION APPROACHES, INITIAL POSITION AND CHOICE OF  
COMMUNICATION MEDIUM IN SOLVING ENVIRONMENTAL CASES  
IN MALAYSIA**

**By**

**NORHAYATI RAFIDA BINTI ABDUL RAHIM**

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in  
Fulfillment of the Requirements for the degree of Doctor of Philosophy**

**September 2016**

## **COPYRIGHT**

All material contained within the thesis, including without limitation text, logos, icons, photographs, and all other artwork, is copyright material of Universiti Putra Malaysia unless otherwise stated. Use may be made of any material contained within the thesis for non-commercial purposes from the copyright holder. Commercial use of material may only be made within the express, prior, within permission of Universiti Putra Malaysia.

Copyright © Universiti Putra Malaysia



Abstract of thesis presented to the Senate of Universiti Putra Malaysia, in fulfilment of the requirement for the degree of Doctor of Philosophy

**NEGOTIATION APPROACHES, INITIAL POSITION AND CHOICE OF  
COMMUNICATION MEDIUM IN SOLVING ENVIRONMENTAL CASES  
IN MALAYSIA**

By

**NORHAYATI RAFIDA BINTI ABDUL RAHIM**

**September 2016**

**Chairman : Associate Professor Jusang Bolong, PhD**  
**Faculty : Modern Language and Communication**

This study examines the relationship of negotiation approach, initial position and the use of communication medium among environmental control officers in solving environmental cases in Malaysia. Previous studies believe that negotiation is more efficient in a form of face-to-face (FtF) communication. Since conflict may be complicated at times, the use of communication medium is an advantage in order to reduce the gap of which may not be able to be provided by the traditional communication of FtF. The communication media are found to have communication patterns and managerial effectiveness. The new technology of communication is unable to replace FtF when FtF interactions offer richer communication and result in better outcomes. To what extent the negotiation approach determines the choice of the communication medium? Which communication medium that is mostly used in the negotiation? To what extent do the environmental control officers make it rational to choose the particular communication medium? Does the covariate variable of initial position exert influence towards the direction between the negotiation approach and the choice of communication medium? There are two approaches involved namely qualitative and quantitative. A qualitative approach refers to a preliminary study which uses interviews, as the first stage of the research process. The interviews are carried out with the Environmental Control (EC) and Assistant Environmental Control Officers (AECO). The interviews gather information to be used in at the second stage by which a quantitative approach is employed. The quantitative approach refers to a survey which adopts a set of questionnaire and responses of 186 respondents are analyzed. The analysis includes descriptive, T-Test, Chi-Square Test and Analysis of Covariance (ANCOVA) using the Statistical Procedure for Social Sciences (SPSS). The analysis wishes to identify which negotiation approach that actually determines the choice made on the communication medium and whether or not the covariate variable of initial position exert influences in the dependency of negotiation approach (integrative or distributive) and the choice of communication medium. The findings reveal a significant dependency of integrative negotiation approach in the rationales of choosing FtF when there is an influence of initial position, which is at the problem-to-solve stage. The distributive approach of negotiation, on the other hand, makes it significantly rational to use letter/fax in solving the environmental case in Malaysia.

No influence of initial position is found to be significant in this particular direction. Other communication medium is found insignificant to none of the approach used in the negotiation after taking into consideration the presence of initial positions respectively. The new communication medium such as short messaging system (SMS) and website have been found as insignificant. FtF remains as the richest type of communication medium and to be practiced by the environmental control officers specifically in solving the environmental case. As environmental case involves multi parties, the effective communication must be constantly exercised through enforcements and trainings. An extensive study may revisit the strength of new communication medium from various factors such as the context of study, the outcomes of negotiation and the understanding of the cases involved in the negotiation.



Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Doktor Falsafah.

**PENDEKATAN RUNDINGAN, POSISI AWAL DAN PEMILIHAN MEDIUM KOMUNIKASI DALAM MENYELESAIKAN KES-KES ALAM SEKITAR DI MALAYSIA**

Oleh

**NORHAYATI RAFIDA BINTI ABDUL RAHIM**

**September 2016**

**Pengerusi : Profesor Madya Jusang Bolong, PhD**  
**Fakulti : Bahasa Moden dan Komunikasi**

Kajian ini mengenalpasti hubungan pendekatan perundingan, posisi awal dan penggunaan perantaraan komunikasi dalam kalangan pegawai alam sekitar untuk menyelesaikan kes alam sekitar di Malaysia. Kajian terdahulu mendapati perundingan yang lebih efisien adalah dalam bentuk komunikasi bersemuka. Oleh kerana konflik menjadi sukar pada sesebuah keadaan, penggunaan perantaraan komunikasi tertentu memainkan peranan yang penting dalam usaha untuk mengurangkan jurang yang mungkin tidak dapat disediakan oleh komunikasi tradisional seperti yang terdapat pada komunikasi bersemuka. Setiap perantaraan komunikasi memiliki corak komunikasi dan keberkesanan pengurusan yang berbeza-beza. Teknologi komunikasi baharu tidak dapat mengambil alih komunikasi bersemuka dengan melihat tahap interaksi bersemuka yang lebih berkesan dan memberikan hasil yang lebih baik. Sejauh manakah pendekatan perundingan menentukan pemilihan perantaraan komunikasi? Jenis perantaraan komunikasi yang manakah sering digunakan dalam perundingan? Apakah faktor yang rasional dirasakan oleh Pegawai Alam Sekitar dalam memilih jenis perantaraan komunikasi yang bersesuaian? Adakah pemboleh ubah bersama (Covariate) oleh posisi awal mempengaruhi hubungan di antara pendekatan perundingan dan pemilihan perantaraan komunikasi? Terdapat dua pendekatan yang terlibat iaitu kualitatif dan kuantitatif. Pendekatan kualitatif merujuk kepada kajian awal yang menggunakan kaedah temubual, sebagai peringkat pertama dalam proses penyelidikan ini. Temubual dijalankan dengan Pegawai Kawalan Alam Sekitar dan Penolong Pegawai Kawalan Alam Sekitar. Temubual mengumpulkan maklumat yang digunakan untuk pembangunan instrumen pada peringkat kedua. Pendekatan kuantitatif merujuk kepada kaji selidik yang menggunakan set soal selidik dan maklumbalas daripada 186 responden. Analisis yang digunakan adalah termasuk deskriptif, ujian-T, Ujian Chi-Square dan Analisis Covarian (ANCOVA) menggunakan perisian Prosedur Statistik untuk Sains Sosial (SPSS). Analisis ini diperlukan bagi mengenalpasti jenis pendekatan perundingan yang digunakan ketika membuat pemilihan perantaraan komunikasi yang diperlukan dan dan juga peranan posisi awal dalam mempengaruhi hubungan di antara penggunaan pendekatan perundingan (integratif atau distributif) dan juga pemilihan bentuk perantaraan komunikasi dalam menyelesaikan kes alam sekitar di Malaysia. Dapatan kajian menunjukkan bahawa terdapat hubungan yang signifikan di antara

pendekatan perundingan yang integratif dengan rasion pemilihan perantaraan komunikasi dalam menyelesaikan kes alam sekitar. Kajian menunjukkan di mana setiap kali pendekatan perundingan integratif digunakan, ia merasionalkan pemilihan kepada komunikasi bersemuka apabila posisi awal adalah pada peringkat cenderung untuk menyelesaikan masalah. Perantaraan komunikasi surat atau fax pula dilihat signifikan sebagai rasional digunakan ketika pendekatan perundingan adalah jenis distributif. Perantaraan komunikasi yang lain didapati tidak signifikan dalam pendekatan perundingan yang digunakan selepas mengambil kira pengaruh posisi awal untuk menyelesaikan kes alam sekitar di Malaysia. Perantaraan komunikasi baru seperti sistem pesanan ringkas (SMS) dan laman web yang didapati tidak signifikan untuk menggantikan penggunaan perantaraan komunikasi tradisional dalam menyelesaikan kes-kes alam sekitar di Malaysia. Kajian ini mengesahkan penemuan terdahulu kepada kapasiti komunikasi bersemuka sebagai perantaraan komunikasi yang paling berkesan dalam perundingan. Komunikasi bersemuka adalah penting untuk diamalkan oleh pegawai-pegawai alam sekitar khususnya dalam menyelesaikan kes alam sekitar yang mana perlu dilaksanakan melalui penguatkuasaan dan latihan yang berterusan. Satu kajian menyeluruh boleh melihat semula kekuatan perantaraan komunikasi baru dari pelbagai faktor seperti konteks kajian, hasil perundingan dan pemahaman berkenaan kes-kes yang terlibat dalam rundingan.



## ACKNOWLEDGEMENTS

Firstly, I would like to thank to Allah SWT Almighty for HIS mercy and bless for without HIM, I may not be able to complete my thesis for seven years. I would like to express my special gratitude and thanks to Jusang Bolong (Ph.D) because of is his passion and patience in getting my study complete in the position as my main supervisor. He has been guiding and assisting knowledgeably for each stage of my study. Not only that, his belief in faith has so much taught me about the learning curve and *imaan* for believing in Allah's faith. Nonetheless, the support and guidance from Ezhar Tamam (Ph.D) and Mohd Nizam Osman (Ph.D), as co-supervisors, are highly valuable and appreciated. I would also like to thank Ahmad Sookyo, for his unconditional and relentless supports in being responsible and taking good care of the children that uphold the understanding of overall circumstances that I have been going through in my courage for my PhD. The journey of my PhD is apparently tougher than I thought it should be. I have learned this far to see a big picture of learning and overcoming challenges that come together in my life for career, being a mother of five children, the first in my siblings, Reserve Officer Training Unit (ROTU), motivator, trainer and volunteer at the same time. I owe a debt to my parents, Abdul Rahim Hussin and Fareda Mohd Said, for not only teaching me about life and Islam but also for their encouragement and trust in completing my study. My sisters, Noradila Rafida, Naqian Anis and Anis Sofia, and my brothers, Muhammad Subari, Muhammad Zaidi, Muhammad Afham also deserve many thanks. I am deeply thankful to Eizan Azira Mohd Shariff, Norzita Mohd Yunos, Nurul Fatizaidayu Harun and Nurul Nadia Abd Aziz, who are always there for me when I need them. Special thanks to distinguished persons I value very much, Hanini Ahmad, and Zahra A. Abdul Sattar, because this study would have been extremely hard without their friendship and love that keep me going in this life. I present my PhD to my hearts Norfaizah Nadrah, Ahmad Irsyad, Ahmad Za'iem, Ahmad Zhofran and Norsyafiqah Nadhrah.



This thesis was submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of Doctor of Philosophy. The members of the Supervisory Committee were as follows:

**Jusang Bin Bolong, PhD**

Associate Professor  
Faculty of Modern Languages and Communication  
Universiti Putra Malaysia  
(Chairman)

**Ezhar Bin Tamam, PhD**

Professor  
Faculty of Modern Languages and Communication  
Universiti Putra Malaysia  
(Member)

**Mohd Nizam Bin Osman, PhD**

Senior Lecturer  
Faculty of Modern Languages and Communication  
Universiti Putra Malaysia  
(Member)

---

**BUJANG BIN KIM HUAT, PhD**

Professor and Dean  
School of Graduate Studies  
Universiti Putra Malaysia

Date:

## Declaration by graduate student

I hereby confirm that:

- This thesis is my original work;
- Quotations, illustrations and citations have been duly referenced;
- This thesis has not been submitted previously or concurrently for
- Any other degree at any other institutions; intellectual property from the thesis and copyright of thesis are fully-owned by Universiti Putra Malaysia, as according to the Universiti Putra Malaysia (Research) Rules 2012;
- Written permission must be obtained from supervisor and the office of Deputy Vice-Chancellor (Research and Innovation) before thesis is published (in the form of written, printed or in electronic form) including books, journals, modules, proceedings, popular writings, seminar papers, manuscripts, posters, reports, lecture notes, learning modules or any other materials as stated in the Universiti Putra Malaysia (Research) Rules 2012;
- There is no plagiarism or data falsification/fabrication in the thesis, and scholarly integrity is upheld as according to the Universiti Putra Malaysia (Graduate Studies) Rules 2003 (Revision 2012-2013) and the Universiti Putra Malaysia (Research) Rules 2012. The thesis has undergone plagiarism detection software.

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Name and Matric No: Norhayati Rafida Binti Abdul Rahim, GS24261

## Declaration by Members of Supervisory Committee

This is to confirm that:

- the research conducted and the writing of this thesis was under our supervision;
- Supervision responsibilities as stated in the Universiti Putra Malaysia (Graduate Studies) Rules 2003 (Revision 2012-2013) are adhered to.

Signature: \_\_\_\_\_  
Name of  
Chairman of  
Supervisory  
Committee: Associate Prof. Dr. Jusang Bin Bolong

Signature: \_\_\_\_\_  
Name of  
Member of  
Supervisory  
Committee: Prof. Dr. Ezhar Bin Tamam

Signature: \_\_\_\_\_  
Name of  
Member of  
Supervisory  
Committee: Dr. Mohd Nizam Bin Osman

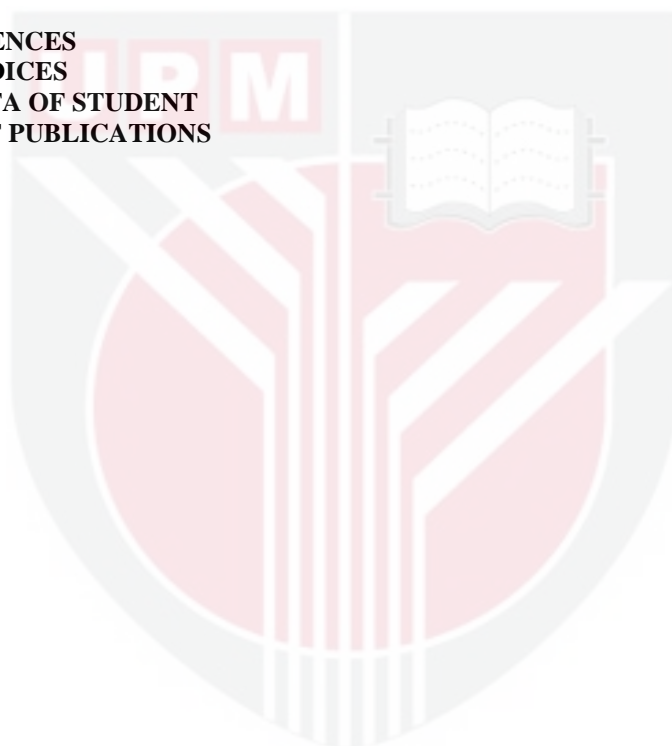
## TABLE OF CONTENTS

	<b>ABSTRACT</b>	<b>Page</b>
		i
	<b>ABSTRAK</b>	iii
	<b>ACKNOWLEDGEMENTS</b>	v
	<b>APPROVAL</b>	vi
	<b>DECLARATION</b>	viii
	<b>LIST OF TABLES</b>	xiv
	<b>LIST OF FIGURES</b>	xviii
	<b>LIST OF ABBREVIATIONS</b>	xix
	<b>LIST OF APPENDICES</b>	xxi
<b>CHAPTER</b>		
<b>1</b>	<b>INTRODUCTION</b>	1
	1.1 Introduction	1
	1.2 Problem Statement	2
	1.3 Research Question	5
	1.4 Research Objectives	5
	1.5 Significance of Study	6
	1.6 Limitation of Study	7
	1.7 Keywords Definition	8
	1.7.1 Negotiation Approach	8
	1.7.1.1 Integrative Approach	8
	1.7.1.2 Distributive Approach	8
	1.7.2 Initial Position in Conflict	8
	1.7.3 Communication Medium	9
	1.7.4 Environmental Cases	9
	1.7.5 Department of Environment (DOE), Malaysia	11
	1.8 Conclusion	11
<b>2</b>	<b>LITERATURE REVIEW</b>	12
	2.1 Introduction	12
	2.2 Negotiation	13
	2.2.1 Negotiation Approach: Integrative and Distributive	15
	2.3 Communication Medium	17
	2.3.1 Rational Choice of Communication Media: Media Richness Theory	19
	2.3.2 Rational Choice of Communication Medium: Social Presence Theory	20
	2.4 Negotiation and Communication Medium	22
	2.5 Initial Position in Conflict	28
	2.6 Environmental Cases in Malaysia	30
	2.7 Rational Choice Theory (RCT)	32
	2.8 Theoretical Framework	34
	2.9 Conceptual Framework	37
	2.10 Conclusion	39

<b>3</b>	<b>METHODOLOGY</b>	40
3.1	Introduction	40
3.2	The Research Process	40
3.3	Phase One	41
3.3.1	Location	41
3.3.2	Sampling	41
3.4	Phase Two	44
3.4.1	Research Design	44
3.4.2	Location	45
3.4.3	Sampling	45
3.5	Operationalization of Variables	47
3.5.1	Negotiation Approach Constructs	47
3.5.2	Choice of Communication Medium	49
3.5.3	Initial Position Constructs	51
3.6	Instruments	52
3.7	Pre-Testing	54
3.7.1	Reliability Scores	55
3.8	Data Collection Procedure	56
3.8.1	Data Provision	56
3.8.2	Schedule of Data Collection	58
3.8.3	Enumerator and Data Storage	58
3.8.4	Consistency of Data	59
3.9	Data Analysis	59
3.9.1	Descriptive Statistics	59
3.9.2	Inferential Statistics	60
3.9.2.1	Bivariate Analysis	60
3.9.2.2	Multivariate Analysis	60
3.10	Conclusion	61
<b>4</b>	<b>FINDINGS AND DISCUSSION</b>	62
4.1	Introduction	62
4.2	Demographic Background	62
4.3	Environmental Cases	65
4.3.1	Cases and percentage of Solved Cases Experienced by the Respondents	65
4.3.2	Type of Environmental Case, Context and Duration of Cases Solved by the ECOs	67
4.3.3	Cross Tabulation between Gender and Type of Environmental Cases	68
4.4	Negotiation Approach	69
4.4.1	Type of Negotiation Approach	69
4.4.2	Negotiation Approach, Type of Environmental Cases, Number of Cases and Percentage of Solved Cases	70
4.4.3	Negotiation Approach, Number of Cases and Status and Percentage of Solved Case Handled by ECOs in the Past One Year	72
4.4.4	Negotiation Approach, Context of Environmental Cases and Status of Environmental Case	73
4.4.5	Negotiation Approach, the Context of Environmental Cases and Duration Taken for Solution in Solving the Environmental Case	75

4.5	Choice of Communication Medium	76
4.5.1	Communication Medium that is mostly used by the ECOs	77
4.5.2	Choice of Communication Medium and Type of Negotiation Approach among Respondents	78
4.6	Rationale Factors of Each Communication Medium chosen by the Respondents	80
4.6.1	Rationale Factors of Choices towards the Efficacy of FtF	80
4.6.2	Rationale Factors of Choices towards the Efficacy of Telephone	82
4.6.3	Rational Of Choices towards the Efficacy of Email	83
4.6.4	Rationale Factors of Choices towards the Efficacy of Fax/Letter	84
4.6.5	Independent Sample T-Test Analysis	86
4.7	Initial Position Exists among the Environmental Control Officers	87
4.7.1	Level of Initial Position	87
4.7.2	Cross Tabulation between NA and IP among ECOs	88
4.7.3	Negotiation Approach, Initial Position and Communication Medium Used to Negotiate over Environmental Case	89
4.8	Effect of Initial Position towards the Relationship between the Negotiation Approach and the Rationale of Communication Medium in Solving Environmental Cases in Malaysia	90
4.8.1	Effect of Initial Position towards the Relationship between the Negotiation Approach and the Rationale Factors of FtF Choice	90
4.8.2	Effect of Initial Position towards the Relationship between the Negotiation Approach and the Rationale Factors of Telephone Choice	92
4.8.3	Effect of Initial Position towards the Relationship between the Negotiation Approach and the Rationale Factors of Email Choice	94
4.8.4	Effect of Initial Position towards the Relationship between the Negotiation Approach and the Rationale Factors of Letter/Fax Choice	96
4.9	Conclusion	98
<b>5</b>	<b>CONCLUSION, IMPLICATIONS AND SUGGESTIONS</b>	99
5.1	Introduction	99
5.2	Summary of Research Findings	101
5.2.1	Negotiation Approach and its Relationship with the Percentage of Experience in Solving Environmental Cases	101
5.2.2	Communication Medium that is Frequently used Across the Two Approach of the Negotiations	101
5.2.3	Rationale Factors of Choosing the particular Communication Medium	102
5.2.4	Initial Position and Negotiation Approach Employed in the Negotiation	105

5.2.5	Covariance Effect of Initial Position towards the Relationship between the Negotiation Approach and the Rationale Factors of Communication Medium Choice in Solving Environmental Cases	106
5.3	Implication of Research	106
5.3.1	Theoretical	107
5.3.2	Industries	107
5.3.3	Knowledge	108
5.4	Suggestions for Future Research	108
5.4.1	Theoretical	108
5.4.2	Research Variable(s)	109
5.4.3	Research Methodology	109
5.5	Conclusion	109
<b>REFERENCES</b>		111
<b>APPENDICES</b>		125
<b>BIODATA OF STUDENT</b>		152
<b>LIST OF PUBLICATIONS</b>		154



## LIST OF TABLES

<b>Table</b>	<b>Page</b>
3.1 Summary of Findings from the Interviews with the Environmental Control Officers (n=6) the Communication Medium that is Mostly Used according to Strength and Weaknesses	43
3.2 List Of Distribution and Responses on the Questionnaire according to DOE's Branches and States Offices	47
3.3 Constructs of Items Measuring Negotiation Approach	48
3.4 Constructs of Rationale Factors for the Chosen Communication Medium	50
3.5 Constructs of Items Measuring Initial Position (Sanson & Bretherton, 2001)	51
3.6 Initial Position according to Five Levels	52
3.7 Details of the Questionnaire for Set One and Set Two	53
3.8 Demographic Background of Respondents Pre-Testing Analysis	55
3.9 Reliability Score for Negotiation Approach, Initial Position and Usage Factor for each Communication Medium	55
3.10 Data Collection Schedule According to Five Zones in Malaysia	58
4.11 Demographic Background	63
4.12 Number of Respondents Across Head Offices (H/O) and Branches (B) Offices	64
4.13 Cross Tabulation Between Number of Cases and Solved Cases	66
4.14 Distribution of Respondents According to Gender, Number Cases And Percentage of Solved Cases Handled by the EO for the Past One Year	67
4.15 Type, Context and Duration of Cases Solved by the Environmental Control Officers	68
4.16 Cross Tabulation Between the Gender and the Type of Environmental Cases Handled by the ECOs	69
4.17 Cross Tabulation Between Type of Negotiation Approach and Gender Among Respondents (n=186)	70



4.18	Distribution of Respondents According to Negotiation Approach, Type of Environmental Cases and Percentage of Solved Cases Handled by the Environmental Control Officers for the Past One Year	70
4.19	Distribution of Respondents According to Negotiation Approach, Number of Cases and Percentage of Solved Cases Handled By The Environmental Control Officers for the Past One Year	73
4.20	Cross Tabulation of Negotiation Approach and Context of Environmental Cases (n=186)	74
4.21	Cross Tabulation among The Negotiation Approach, Context and Duration Taken For Solution In Solving The Environmental Case	75
4.22	Cross Tabulation among the Negotiation Approach, Context and Duration Taken for Solution in Solving the Environmental Case	76
4.23	Choices of Communication Medium among Environmental Control Officers in the Negotiation (N=186)	77
4.24	Distribution of Respondents According to Type of Negotiation Approach and Communication Medium	78
4.25	Distribution of Respondents According to Choice of Communication Medium, Negotiation Approach, and Experiences on the Percentage of Solved Cases (N=186)	79
4.26	Items Measuring Rationale Factors of Choice for Face-to-Face in the Negotiation According to Mean (M) Scores and Standard Deviation (S.D.) (N=118)	81
4.27	Items Measuring Rationale Factors of Choosing Telephone in the Negotiation According to Mean Scores and Standard Deviation (S.D.) (N=34)	82
4.28	Items Measuring the Rationale Factors of Choices of Email in the Negotiation According to Mean Scores and Standard Deviation (S.D.) (N=23)	84
4.29	Items Measuring The Rationale Factors of Choices For Fax/Letters In The Negotiation According to Mean Scores And Standard Deviation (S.D.) (N=11)	85
4.30	Average Total of Means Score and Standard Deviation of the Rationale Factors of Choices for each Communication Medium They Use in the Negotiation Approach (N=187)	86
4.31	Independent Sample T-Test Analysis Between the Efficacy of Communication Medium (CM) across Distributive (D) And Integrative (I) Approach Of Negotiation (N.A.) According to Mean Scores and Standard Deviation (S.D.)	87

4.32	Initial Position of The Environmental Control Officers (n=186)	88
4.33	Cross Tabulation Between Negotiations Approach and Initial Position Among Environmental Control Officers (n=186)	89
4.34	Negotiation Approach, Initial Position and Communication Medium Used to Negotiate over Environmental Cases	90
4.35	Mean Score on Rationale Factors of Face-to-Face Choice According To Negotiation Approach	91
4.36	Test Of Between-Subjects Effects on Rationale Factors Of Face-To-Face Choice	91
4.37	Pairwise Comparison Negotiation Approach on Rationale Factors of Face-to-Face Choice	92
4.38	Univariate Test on Rationale Factors of Choosing Face-To-Face	92
4.39	Mean Score on Rationale Factors of Telephone Choice According to Negotiation Approach	93
4.40	Test Of Between-Subjects Effects on Rationale Factors of Telephone Choice	93
4.41	Pairwise Comparison Negotiation Approach on Rationale Factors of Telephone Choice	93
4.42	Univariate Test On Rationale Factors of Telephone Choice	94
4.43	Mean Score on Rationale Factors of Email Choice According to Negotiation Approach	94
4.44	Pairwise Comparison Negotiation Approach on Rationale Factors of Email Choice	95
4.45	Univariate Test on Rationale Factors of Email Choice	95
4.46	Test of Between-Subjects Effects on Rational Factors of Email Choice	95
4.47	Mean Score on Rationale Factors of Letter/Fax Choice According to Negotiation Approach	96
4.48	Test Of Between-Subjects Effects On Rationale Factors Of Letter/Fax Choice	97
4.49	Pairwise Comparison Negotiation Approach on Rationale Factors of Letter/Fax Choice	97
4.50	Univariate Test on Rationale Factors of Letter/Fax Choice	97

5.51	A Summary of The Rational Factors Of Choices Made Among The Environmental Control Officers On The Face-To-Face, Telephone, Email And Letter/Fax	104
------	---	-----



## LIST OF FIGURES

Figure		Page
1	Model of Rational Choice Theory (Green, 2002)	33
2	The Existing Direction of Research Between the Negotiation and The Communication Media	35
3	Direction Of Current Research – Negotiation Approach (IV) and Communication Medium (DV)	35
4	The Synthesis of the Theories Related and Literature Review for Developing the Theoretical Framework Of The Study	36
5	The Conceptual Framework of the Study	37
6	Research Process	41
7	Research Design for Phase Two	45
8	Equation of Sampling Number for Respondents in the Study	46
9	Measurements Involved in Communication Medium Choice	50
10	The Data Provision Procedure	57
11	Descriptive Unit of Analysis of Respondents' Demographic Background	59
12	The Influence of the Negotiation Approach (Distributive) and the Choice of Letter/Fax in Solving the Environmental Cases in Malaysia	106

## LIST OF ABBREVIATIONS

A	Agree
AECO	Assistant Environment Control Officer
ANCOVA	Analysis of Covariance
BN	Barisan Nasional
AELB	Atomic Energy Licensing Board
BOD	Biochemical Oxygen Demand
CARPA	Committee Against Repression in The Pacific and Asia.
CM	Communication Medium
CMC	Computer –Mediated- Communication
COD	Chemical Oxygen Demand
DA	Distributive Approach
Da	Disagree
DO	Dissolved Oxygen
DOE	Department of Environment
DV	Dependent Variable
ECO	Environment Control Officer
EIA	Environmental Impact Assessment
FL	Fax or Letter
FtF	Face-to-Face
IA	Integrative Approach
IG	Instagram
INWQS	Interim National Water Quality Standards
IP	Initial Position
IV	Independent Variable
LAMP	Lynas Advanced Materials Plants
LLDa	Likely to Disagree
M	Mean
MAQI	Malaysia Air Quality Index
MCE	Malaysia Certificate Education
MRT	Media Richness Theory
N	Neutral

NA	Negotiation Approach
NH <sub>3</sub> N	Ammoniacal Nitrogen
NSS	Negotiations Support System
NRE	Natural Resources and Environment Malaysia
RCT	Rational Choice Theory
RMG	Recommended Malaysia Air Quality
S.D	Standard Deviation
SA	Strongly Agree
SDa	Strongly Disagree
Sig.	Significant
SPSS	Statistical Procedure for Social Science
SPT	Social Presence Theory
SS	Suspended Solids
SSEC	Selangor's State Executive Council
USA	United State of America
WA	Whatsapp
WC	WeChat
WQI	Water Quality Index

## LIST OF APPENDICES

Appendix		Page
1	List of Journal Papers Reviewed	125
2	Report on Comments for Correlation/ Modifications	127
3	Set One of The Questionnaire	131
4	Set Two of The Questionnaire	137
5	Cover Letter Sample	152



# CHAPTER 1

## INTRODUCTION

### 1.1 Introduction

Studies on communication have shown an extensive findings on wide range of human's life and needs such as health communication, environmental, climate, family, crisis and negotiation (Schiavo, 2007; Boykoff, 2011; Fearn-Banks, 2011; Galvin, Bylund, & Brommel, 2012). These findings emphasize on theories of communication, patterns, solutions and relationship of which may vary in terms of variables that forms somewhat called as multidisciplinary.

Since the early 1980s, environmental cases have been a significant area of scientific concern and had entered mainstream media (Committee Against Repression in the Pacific and Asia, 1988; Purdy & Balakrishnan, 2000). The reporting, apparently, drew huge public attentions and created the urge for solutions from the government (Depoe, Delicath, & Elsenbeer, 2004; Cox, 2010; Jurin, Roush, & Danter, 2010). In the discussions relating to the environmental cases, the media was perceived as a powerful agent that mediated the communication between the government and the other conflicting parties (Hansen, 2010). However, as media coverage of environmental cases increases in the twenty-first century, the gap between the understanding of environment and the choice of communication media appears to widen.

Despite all the research on communication medium and negotiation, few studies have tackled the choice made on the communication medium used in negotiating environmental cases. Communication media are found to have a significant impact on negotiations (Poole, Shannon, & De Sanctis, 1992) which include the communication patterns and managerial effectiveness (Yates & Orlikowski, 1992). Importantly, communication media determine how much access negotiators have to perceptual and communication cues and they influence the semantics, syntax and style of negotiators (Fulk, Schmitz, & Steinfield, 1990). Since the number of organizations and individuals with access to computer-mediated-communication (CMC) has increased (Kiesler, Siegel, & McGuire, 1984), it is interesting to examine the extent to which the technologies benefit to the advantage of the negotiation.

Purdy (2000) claimed that there is a possibility that negotiators may refuse to use the new technologies on the basis that face-to-face (FtF) interactions offer richer communication and result in better outcomes. Since more organizations and individuals have alternatives in using these technologies, a research is needed to investigate other communication media and to what extent the negotiation determines the choice of communication medium (Purdy & Balakrishnan, 2000). A number of research were found examining the use of telephone (e.g., Lewis & Fry, 1977; Williams, 1977) and video conference (Drolet & Morris, 2000) in the negotiation process which justifies the



need of a broader understanding about the relationship between communication media and negotiation.

According to previous studies, a negotiation is believed to be efficient if it is carried out using FtF communication. De Loach (1992) asserted that the presence of clear instructions, communications skills are inevitable in a negotiation process. The media were found to be helpful as a facilitator that help the solution process at ease (Barry and Oliver, 1996; Curhan *et al.*, 2004) namely email and CMC (Hollingshead, 1996; Kersten, 1999; Drolet & Morris, 2000). With new technologies that are expanding nowadays, it is, therefore important to examine the selection of communication medium by a certain negotiation approach namely integrative and distributive. Since conflict is found to be more complicated in multi-groups, the use of communication medium should be significantly considered in order to replace the traditional communication of FtF.

## **1.2 Problem Statement**

Environmental issues are relatively not new anymore. The development of communication technology embraces greater infrastructures, which makes the issues of environment more apparent. The media were found becoming more prominent beginning in 1980s, the case of Papan-Bukit Merah (1988), followed with the dam issues at Bakun, Sarawak (1986), incinerator project at Broga, Selangor in the 2003, and in the 2011, the rare earth project by Lynas Advanced Materials Plants (LAMP) at Gebeng, Pahang, greatly took place in the media (Mohd Zaini & Rosli, 2011). Not only traditional media, the new media have been widely used as a point of references such as websites, blogs, social networks, and mobile applications such as *WhatsApp* (WA) and *WeChat* (WC). Regardless of political or personal reasons, the spread of information is thus amazingly fast and the impact is undeniably amazing (Jauhariatul & Jamilah, 2011).

Both traditional and new media is profoundly powerful in terms of coverage, dissemination in which people get access and, in fact, communicate with the authority to negotiate and voice out their concerns in solving environmental cases. Since environmental cases usually involve more than one party, the media landscape has been perpetual in the context of news interests of which negotiation and communication took place. Valley, Moag and Bazerman (1998) found that what is lacking in the economics and behavioral decision research is due to the ignorance of the critical variable – the medium of communication between parties.

According to Johnson and Cooper (2009), they found that concession is hardly achieved through computer-mediated communication (CMC) with minimal effect in the negotiation process which in turns, make it difficult for the negotiators to reach consensus in the negotiation (Thompson & Nadler, 2002; Valley, Moag, & Bazerman, 1998). One of the reasons can be due to the way the information is presented, influences human decision making which is strongly related to the layout provided by the electronically supported negotiations (Gettinger , Koeszegi, & Schoop, 2012).

While email negotiation leaves the negotiators to uncertain condition, it leads to mistrust and failures. Besides, the email negotiation usually takes longer, less fairness and dissatisfaction is likely to occur throughout the process (Purdy & Balakrishnan, 2000). Trust has been recognized by many scholars and practitioners as a significant factor for negotiation success (Kong et. al., 2014).

Number of cases such as Papan-Bukit Merah, incinerator project in Broga and Bukit U10 in Shah Alam made attempts into solving the issues via negotiations (Committee Against Repression in the Pacific and Asia, 1988). Similarly, Lynas project, which was first announced on 29<sup>th</sup> July 2009 received huge reporting from numerous sites namely [malaysiakini.com](http://malaysiakini.com), [malaysiatoday.com](http://malaysiatoday.com), Harakah, Facebook, and <http://stoplynas.org>. This scenario has greater impacts on the acceptance for the project among the societies whom familiarity towards the project is still doubtful. Mustafa (2012), in his study on three mainstream newspapers namely, The Star, New Straits Times and Utusan Malaysia (from April 2011 to March 2013), revealed significant remarks about the attentions given by the local newspapers towards the Lynas project. The attentions and critiques revolved around the wastes produced are in huge amounts and they will be a grave threat to health because the wastes would include radioactive thorium and uranium (Phua & Velu, 2012). Besides that, the protest highlight on the methods of waste processing and disposal being proposed by Lynas Corporation are deplorable and irresponsible. In the meantime, the economic benefits are dubious because of the twelve year tax holiday granted by the Malaysian authorities, the low number of jobs that will be created.

The reports in the media have given ample space for local communities, civil society groups in Kuantan, the prime minister, Barisan Nasional (BN) politicians and officials from the ministries as well as of the Atomic Energy Licensing Board (AELB). As Malaysia develops, the infrastructure of communication is growing and expanding that the environmental cases becoming significant. Media have been widely accepted as means of handling negotiations in environmental conflicts (Drolet & Morris, 2000; Morris, Nadler, Kurtzberg, & Thompson, 2002). Since the environmental conflicts involve more than one party, the negotiation usually becomes complicated (Ybara & Ramon, 2004) and, therefore, making the choice of communication medium to negotiate, more challenging than it should be. The likelihood that the conflict is delayed may also be possible. As the number of conflict actors increases, the usage of communication media may as well be various and widening. A dispute over environmental cases from a communication medium perspective provides a strong case for this study. The communication medium landscape, thus, needs to be re-examined.

Previous studies have shown a greater amount of interests were given on the communication medium chosen where FtF, for instance, exerted influence on the approach of negotiation used to solve the environmental conflicts. These studies apparently did not focus on the indirect effect between the negotiation approach (in the context of independent variable) and the choice of communication medium (in the context of dependent variable). There are number of factors that form the negotiated agreement. It takes more than the understanding and commitments towards the negotiation process. The amount of time, for instance, is measured whether or not

there is ample time to reach an agreement (Purdy & Balakrishnan, 2000; Harinck & De Dreu, 2004; Etemadi, 2004; Tosini, 2006; Bulow, 2010; Khorana, 2013; Bled, 2010).

Previous studies give a great emphasis on which communication medium had been used in the negotiation to solve the environmental cases. Even though it is crucial to choose the best communication medium in the negotiation, there is a gap in the previous studies on what makes it rational for the negotiators to use certain communication medium and not others. The Rational Choice Theory (RCT) believes that every action (choice) is inspired by the desire of the individuals. In the context of this study, the negotiation approach is defined as the desire or the wishes that rationalize the action of choices towards the communication medium in the negotiation to solve the environmental cases. It is supported by the study of Van Evra (1990) which highlights the impact of television whereby the use of the communication medium depends on the amount of viewing, presence of information alternatives, and perceives reality of the medium. It provides a ground support on the inclusion of rationality of usage in this study since an examination of choice should consider the usage of the particular communication medium.

Since this study is interested in the effect of negotiation approach (independent variable) on the choice of communication medium (dependent variable), the RCT has become the theoretical framework that explains whether or not the choice of communication medium is actually dependent on the desire for negotiation approach employed in solving the environmental case. There are number of factors that influence the choice of communication medium in the negotiation process. A study on newspapers coverage of the incinerator project at Broga, Semenyih, suggested that newspaper had been chosen for its reliability and accessibility among the readers (Norhayati Rafida, 2010). In addition to that, the newspapers were chosen because of readerships, which were more localized as compared to online newspapers readers.

Besides, this study found that the initial position also influenced the choice of communication medium, which then raises a question if the initial position has mediation effect in the relationship of the negotiation approach, and the choice of communication medium. According to previous studies, a negotiator's own position, and information about the opponent's position were manipulated in a simulated contract negotiation (Stuhlmacher & Champagne, 2000; Sanson & Bretherton, 2001; Khorana, 2013). It is significant to provide evidences the fact that certain communication medium is chosen depending either on the approach they employ or the initial position they possessed in the negotiation to solve the environmental conflicts.

Apparently, the approach that is employed by the conflicting parties is found to be more effective if their initial position is compatible for cooperation and trust to each other. Kellerman (1996) points out that the endurance of power struggle will lead one negotiation to a failure. As the initial positions may contradict, the solution is based on the real picture of the problem, and then identifying the underlying concerns can be overcome through effective listening, openness and equal time needed for the resolution to take place (Jerry Adel & Company, 2006). The position represents the stance of the needs that are influenced by the interests in the subject matter. According

to Gatelier (2012), positions are expressed through the communication and the articulation of arguments in the conflict. Not only the needs, but also the opportunities, the constraints and their role in the negotiation setting contribute to the positions that they are taking place.

Thus, as the initial position arises, the intractability of the conflict seems to be greater due to differences of needs and sharing is totally out of the action (Conflict Information Consortium, 2007). As a result, the solution that they are seeking will consider the positions, but not the extent of legitimacy importance. This situation of the negotiations will result in a win-lose nature. However, in any case that both parties work towards clarification of what they actually need, the interests can be partly compatible which makes the negotiation for solution much easier.

In order to examine the choice of the communication medium, this research makes an attempt to identify the approach of negotiation believing that there is no medium that is best for negotiation and still inconclusive (Poole, Shannon, and De Sanctis, 1992; McGinn & Croson, 2004). Bercovitch and Jackson (2001) found that there is significant amount of research on conflict that focuses on the processes of negotiation of how negotiation begins, why parties choose one approach or the other which apparently has been relatively ignored. This research, therefore, wishes to answer several questions by which the findings may either conform or explain the phenomenon of the action between the negotiation approach and the choice of communication medium in solving the environmental case in Malaysia.

### **1.3 Research Question**

- a) What is the negotiation approach employed by the environmental control officers namely integrative or distributive?
- b) Which communication medium that is frequently used in the negotiation?
- c) What are the rationale factors for the choice made to the particular communication medium in the negotiation?
- d) What is the initial position of the environmental control officers across two approaches of the negotiation in solving the environmental cases?
- e) Do initial positions play a role as covariance effect towards the relationship between the negotiation approach and the rational choice of communication medium in solving environmental cases in Malaysia?

### **1.4 Research Objectives**

- a) To determine the type of negotiation approach employed by the environmental control officers namely integrative or distributive;
- b) To identify the communication medium that is frequently used by the environmental control officers across the two approaches in the negotiation;
- c) To identify the rationale factors for the choice made to the particular communication medium in the negotiation;

- d) To determine the initial position that is taken by the environmental control officers for both approaches of negotiation;
- e) To examine covariance effect of initial position towards the relationship between the negotiation approach and the rational choice of communication medium in solving environmental cases in Malaysia.

## 1.5 Significance of Study

Two areas become the main contributions of this study, which are theoretical aspects, and the pragmatism of negotiation within the scope and needs of industries especially in solving conflicts. Any theory stances on a specific belief, which denying certain aspects of the phenomenon or acknowledging the specific influence rather than declining for what matters for a particular theory. This study, therefore, brings forward the theory of rational choice that involve decision making of which action of choices is actually related to which desires (negotiation approach) held by the negotiator based on the information and belief in the particular conflicts. In either direction, this study reveals the extent to which the issues of environmental may produce different outcomes in terms of the choice of communication medium being in the particular negotiation approach and initial positions respectively.

In fact, the inclusion of initial position allows for better explanation in relation to the wishes or desires they have before making their choice of the communication medium. If the negotiation approach is not correlated with the choice they make on the communication medium, the variable of initial position may be able to explain the phenomenon rather than the total rejection of the existing relationship. Significantly, it explains the direction of making a choice does not depend solely on the negotiation approach, but also the initial position, which rationalize the negotiation in solving environmental conflicts via communication medium.

Importantly, this study is hoped to provide sound justification the extent to which negotiation approach can lead to a certain choice of communication medium in solving environmental conflicts. Having had this study, the findings becomes useful to the prospect of practice by the Department of Environment (DOE) specifically in carrying out strategies and making useful of communication medium available in Malaysia. As environmental conflicts involve more than one party, this research provides useful insights about an effective way to negotiate via the communication medium available in solving environmental conflicts.

Theoretically, this study significantly contributes to the framework when the negotiation approach plays a significant role in determining the communication medium chosen in solving the environmental conflict in the light of RCT. Social Presence Theory (SPT), for instance, believes that each communication medium has different aspect of presence that influence how much one would benefit especially in delivering the negotiation approach in the negotiation process. The higher intimacy and immediacy the medium has, the higher the social presence is (Short, Williams, & Christie, 1976; Trevino, Webster, & Stein, 2000).



Apparently, the Media Richness Theory (MRT) believes that as the communication medium gets richer, there will be more uncertainties to be reduced, and the more likely it is that effective communication will have taken place when communicating ambiguous tasks (Dennis & Kinney, 1998). FtF communication is considered to be the richest medium due to its capability of receiving immediate feedbacks and multiple cues while utilizing natural languages (Dennis & Kinney, 1998; Trevino, Webster, & Stein, 2000).

## **1.6 Limitation of Study**

This study is prepared within the limited context that provides more focused and systematic way of managing this study. Having had the aim and the objectives, this section entails some details on which and why the limitation is given to the study. Among other, the limitation of study occurs within the subjects of negotiation approach, communication medium, environmental cases, sampling of study and location of this study.

This study emphasizes on the identification of negotiation approaches rather than analyzing the process of negotiation that is taking place in the conflict. The negotiation approach is categorized as the independent variable namely integrative and distributive. In other words, the focus is given to the approach of negotiation and in what ways that the approach may influence the action of choice towards the communication medium in solving the environmental conflict.

Next limitation refers to the type of communication medium, which is treated as the dependent variable of the study. The limitation is based on the feedbacks, which were obtained from the interviews made by the environmental control officers prior to pilot test and data collection. Among other reasons of the usage of communication medium, regardless of the advance of the communication technology, is greatly caused by the availability, time constraints and the absence of authority in making prompt decision whenever necessary. According to the pilot study made prior to the operationalization of variables, the choice of communication medium is thus limited to FtF, telephone, email, websites, printed newspapers, online newspapers and fax or letter (F/L).

The context of this negotiation is set for the environmental conflicts that occur in Malaysia. Prevalent changes has been seen in the environmental conflicts since 1980s in the Papan-Bukit Merah protest and then Lynas Project at Gebeng, Pahang in 2010. Issues such as Bakun development, unsustainable development at U10 Shah Alam, Alam Flora Garbage collection are, among others, that become the center of attention in this nation due to the widespread of information through the mainstream media and new media, namely *blogs*, social networking (i.i. Facebook, Twitter, LinkEd) and more recent are WA as well WC.

Due to the feasibility factors, the samplings of this study are randomly chosen among, the Environmental Control Officers and Assistant Environmental Control Officers

(later is cited as ECOs and AECOs) who work at the state office and branches of the Department of Environment in Malaysia. Due to time constraints, this study was able to distribute its questionnaires at every state office and branches in peninsular Malaysia except for Johor only.

## **1.7 Keywords Definition**

### **1.7.1 Negotiation Approach (NA)**

In this study, particularly, the term negotiation approach consists of two types, which are integrative and distributive approach. The term of negotiation approach and negotiation strategies have been used interchangeably. This study gives an emphasis on the negotiation approaches' definition into integrative and distributive approach only.

#### **1.7.1.1 Integrative Approach**

Ever since negotiation is differed between integrative and distributive (Walton & McKesie, 1965), there is no clear evidence that suggests integrative as superior over the distributive in the negotiation. Rather, integrative approach is seen as better compromises, win-win solution, value creation and expanding the "pie" (Fisher & Ury, 1983; Hollander-Blumoff & Tyler, 2008). In contrast, distributive approach is viewed as being competitive, win-lose outcome, zero-sum, pure conflict which leads one party to gain more of the other party's losses (Kersten, 2001).

#### **1.7.1.2 Distributive Approach**

Distributive is perceived as competitive which depends highly on the tactics and strategies employed in the negotiation that is merely based on the fixed-pie, as opposed to expanding the pie, as well as ignorance of any commonalities is possible (Thompson, 1996; Kersten, 2001).

### **1.7.2 Initial Position (IP) in Conflict**

The term "position" refers to a stance taken on an issue by the conflicting parties, having had the underlying interests also known as needs (Gatelier, 2012). Positions are located in the realm of communication and interaction as they are the articulation by the conflict parties of the often-complex factors that make up a conflict. Positions are usually informed by an actor's perceived needs, but also by the actors' location in a particular conflict or negotiation setting: they are based on their understanding of the setting, the opportunities it presents for them as well as what constraints are present within the scope of the conflict or negotiation.

It is found that the process of conflict resolution involves parties whom ideas and positions are imposed on each other (Sanson & Bretherton, 2001). In so doing, this study views initial positions as one possible solution in which the interest underlies the negotiation and deliberation of opposing positions. The interests include needs, wants, fears and concerns have to come forward through a process of disclosing where each party is aware of the conflict and each party's initial positions.

As a result, this study identifies the initial position of the respondents during the negotiation they had in the past one year. There are five levels altogether namely, 1) position of having the intention to solve the problem (problem to solve); 2) disagreement (disagreement); 3) more challenging position (contest); 4) fighting level of position (fight); and lastly is 5) heading towards intractable type of position (intractable).

### **1.7.3 Communication Medium (CM)**

Communication medium refers to the mean of delivering and receiving data or information. While there is, a greater number of studies examining the characteristics of the medium, studies examining the rationality of choice of the communication medium in the negotiation are still lacking (Geiger & Parlamis, 2014). Therefore, this study refers the communication medium as an agent of communication in the negotiation that occurs between the environmental control officers and the other conflicting parties of the particular environmental cases.

### **1.7.4 Environmental Cases**

The term that is used to describe the disagreement may be various depending on the magnitude of impacts, namely issues related, conflict or crises. This study, however, emphasizes on the environmental cases that specifically refers to the disagreements in the light of enforcement and safety in the context of environmental cases in Malaysia. According to Ybarra and Ramon (2004), conflict is defined as disagreements that occur due to differences of ideas and interest between two parties or more. The study of conflict involves multiple perspectives such intrapersonal (personality), interpersonal (between individuals) (Northouse, 2011), and societal that refers to disagreements that occur between societies and nations (Committee Against Repression in the Pacific and Asia (CARPA), 1988).

Throughout this study, the words "environmental cases" are used in the light of environmental conflicts, which allow the inclusion of more general type of cases handled by the environmental control officers in Malaysia. Some issues were more localized while the others may be at the national level of issues such as Lynas at Gebeng, Pahang in 2010 and Incinerator Project at Broga, Selangor in 2002.



The cases are known as air pollution, water pollution, hazardous substances and scheduled waste. Referring to Recommended Malaysia Air Quality (RMG), air pollution is defined as concentration limits of selected air pollutants which might adversely affect the health and welfare of the general public through a development of Air Quality Index System known as the Malaysia Air Quality Index (MAQI). An index system plays an important role in conveying to both decision makers and the general public the status or ambient air quality, ranging from good to hazardous.

Water pollution is divided into three which are seawater, river water and groundwater. The monitoring programme for sea water involves *in-situ* measurements of water quality parameters such as temperature, pH, dissolved oxygen, conductivity, salinity, turbidity and tar balls, and laboratory analyses of parameters such as *Escherichia coli*, oil and grease, total suspended solids, arsenic, cadmium, total chromium, copper, lead and mercury. The frequency of sampling carried out is between four to six times per year. This monitoring activity provides important information not only on the status of marine water quality but also to assist in the management of the recreational waters and marine ecosystem.

River water monitoring has been established since 1978, primarily to establish baselines and to detect water quality changes in river water quality and has since been extended to identifying of pollution sources as well. A total of 1,064 manual stations located within 143 river basins throughout Malaysia. Water quality data were used to determine the water quality status whether in clean, slightly polluted or polluted category and to classify the rivers in Class I, II, III, IV or V based on Water Quality Index (WQI) and Interim National Water Quality Standards for Malaysia (INWQS) every year. Water Quality Index (WQI) is computed based on six main parameters namely Biochemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD); Ammoniacal Nitrogen (NH<sub>3</sub>N), pH, Dissolved Oxygen (DO) and Suspended Solids (SS).

The National Ground Water Monitoring Programme was established in 1997 and presently monitoring programme being carried out at 78 wells in Peninsular Malaysia, 12 wells in Sarawak and 15 wells in Sabah (Table 4.1). The sites were selected based on specific land uses such as agricultural, urban/suburban, rural, and industrial and sites of special interests such as solid waste landfills, golf courses, animal burial areas, municipal water supply and ex-mining (gold mine).

A scheduled waste refers to wastes that are potentially harmful and bring negative impacts on the public and the environment. There are 774 types of scheduled wastes listed under the First Schedule of the Regulations of the Environmental Quality (Scheduled Wastes) Regulations 2005, and the management of waste shall be in accordance with the provisions of the said regulation. While hazardous substance is about anything that can have an adverse effect on health which include poisons, substances that cause burns or skin and eye irritation, and substances that may cause cancer. Many hazardous substances are also classified as dangerous goods and categories namely extremely hazardous substances, carcinogenic substances, gaseous

and volatile organic substances, gaseous and vaporous inorganic substances and particulate inorganic substances.

### **1.7.5 Department of Environment (DOE), Malaysia**

DOE was initially established as Environmental Division under the Ministry of Local Government and Environment on 15th April 1975. On March 2004, DOE was placed under the Ministry of Natural Resources and Environment. The establishment of DOE has to follow the Environmental Quality Act 1974 was enacted in March 1974 and was enforced on 15th April 1975. The main function of the DOE is to prevent, eliminate, control pollution and improve the environment, consistent with the purposes of the Environmental Quality Act 1974 and the regulations there under DOE is also responsible for the implementation of the resolutions decided by the conventions of the international environment such as Vienna Convention for the protection of the Ozone Layer 1985, Montreal Protocol on Substances That Deplete the Ozone Layer, 1987, the Basel Convention on the Transboundary Movement of Hazardous Waste and Their Disposal Act 1989 and other areas while the success of programs of bilateral cooperation and multilateral cooperation between Indonesia, Singapore and other ASEAN countries on environmental management. Core services implemented by the DOE Headquarters Divisions, states and branches.

While the Headquarters give emphases on the management, development and planning, the primary function of DOE States Offices are; 1) to implement the enforcement program EQA 1974 and the regulations promulgated thereunder; 2) to conserve and enhance the quality of the environment, 3) to monitor and control of air pollution from factories, vehicles and open burning; 4) to provide advice to developers development.; 5) to provide input and advice to the State Government and local authorities in the planning of development projects; 6) to carry out an investigation into alleged environmental contamination; and 7) to process the Environmental Impact Assessment (EIA).

## **1.8 Conclusion**

In conclusion, this research wishes to seek an understanding in the relationship between the type of negotiation approach and the choice of communication medium among environmental control officers in Malaysia. Despite the relationship that exists between these two variables, this study also examines the initial position as the covariance that is hypothesised to have effects on the relationship between the negotiation approach and the choice made on the communication medium. The definition of main keywords of this study is given to clearly lead the readers to the context of environmental cases that are actually confronted by the environmental control officers involved in this very study. The constructs of these variables are explained explicitly through the work of the literature review in Chapter Two and Three.

## REFERENCES

- Aaldering, H., & De Dreu, C. K. (2012). Why hawks fly higher than doves: Intragroup conflict in representative negotiation. *Group Processes Intergroup Relations*, 15(6), 713-724.
- Abell, P. (1992). Is Rational Choice Theory a rational choice of theory? In J. S. Coleman, & T. Fararo, *Rational Choice Theory: Advocacy and Critique* (p. 260). Newbury Park: Sage Publication Inc.
- Academia.edu (n.d.). The debate over Lynas Corporation Limited's project in Malaysia has developed considerably over. Retrieved (30 October, 2016) website: [https://www.academia.edu/12970160/The\\_debate\\_over\\_Lynas\\_Corporation\\_Limiteds\\_project\\_in\\_Malaysia\\_has\\_developed\\_considerably\\_over](https://www.academia.edu/12970160/The_debate_over_Lynas_Corporation_Limiteds_project_in_Malaysia_has_developed_considerably_over)
- Akter, T., Kocak, S., & Fuat, N.. *Social Communication Networks and Reconstruction on Self Confidence: Facebook and its Social-Psychological Influences on its Turkish Cypriot Users*. Paper presented at International Conference on Communication, Media, Technology and Design, (ICCMDT), Istanbul. May 2012.
- Alavoine, Claude. (2011). Ethics in Negotiations: The Confrontation between representation and practices. *World Academy of Science, Engineering and Technology*, 78, 205-210.
- Alfredson, T., & Cungu, A. (2008). Negotiation Theory and Practice: A Review of Literature. Retrieved (October 18, 2013) website: [http://www.fao.org/docs/up/easypol/550/4-5\\_negotiation\\_background\\_paper\\_179en.pdf](http://www.fao.org/docs/up/easypol/550/4-5_negotiation_background_paper_179en.pdf)
- Anabel Quan-Haase & Collins, J. L. (2008). I'm there, but I might not want to talk to you. *Information, Communication and Society*, 11(4), 526 - 543.
- Antle, R., & Nalebuff, B. (1991). Conservatism and auditor– client negotiations. *Journal of Accounting Research*, 29 (Supplement), 31–59.
- Arunachalam, V., & Dilla, W. N. (1995). Judgement accuracy and outcomes in negotiation: A causal modelling analysis of decision-aiding effects. *Organizational Behaviour and Human Decision Processes*, 61, 289-304.
- Arunachalam, V., & Dilla, W. N. (1992). Computer-mediated communication and structured interaction in transfer pricing negotiation. *Journal of Information Systems*, 6, 149-170.
- Babcock, L., & Laschever, S. (2003). *Women Don't Ask: Negotiation and the Gender Divide*. Princeton: Princeton University Press.
- Bame-Aldreda, C. W., & Kida, T. (2007). A comparison of auditor and client initial negotiation positions and tactics. *Accounting, Organizations and Society*, 32(6), 497-551.
- Barron, L. A. (2003). Ask and you shall receive? Gender differences in negotiators' beliefs about requests for a higher salary. *Human Relations*, 56(6), 635–662.

- Barry, B., & Oliver, R. L. (1996). Affect in dyadic negotiations: A model and prepositions. *Organizational Behavior and Human Decision Processes*, 67, 127 - 143.
- Barsness, Z. I. & Bhappu, A. D. 2004. At the crossroads of technology and culture: Social influence, information sharing, and sense-making processes during negotiations. In M.J. Gelfand and J.M. Brett (Eds.). *The Handbook of Negotiation and Culture* (pp. 350-373). Palo Alto, CA: Stanford University Press
- Bazerman, M. H., Curhan, J. R., Moore, D. A., & Valley, K. L. (2000). *Annual Review of Psychology*, 51, 279 - 314.
- Bazerman, M., & Neale, M. (1992). *Negotiating Rationally*. New York: Free Press.
- Bear, J. B., & Babcock, L. (2012). Negotiation topic as a moderator of gender differences in negotiation. *Psychological Science*, 23(7), 743 –744.
- Becker, G. S. (1976). *The Economic Approach to Human Behavior*. Chicago : The University of Chicago Press.
- Berens, C. (1999). Amplifying the giantsuckingsound: Ross Perot and the media in the NAFTA. *Newspaper Research Journal*, 20(2), 90 - 103.
- Berkovitch, J. & Jackson, R. (2001). Currents development in international conflict management: Assessing the reference of negotiation and mediation. *Cambridge Review of International Affair*, 14(2), 13 - 38.
- Beurer-Zuellig, B., & Meckel, M. Smartphones Enabling Mobile Collaboration. Proceedings at the 41<sup>st</sup> Annual Hawaii International Conference on System Sciences, Washington, DC, USA, January, 7-10, 2008. IEEE Computer Society, Washington, DC, 2008.
- Bigoness, W. J. (1984). Distributive versus integrative approaches to negotiation: experiential learning through a negotiation simulation. *Developments in Business Simulation & Experiential Exercises*, 11, 64-67.
- Bilmes, J. (1988). Category and rule in Conversation analysis. *IPra Papers in Pragmatics*, 2(1&2), 25-59.
- Bled, A. J. (2010). Technological choices in international environmental negotiations: An Actor-- Network Analysis. *Business & Society*, 49(4), 570–590.
- Boyer, M. A., Urlacher, B., Hudson, N. F., Niv-Solomon, A., Janik, L. L., Butler, M. J., & Ioannou, A. (2009). Gender and negotiation: Some experimental findings from an international negotiation simulation. *International Studies Quarterly*, 53(1), 23–47.
- Boykoff, M. T. (2011). *Who speaks for the climate?: Making Sense of Media Reporting on Climate Change*. Cambridge: Cambridge University Press.
- Brett, J. M., Shapiro, D. L., & Lytle, A. L. (1998). Breaking the bonds of reciprocity in negotiations. *Academy of Management Journal*, 41, 410–424.
- Brodt, S. E. (1994). Inside information and negotiator decision behavior. *Organizational Behavior and Human Decision Process*, 58 (2), 172–202.

- Bulow, A. M. (2010). Email Negotiation: Argument, Cognition and Deadlock in Email Negotiation. Frederiksberg. Retrieved (November 12, 2012) website: [http://research.cbs.dk/en/publications/uuid\(bdcc1217-db18-43db-ace4-8330a9ab5b6a\).html](http://research.cbs.dk/en/publications/uuid(bdcc1217-db18-43db-ace4-8330a9ab5b6a).html)
- Burgess, G., & Burgess, H. (1999). Confusing Interests (What You Really Want) With Positions (What You Say You Want). Retrieved (April 26, 2013) website: <http://www.colorado.edu/conflict/peace/problem/intpos-p.htm>
- Burke, K., Aytes, K., Chidabaram, L., & Johnson, J. (1999). A study of partially distributed work groups: The impact of media, location, and time on perception and performance. *Small Group Research*, 30 (4), 453 - 490.
- Bush, R., & Folger, J. (1994). *The Promise of Mediation: Responding to Conflict through Empowerment and Recognition*. San Francisco: Jossey-Bass.
- Butler, J. K. (1999). Trust expectations, information sharing, climate of trust, and negotiation effectiveness and efficiency. *Group and Organization Management*, 24(2), 217-238.
- Carlson, P.J., and Davis, G.B. (1998). An investigation of media selection among directors and managers: from 'self' to 'other' orientation". *MIS Quarterly*. 22 (3): 335-362.
- Carnevale, P. J., & Isen, A. M. (1996). The influence of positive affect and visual access on the discovery of integrative solutions in bilateral negotiation. *Organizational Behavior and Human Decision Processes*, 37(1), 1-13.
- Carnevale, P. J., Pruitt, D. G., & Seilheimer, S. D. (1981). Looking and competing—accountability and visual access in integrative bargaining. *Journal of Personality and Social Psychology*, 40(1), 111-120.
- Castells, M. (2010). *The Rise of The Network Society: With a New Preface*. Oxford, UK: Wiley-Blackwell.
- Chena, J. V., Yenb, D. C., & Chenc, K. (2009). The acceptance and diffusion of the innovative smart phone use: A case study of a delivery service company in logistics. *Information & Management*, 46(4), 241–248.
- Churchman, D. (1995). *Negotiation: Process, Tactics and Theory*. Boston: University Press of America.
- Cialdini, R. B. (1993). *Influence: The Psychology of Persuasion*. New York: William Morrow and Company.
- Cialdini, R. B. (2009). *Influence: Science and Practice* (5th ed) Boston, MA: Pearson Education.
- Citera, M., Beauregard, R., & Mitsuya, T. (2005). An experimental study of credibility in e-negotiations. *Psychology & Marketing*, 22(2), 163-179.
- Committee Against Repression in the Pacific and Asia (CARPA). (1988). *Tangled web: Dissent, Deterrence and The 27th October 1987 Crackdown*. Kuala Lumpur, MALAYSIA: Kong Lee Printers.
- Conrad, C. (1994). *Strategies Organizational Communication: Towards the 21st Century* (3rd ed.). US: Harcourt Brace.



- Consumer Association of Penang. (n.d.). *Chronology of Events in the Bukit Merah Asian Rare Earth Development*. Retrieved (30 oktober, 2016) website: <http://www.consumer.org.my/index.php/health/454-chronology-of-events-in-the-bukit-merah-asian-rare-earth-developments>
- Coombs, C. H. (1987). The structure of conflict. *American Psychologist*, 42, 355–363.
- Cox, R. J. (2010). *Environmental Communication and the Public Sphere*. Thousands Oak, CA: Sage Publications Inc.
- Croson, R. T. (1999). Look at me when you say that: An electronic negotiation simulation. *Simulating and Gaming*, 30(1), 23 - 37.
- Curhan, J., Neale, M., & Ross, L. (2004). Dynamic valuation: Preference changes in the context of face-to-face negotiation. *Journal of Experimental Social Psychology*, 40, 142-151.
- Daft, R., & Lengel, R. (1986). Organizational information requirements, media richness and structural design. *Management Science*, 32, 554 - 571.
- Daft, R., Lengel, R., & Trevino, L. (1987). Message equivocality, media selection and manager performance: Implication for Information System. *MIS Quarterly*, 11(3), 355 - 366.
- De Dreu, C. K. W. (2010). Social value orientation moderates ingroup love but not outgroup hate in competitive intergroup conflict. *Group Processes and Intergroup Relations*, 13(6), 701–713.
- De Dreu, C. K. W., Harinck, F., & Van Vianen, A. E. (1999). Conflict and Performance in Groups and Organizations. In C. Cooper, & I. Robertson, *International Review of Industrial and Organizational Psychology* (pp. 369–414). Chichester: Wiley.
- De Dreu, C. K. W., Weingart, L. R., & Kwon, S. (2000). Influence of social motives in integrative negotiation: a meta-analytical review and test of two theories . *Journal of Personality and Social Psychology*, 78(5), 889–905.
- De Loach, S. (1992). La representación en la negociación intergrupal: Lecciones de la experiencia Tavistock. *Management Today En Español*, 19(2), 26 - 29.
- De Paulo, B. M., & Friedman, H.S. (1998). Non verbal communication. In D.T Gilbert. S.T. Fiske. & G.Lindzey (Eds.). *Handbook of Social Psychology* (pp.3-40). New York, NY : Mc Graw Hill.
- Dennis, A. R., & Kinney, S. (1998). Testing media richness theory in the new media: The effects of cues, feedback and task equivocality. *Information System Research*, 9, 256 - 274.
- Depoe, S. P., Delicath, J. W., & Elsenbeer, M.-F. A. (Eds.). (2004). *Communication and Public Participation in Environmental Decision Making*. Albany, NY: State University of New York Press.
- Deutsch, M. (1973). *The Resolution of Conflict: Constructive and Destructive Processes*. New Haven, CT: Yale University Press.
- DeVito, J. A. (2013). *Essentials of Human Communication*. US: Prentice Hall.

- Drolet, A. L., & Morris, M. W. (2000). Rapport in conflict resolution: Accounting for how face-to-face contact fosters mutual cooperation in mixed-motive conflicts. *Journal of Experimental Social Psychology*, 36, 26-50.
- Druckman, D. & Zechmeister, K. (1970). Conflict of interest and value dissensus: Propositions in the sociology of conflict. *Human Relations*, 26(4), 449-466.
- Dunne, P. E. Tractability in Value-Based Argumentation. In Proceedings of the 3rd Conference on Computational Models of Argument (COMMA), Amsterdam, Netherlands, September, 8 – 10, 2010. pp.: 195-206.
- Elster, J. (2009). Interpretation and rational choice. *Rationality and Society*, 21, 5–26.
- Ertel, D. (2000). Turning negotiation into a corporate capability. In *Harvard Business Review on Negotiation and Conflict Resolution* (pp. 101-127.). Boston: Harvard Business School Press.
- Etemadi, F. (2004). The politics of engagement: gains and challenges of the NGO coalition in Cebu City. . *Environment and Urbanization*, 16(1), 79–94.
- Fang, K. (1998). An analysis of electronic-mail usage. *Computers in Human Behaviour*, 14(2), 349 - 374.
- Fearn-Banks, K. (2011). *Crisis Communications: A Casebook Approach*. US: Taylor and Francis.
- Fisher, R., & Ury, W. (1983). *Getting to Yes: Negotiating Agreement without Giving In*. New York: Penguin Books.
- Friedman, R. A., & Curall, S. C. (2003). Conflict Escalation: Dispute exacerbating elements of email communication. *Human Relation*, 56(11), 1325-1347.
- Fulk, J., Schmitz, J., & Steinfield, C. (1990). A social influence model of technology use. In J. Fulk, & C. Steinfield (Eds.). *Organizations and Communication Technology* (pp. 117 - 140). Newbury Park, CA: Sage Publications.
- Galvin, K. M., Bylund, C. L., & Brommel, B. J. (2012). *Family Communication: Cohesion And Change*. Glenview, IL: Pearson education Inc.
- Gatelier, K. *Giving Voice to (Rural) Populations: A Method of Participatory Research for Conflict Transformation*. Paper presented at the European Science Foundation Conference, In Search of Peace. Dialogue between Theories and Practices. Norrköping, Sweden. 20-24 October 2012.
- Geiger, I., & Parlamis, J. (2014). Is there more to email negotiation than email? The role of email affinity. *Computers in Human Behavior*, 32, 67-78.
- Gettinger, J., Koeszegi, S. T., & Schoop, M. (2012). Shall we dance? — The effect of information presentations on negotiation processes. *Decision Support Systems*, 53(1), 161 - 174.
- Giordano, G. A., Stoner, J. S., Brouer, R. L., & George, J. F. (2007). The influence of deception and computer-mediation on dyadic negotiation. *Journal of Computer-Mediated Communication*, 12(2), 362-383.
- Gleditsch, N. P. (1998). Armed Conflict and the environment: A critique of the literature. *Journal of Peace Research*, 35 (3), 381-400.

- Green, D. P., & Shapiro, I. (1996). *Pathologies of Rational Choice Theory: A critique of Applications in Political Science*. New Haven, CT: Yale University Press.
- Green, K. C. (2002). Embroiled in a conflict: who do you call? *International Journal of Forecasting*, 18, 389–395.
- Group Support Systems: New Perspective* (pp 78-96). New York: Macmillan.
- Grover, S. (1993). Why professionals lie: The impact of professional role conflict on reporting accuracy. *Organizational Behavior and Human Decision Processes*, 4(3), 478-495.
- Halpern, D. E (1996). *Thought and Knowledge: An Introduction to Critical Thinking* (3rd ed.). Mahwah, NJ: Erlbaum.
- Hansen, A. (2010). *Environment, Media and Communication*. London: Routledge.
- Harinck, F., & De Dreu, C. K. (2004). Negotiating interests or values and reaching integrative agreements: the importance of time pressure and temporary impasses. *European Journal of Social Psychology*, 34(5), 595–611.
- Haselhuhn, M. P., Wong, E. M., Ormiston, M. E., Inesi, M. E., & Galinsky, A. D. (2014). Negotiating face-to-face: Men's facial structure predicts negotiation performance. *The leadership Quarterly*, 2(5), 835 - 845.
- Hiltz, S. R., Johnson, K., & Turoff, M. (1986). Experiments in group decision making: Communication process and outcome in face-to-face versus computerized conferences. *Human Communication Research*, 13, 225 - 252.
- Hogarth, R. M., & Reder, M. W. (1987). *Rational Choice: The Contrast Between Economics and Psychology*. Chicago: The University of Chicago Press.
- Hollander-Blumoff, R., & Tyler, T. R. (2008). Procedural justice in negotiation: Procedural fairness, outcome acceptance, and integrative potential. *Law and Social Inquiry*, 33(2), 473-500.
- Hollingshead, A. B. (1996). Information suppression and status persistence in group decision making: The effects of communication media. *Human Communication Research*, 23, 193 - 220.
- Hollingshead, A. B. (1996). The rank-order effect in group decision making. *Journal of Organizational Behavior and Human Decision Processes*, 68(3), 181–193.
- Holton, Robert J. (1996) Classical Social Theory. In Turner, Bryan S. *The Blackwell Companion to Social Theory*. (p.34) Malden, Massachusetts: Blackwell Publishers.
- Hristu-Varsakelis, D., Kumar, P.R. Interrupt-based feedback control over a shared communication medium. In *Proceedings of the 41st IEEE Conference on Decision and Control*, Nevada, United States of America, December, 10 – 13, 2002. Pp. 3223–3228.
- Hyder, E. B., Prietula, M. J., & Weingart, L. R. (2000). Getting to best: Efficiency versus optimality in negotiation. *Cognitive Science*, 24 (2), 169–204.
- Israel, Glenn D. (1992). Determining Sample Size (Fact sheet). Retrieved (February 26, 2016) from *Program Evaluation and Organizational Development* (6).



- Gainesville, Florida: Institute of Food and Agricultural Sciences (IFAS). website: <https://edis.ifas.ufl.edu/pdffiles/PD/PD00600.pdf>
- Jauhariatul, A., & Jamilah, A. (2011). Penggunaan facebook oleh badan bukan kerajaan alam sekitar (NGO) dalam menyampaikan mesej alam sekitar. *Malaysian Journal of Communication*, 27(2), 161 - 182.
- Jerry Adel & Company. (2006). A Model for achieving Win/Win (Report). Retrieved (March 30, 2013) from *Conflict Resolution*, Toronto, Canada. website: <http://www.jerryadel.com/conflictres.pdf>.
- Johnson, D. W., & Johnson, R. T. (2012). Energizing learning: The instructional power of conflict. *Educational Researcher*, 38(1), 37–51. <http://doi.org/10.3102/0013189X08330540>.
- Johnson, N. A., & Cooper, R. B. (2009). Media, affect, concession, and agreement in negotiation: IM versus telephone. *Decisions Support System*. 46(3): 673 - 684.
- Johnson, R., & Keil, M. (2002). Media Richness Theory: Testing E-Mail vs. V-Mail for Conveying Student Feedback. *Journal of Informatics Education Research*, 4(3), 15-24.
- Jurin, R. R., Roush, D., & Danter, J. (2010). *Environmental Communication: Skills and Principles for Natural Resource Managers, Scientists, and Engineers* (2nd ed.). USA: Springer Netherlands.
- Keil, M., & Johnson, R. D. (2002). Feedback channels: Using social presence theory to compare voicemail to e-mail. *Journal of Information Systems Education*, 13(4), 295 - 303.
- Kelley, H. H., & Thibaut, J. (1969). Group problem solving. In G. Lindzey, & E. Aronson, *Handbook of Social Psychology* (pp. 1–101). Reading, MA: Addison-Wesley.
- Kent, G. (1993). Analyzing conflict . *Peace and Change*, 18(4), 373 - 398.
- Kersten, G. E. (1999). Negotiation support systems and negotiating agents. *Proceedings of the Modeles et Systemes Multi-agents Pour la Gestion del' Environmental et Des Territoire* (pp. 307-316).
- Kersten, G. E. (2001). Modelling distributive and integrative negotiations: Review and revised characterization. *Group Decision and Negotiation*, 10(6), 493-514.
- Khorana, S. & Garcia, M. (2013). European Union-India Trade Negotiations: One Step Forward, One Back? *Journal of Common Market Studies*, 51(4), 684–700.
- Kiesler, S., Siegel, J., & McGuire, T. (1984). Social psychology aspects of computer mediated communication. *American Psychologist*, 39, 1123 - 1134.
- Kiesler, S., Zubrow, D. & Moses, A. M. (1985). Affect in computer-mediated communication: An experiment in synchronous terminal-to-terminal discussion. *Human-Computer Interaction*, 1(1), 77–104.
- King, R. C., & Xia, W. D. (1999). Media appropriateness: Effects of experience on communication media choice. In E. E. Kendall (Ed.), *Emerging Information Technologies: Improve Decisions, Cooperation, and Infrastructure* (pp. 143-175). Thousand Oaks, CA: Sage Publications, Inc.

- Kong, Dejun Tony, Dirks, Kurt T. & Ferrin, Donald L. (2014). Interpersonal Trust within Negotiations: Meta-Analytic Evidence, Critical Contingencies, and Directions for Future Research. *Academy of Management Journal*, 57(5), 1235 – 1255.
- Kozma, R. B. (1996). Will media influence learning? Reframing the debate. *Educational Technology Research and Development*, 42(2), 7 - 19.
- Lax, D.A., & Sebenius, J.K. (1986). *The Manager as Negotiator: Bargaining for Cooperation and Competitive Gain*. Free Press, New York.
- Levine, J. M., & Thompson, L. (1996). Conflict in groups. In, E. T. Higgins & A. W. Kruglanski, (Eds.) *Social Psychology: Handbook of Basic Principles*. (pp. 745-776) New York: Guilford Press.
- Lewicki, R. J., Barry, B., Saunders, D. M., & Minton, J. W. (2003). *Negotiation*. New York: McGraw-Hill Companies.
- Lewis, S. A. (1977). Effects of visual access and orientation on the discovery of integrative bargaining alternatives. *Organizational Behavior and Human Performances*, 20, 75 - 92.
- Libiszewski, S. (1992). What is an environmental conflict? *Environment and conflict project (ENCOP)*, Berne/Zurich, April 30 – May 1, 1992, 1-15.
- Lynas Corporation (2011). *Annual Report 2011*. Sydney, Australia: Lynas Corporation Limited.
- Malaysian Insider (2011) *Letter from chairman of Lynas Corporation, Nicholas Curtis, to Fuziah Salleh*. June 22, 2011. Retrieved (July 2, 2011) website: <http://fuziahsalleh.my/?cat=7&paged=43>.
- Markiewicz, A. (2005). "A balancing act" : Resolving multiple stakeholder interests in program evaluation. *Evaluation Journal of Australasia*, 4(1 & 2), 13 - 21.
- McGinn, K. L. & Croson, R. (2004). What do communication media mean for negotiators? A question of social awareness. In Gelfand, Michele J., & Brett, Jeanne M. *The Handbook of Negotiation and Culture*. (pp. 334 - 349) Stanford University Press, Stanford, California.
- McGinn, K. L., Moag, J., & Bazerman, M. H. (1998). 'A matter of trust': Effects of communication on the efficiency and distribution of outcomes. *Journal of Economic Behavior and Organization*, 34(2), 211–238.
- McGinn, K. L., Neale, M., and Mannix, E.A. (1995). Friends, lovers, colleagues, strangers: The effects of relationship on the process and outcome of negotiation. In R.Bies, R.Lewicki, & B.Sheppard, (Eds.). *Research in Negotiation in Organizations* (pp.: 65 - 94). Greenwich, CT: JAI Press.
- McGinn, K. L., Thompson, L., Gibbons, R., & Bazerman, Max H. (2002). How communication improves efficiency in bargaining games. *Games and Economic Behavior*. 38(1), 127-155.
- McGrath, J.E. & Hollingheads, A. B. (1993). Putting the “group” back in group support systems: Some theoretical issues about dynamic processes in groups with technological enhancement. In L.M. Jessuo & J.S. Valacich (Eds.),

- Miranda, S., & Saunders, C. (2003). The social construction of meaning : An alternative perspective on information sharing. *Information Systems Research*, 14(1), 87 - 106.
- Mohd Zaini, A., & Rosli, A. J. (2011). Lynas patuhi piawaian Radiasi. Retrieved (June 24, 2012) from *Berita Harian*, Kuala Lumpur: Media Prima Berhad. website:<http://www.bharian.com.my/bharian/articles/Lynaspatuhiapiawaianradiasi/Article/cetak>
- Moore, D. A., Kurtzberg, T. Z., Thompson, L. L., & Morris, M. W. (1999). Long and short routes to success in electronically-mediated-negotiations: Group affiliations and good vibrations. *Organizational Behavior and Human Decision Process*, 77(1), 22 - 43.
- Morris, M., Nadler, J., Kurtzberg, T., & Thompson, L. (2002). Schmooze or Lose: Social friction and lubrication in e-mail negotiations. *Group Dynamics: Theory, Research, and Practice*, 6(1), 89 - 100.
- Mustafa, K. A. (2012). Reporting the Environment: Human Rights, Development and Journalism in Malaysia. *Asia Pacific Media Educator*, 22(2), 253–262.
- Nadler, J. & Shestowsky, D. (2006). Negotiation, Information Technology, and the Problem of the Faceless Other. In L. L. Thompson, *Negotiation Theory and Research* (pp. 145–172). New Jersey: Psychology Press.
- Nelson, D., & Wheeler, M. (2004) Rocks and hard places: Managing two tensions in negotiation. *Negotiation Journal*, 20(1), 113-128.
- Neumann, D., Kurtzberg, T., Thompson, L., & Morris, M. (2003). Applying the Montreal taxonomy to state of the art e-negotiation systems. *Group Decision and Negotiation*. 12(4): 287–310.
- Norhayati Rafida, A. R. (2010). A preliminary study of newspapers as a medium towards environmental conflicts resolution in Malaysia: An interview analysis. *Asian Media information and Communication* (p. 21). Suntec City: AMIC, Singapore.
- Norhayati Rafida, A. R. (2013). *Psychology of Communication*. Shah Alam, Malaysia: McGraw Hill Inc.
- Norhayati Rafida, A. R., & Shazleen, M. (2004). *Introduction to Human Communication*. Shah Alam, Malaysia: McGraw-Hill Inc.
- Norhayati Rafida, A. R., Alina, A. R., Hafiz, H. H., & Saifol, B. (2012). Negotiating interests according to islamic approach on halal certifications: Challenges in creating jobs. *World applied Sciences Journal*, 17 (Towards the Traceability of Halal and Thoyyiban Application), 1-16.
- Northouse, P. G. (2011). *Introduction to Leadership: Concepts and Practice* (2nd ed.). Thousands Oak, California, USA: SAGE Publications, Inc.
- Oates, M. (2009). *Differences in Computer Mediated Versus Face to Face Negotiation*. Retrieved (April 18, 2015) from Carlifornia Polytechnic State University. website:<http://digitalcommons.calpoly.edu/cgi/viewcontent.cgi?article=1000&context=psycdsp>

- Olaniran, Bolanle A. (2010). Olaniran, Bolanle A. (2010) Group communication and conflict management in an electronic medium. *International Journal of Conflict Management*, 21(1), 44-69.
- Olekalns, M. (2000). Negotiating optimal outcomes: The role of strategic sequences in competitive negotiations. *Human Communication Research*, 24, 528-560.
- Olekalns, M., Smith, P. L., & Walsh, T. (1996). The process of negotiating: Strategies, timing and outcomes. *Organizational Behavior and Human Decision Processes*, 67, 68-77.
- Orbell, J., Van de Kragt, A., & Dawes, R. (1988). Explaining discussion-induced cooperation. *Journal of Personality and Social Psychology*, 54(5), 811-819.
- Pesendorfer, E., & Koeszegi, S. (2006). Hot versus cool behavioral style in electronic negotiations: The impact of communication mode. *Group Decision and Negotiation*, 52(March), 747-755.
- Phua, K.L., & Velu, S. S. (2012). Lynas Corporation Rare Earth Extraction Plant in Gebeng Malaysia: A case report on the ongoing saga of people power versus state-backed corporate power. *Journal of Environmental Engineering & Ecological Science*, 1(2), 1 - 5.
- Pomerantz, A. (1984). . Agreeing and disagreeing with assessments: some features of preferred/dispreferred turn shapes. In J. Atkinson, & J. Heritage, *Structures of Social Action* (pp. 57-101). Cambridge: Cambridge University Press.
- Poole, M. S., & DeSantic, G. (1992). Microlevel structuration in computer-supported group decision-making. *Human Communication Research*, 19(1), 5-49.
- Poole, M., Shannon, D. L., & De Sanctis, G. (1992). Communication media and negotiation process. In L. L. Putnam, & S. Roloff (Eds.), *Communication and Negotiation: Sage Annual Reviews of Communication Research* (pp. 46 - 66). Newbury Park, CA: Sage Publication.
- proceeding of the 33rd Hawaii International Conference on System Sciences*. 4-7 January. Los Alamitos, CA: IEEE Press.
- Pruitt, D. G., & Carnavale, P. J. (1993). *Negotiation in Social Conflict*. Buckingham, United Kingdom: Open University Press.
- Purdy, J. M., & Balakrishnan, P. V. (2000). The impact of communication media on negotiation outcomes. *The International Journal of Conflict Management*, 11(2), 162 - 187.
- Putnam, L. L. (1990). Reframing integrative and distributive bargaining: A process perspective. In B. H. Sheppard, M. H. Bazerman, & R. J. Lewicki (Eds.), *Research on Negotiation in Organizations* (2, pp. 3-30). Greenwich, CT: JAI.
- Putnam, L. L. (1994). Challenging the Assumptions of Traditional Approaches to Negotiation. *Negotiation Journal*, 10, 337 - 346.
- Radnitzky, G., & Bernholz, P. (1987). *Economic imperialism: The Economic Approach Applied Outside the Field of Economics*. New York: Paragon House Publishers.
- Rahim, M., 1983. A measure of styles of handling interpersonal conflict. *Academy of Management Journal*, 26 (2), 368-376.

- Rao, V.S. & Lim, J. (2000). The impact of involuntary cues on media effects. *In*
- Rice, R. E. (1993). Media appropriateness: Using Social Presence Theory to compare traditional and new organizational media. *Human Communication Research*, 19(4), 451 - 484.
- Riegelsberger, J., Sasse, M. A., & McCarthy, J. D. (2005). The mechanic of trust: A framework for research and design. *International Journal of Human Computer Studies*, 62, 381 - 422.
- Rosette, A. S., Brett, J. M., Barsness, Z., & Lytle, A. L. (2011). When Cultures Clash Electronically: The Impact of Email and Social Norms on Negotiation Behavior and Outcomes. *Journal of Cross-cultural Psychology*, 43(4), 628–643.
- Ross, L., & Stillinger, C. (1991). Psychological barriers to conflict resolution. *Negotiation Journal*, 8: 389–440.
- Roth, Alvin E. & Murnighan, J. Keith. (1982). The role of information in bargaining: An experimental study. *Econometrica*, 50(5), 1123-1142.
- Rubin, J. Z., & Brown, B. R. (1975). *The Social Psychology of Bargaining and Negotiation*. New York: Academic Press.
- Sætre, A. S., & Sørnes, J.O. (2001). Enacting media use in organizations. *Journal of Information, Information Technology and Organizations*, 2(1), 133 - 158.
- Sanson, A., & Bretherton, D. (2001). Conflict resolution: theoretical and practical issues. In D. J. Christie, R. V. Wagner, & D. A. Winter, *Peace, Conflict, and Violence: Peace Psychology for the 21st Century* (pp. 193-209) Englewood Cliffs, New Jersey: Prentice Hall.
- Santoi, L. (2002). Conflict Talk: A Discourse Analytical Perspective. *TESOL & Applied Linguistic*. 2(3),1-20.
- Schiavo, R. (2007). *Health Communication: From Theory to Practice*. San Francisco, CA: Jossey-Bass.
- Schweitzer, M., & Croson, R. (. (1999). Curtailing deception: The impact of direct questions on lies and omissions. *International Journal of Conflict Management*, 10(3), 225-248.
- Schweitzer, M., Brodt, S. E., & Croson, R. (2001). *Deception and misunderstanding in distanced negotiation: A comparison of videoconference and telephone mediated negotiations*. Wharton School Working Paper No. 99-07-02.
- Schweitzer, M., Hershey, J., & Bradlow, E. (2006). Promises and lies: Restoring violated trust. *Organizational Behavior and Human Decision Processes*, 101(1), 1–19.
- Scott, J. (2000). Rational Choice Theory. In G. Browning, A. Halcli & F. Webster (Ed.), *Understanding Contemporary Society: Theories of The Present* (pp. 126-138). London: Sage Publications.
- Sheffield, J. (1995). The effect of communication medium on negotiation performance. *Group Decision and Negotiation*, 4, 159 - 179.



- Shell, G. R. (2001). Bargaining on the Internet: The perils of e-mail and other computer-assisted negotiations. In Kunreuther, H. and Hoch, S. (Eds.). *Wharton on Making Decisions* (pp.201-222). New York: Wiley.
- Short, J., Williams, E., & Christie, B. (1976). *The Social Psychology of Telecommunications*. London: John Wiley & Sons, Ltd.
- Sinclair, J. (2005). The Impact of Stories. *Electronic Journal of Knowledge Management*, 3(1), 53 - 64.
- Sitkin, S., Sutcliffe, K., & Barrios-Choplin, J. (1992). A dual-capacity model of communication media choice in organizations. *Human Communication Research*, 18(4), 563-598.
- Smith, J., & Kida, T. (1991). Heuristics and biases: Expertise and task realism in auditing. *Psychological Bulletin*, 109 (3), 472 – 489.
- Sobral, F. A. & De Carvalho, F. M. P. (2003). *Negotiating Style of Portuguese Executives: Competition Vs. Collaboration*. Paper presented at the 16th Annual IACM Conference Melbourne, Australia.
- Stetter, S., Herschinger, E., Teichler, T., & Mathias, A. (2011 ). Conflicts about water: securitizations in a global context. *Cooperation and conflict*, 46(4), 441-459.
- Stuhlmacher, A. F., & Champagne, M. V. (2000). The Impact Of Time Pressure And Information On Negotiation Process And Decisions. *Group decision and Negotiation*, 9(6), 471–491.
- Suh, K. (1999). Impact of communication medium on task performance and satisfaction: an examination of media-richness theory. *Information & Management*, 35(5), 295-312.
- Tan, B. C., Wei, K. K., Watson, R. T., Clapper, D. L., & McLean, E. R. (1998). Computer-mediated communication and majority influences: Assessing the impact in an individualistic and collectivistic culture. *Management Science*, 44(9), 1263 - 1278.
- Tan, S. B. (1988) The Papan – Bukit Merah protest. In Tangled Web. *Committee against Repression in the Pacific and Asia* (Eds). Kuala Lumpur: Kong Lee Printers. Pp.: 28 – 31.
- Taylor, G. (1999). *Managing Conflict*. London: Directory of Social Change.
- Thomas, K. (1992). Conflict and negotiation processes in organizations. In M. & Dunnette, *Handbook of Industrial and Organizational Psychology* (pp. 651-717). Palo Alto, CA: Consulting Psychologists Press, Inc.
- Thomas, K. W. (1976). Conflict and conflict management. In M. D. Dunnette (Ed.). *Handbook of Industrial & Organizational Psychology* (pp. 889-935). Chicago: Rand McNally
- Thompson, L. (1996). Lose-lose Agreements in Interdependent Decision-Making. *Psychological Bulletin*, 120(3), 396-409.
- Thompson, L., & Nadler, J. (2002). Negotiating via information technology: Theory and application. *Journal of Social Issues*, 58(1), 109 - 124.

- Thompson, L., Peterson, E. & Kray, L. (1995). Social context in negotiation: An Information processing perspective. In, R. M. Kramer & D.M Messick (Eds). *Negotiation as a Social Process* (pp.: 5-36). Thousand Oaks, CA: Sage Publication.
- Tosini, D. (2006). Medium as a basic concept of sociology: contributions from systems theory. . *Social Science Information*, 45(4), 539–560.
- Trevino, L. K., Daft, R. L., & Lengol, R. H. (1990). Understanding managers' media : A symbolic interactionist perspective. In J. Fulk, & C. Stein (Eds.). *Organizations and Communication Technology* (pp.: 71 – 94). Newbury Park, CA: Sage Publication.
- Trevino, L. K., Webster, J., & Stein, E. W. (2000). Making connections: Complementary influences on communication media choices, attitudes, and use. *Organization Science*, 11(2), 163 - 182.
- Trotman, K., Wright, A., & Wright, S. (2005). Auditor negotiations: An examination of the efficacy of intervention methods. *The Accounting Review*, 80(1), 349–367.
- Trötschel, R., Hüffmeier, J., & Loschelder, D. D. (2010). When Yielding Pieces of the Pie is Not a Piece of Cake: Identity-Based Intergroup Effects in Negotiations. . *Group Processes and Intergroup Relations*, 13(6), 741–763.
- Turban, E., Lee, J., King, D., & Chung, H. M. (2000). *Electronic Commerce: A Managerial Perspective*. Upper Sadle River, NJ: Prentice Hall.
- Valacich, J. S., Paranka, D., George, F., & Nunamaker, J. F. (1993). Communication currency and the new media. *Communication Research*, 20, 249 -276.
- Valley, K. L., Moag, J., & Bazerman, M. H. (1998). 'A matter of trust': Effects of communication on the efficiency and distribution of outcomes, *Journal of Economic Behavior and Organization*, 34(2), 211–238.
- Valley, K.L., Neale, M.A., & Mannix, E.A. (1995). Friends, lovers, colleagues, strangers: The effects of relationships on the process and outcome of dyadic negotiations. In R.J. Bies, R.J. Lewicki, & B.H. Sheppard (Eds.). *Research on Negotiation in Organizations* (pp. 65-93). Greenwich, CT: JAI Press.
- Van Evra, J. (1990). *Television and Child Development*. Hillsdale, NJ: Lawrence Erlbaum.
- Walton, R. E., & McKersie, R. B. (1965). *A Behavioral Theory of Labor Negotiations*. New York: McGraw-Hill.
- Weingart, L. and Olekalns, M. (2004). Communication processs in negotiation. In M. Gelfand and J. Brett (eds), *Handbook of Culture and Negotiation*. Stanford : Stanford University Press.
- Weingart, L. R., Bennett, R. J., & J. M. Brett. (1993). The impact of consideration of issues and motivational orientation in group negotiation process and outcome. *Journal of Applied Psychology*, 78, 504–517.
- Wheeler, M. (1995). Computers and negotiation: Backing into the future. *Negotiation Journal*, 11, 169 - 175.
- Wichman, H. (1970). Effects of isolation and communication on cooperation in a two-person game. *Journal of Personality and Social Psychology*, 14(1), 114-120.



- Wildschut, T., Pinter, B., Vevea, J., Insko, C. A., & Schopler, J. (2003). Beyond the group mind: A qualitative review of the interindividual–intergroup discontinuity effect. *Psychological Bulletin*, 129(5), 698–722.
- William. (1977). Experimental comparisons of face-to-face and mediated communication: A review. *Psychological Bulletin*, 84, 963 - 976.
- Williams, F., & Rice, R. E. (1983). Communication research and the new media technologies. *Communication Yearbook*, 7, 200-224.
- Yamane, Taro. (1967). *Statistics: An introductory analysis*, 2<sup>nd</sup> Ed., New York: Harper and Row.
- Yates, J., & Orlikowski, W. J. (1992). Genres of organizational communication: An approach to studying communication and media. *Academy of Management Review*, 17, 299 - 326.
- Ybarra, O., & Ramon, A.C. (2004). Diagnosing the difficulty of conflict resolution between individuals from the same and different social groups. *Journal of Experimental Social Psychology*, 40, 815-822.
- Yuan, Y., Head, M., & Du, M. (2003). The effects of multimedia communication on web-based negotiation. *Group Decision and Negotiation*, 12(2), 89–109.
- Zaharom, N. (1994). Commercialization and control in a “caring society”: Malaysia Media “Towards 2020”. *SOJOURN*, 9 (2), 178 – 199.
- Zhang, D., Guo, B., & Yu, Z. (2011). The emergence of social and community intelligence. *IEEE Computer Society*, 44(7), 21-28.
- Zicari, R. V. (2011). *From a Business Idea to a Business Plan: A Conceptual Framework for Introducing E-Services*. Retrieved (October 15, 2012) website: [http://www.dbis.cs.uni-frankfurt.de/downloads/teaching/unibator/2011\\_wise/Framework\\_RZ.pdf](http://www.dbis.cs.uni-frankfurt.de/downloads/teaching/unibator/2011_wise/Framework_RZ.pdf)

## BIODATA OF STUDENT

Norhayati Rafida A. R. has made tremendous achievement throughout her services at Universiti Sains Islam Malaysia (USIM) since 2002. She has made great contributions to knowledge by her publications and in 2003; *The Practice of Human Communication* is her first book with McGraw Hill. Besides, she is actively involved in researches activities, conferences, and consultancies, journals in both ISI and Scopus respectively. She has high interest in Negotiation and Human Communication which turns to be the niche area of her PhD Thesis. She was working with industries for seven years before joining USIM in teaching and learning. She has vast experiences in public relation, event managements, public speaking, and marketing communication and training. PhD completion is undeniably amazing that she can never imagine to happen. May more achievements come along the way of her career path and living with love, prosperity and joys.



## LIST OF PUBLICATIONS

- Muhamad Faizal, A., Siti Zakiah, M. S., Rosmawati, M. R., Norzita, Y. & **Norhayati Rafida, A. R.** (2016). Corporate Social Responsibility for Takaful Industry's Branding Image. *Jurnal Pengurusan*, Vol. 46. Pp.: 115-124
- Salhah Abdullah, Sapora Sipon, **Norhayati Rafida A. R.**, Saedah A.Ghani, Marina Munira Abdul Mutalib & Noratthiah Nordin (2014) Model Taubat al-Ghazali (M-TaG). *Ulum Islamiyyah The Malaysian Journal of Islamic Sciences*, Vol. 13 (Special Edition). pp.:19 – 37.
- Norhayati Rafida A. R.**, Siti Mashitoh, A., Alina, A. R., and NurulHusna, N. H. (2013) Expectation and Effectiveness of the Halal Slaughtering Training Towards Employability among Blue Collar Workers. *Middle-East Journal of Scientific Research*. Vol. 13(Approaches of Halal and Thoyyib for Society, Wellness and Health), pp.: 11-16
- Alina, A. R., **Norhayati Rafida, A. R.**, Syamsul, H. K. M. W., Siti Mashitoh, A. and Yusop, M. H. M. (2013) The Academia's Multidisciplinary Approaches in Providing Education, Scientific Training and Services to the Malaysian Halal Industry. *Middle-East Journal of Scientific Research*..Vol. 13 (Approaches of Halal and Thoyyib for Society, Wellness and Health),pp.: 79-84
- Kal-kausar, M.A., **Norhayati Rafida, A. R.**, NurulHusna, N.H., Alina, A.R. and Siti Mashitoh , A. (2013) Crisis Communication and Management on Food Recall in the Malaysian Food Industry. *Middle-East Journal of Scientific Research*. Vol. 13 (Approaches of Halal and Thoyyib for Society, Wellness and Health), pp.: 54-60
- Siti Mashitoh, A., **Norhayati Rafida, A. R.** and Alina, A. R. (2013) Perception towards Halal Awareness and its Correlation with Halal Certification among Muslims. *Middle-East Journal of Scientific Research*. Vol. 13(Approaches of Halal and Thoyyib for Society, Wellness and Health), pp.: 1-4
- Norhayati Rafida A. R.**, Safiyyah, A. S., Suria Hani, A. R., & Noor Adzrah, R. (2011) We Only Report What Really Happened! Journalist's Perspective on Conflict Reporting in Newspapers. *Forum Komunikasi*. Vol. 9 (1). pp.: 51-69
- Norhayati Rafida A. R.** (2012) Negotiation as a Foundation In Islamic Da'wah: Framework Analysis on The Memorandums Held In The Era Of Rasullullah (Pbuh). *Global Journal of Al-Thaqafah*. Vol 2 (1). pp.: 55-67
- Norhayati Rafida A. R.** , Alina A. R., Hafi, H., H., Saiful, B. (2012) Negotiating Interests According To Islamic Approach On HALAL Certifications: Challenges In Creating Jobs. *World Applied Sciences Journal (WASJ)*. Vol 17 (12). Pp.: 11 – 16
- Norhayati Rafida A. R.** dan Sayuti Rani (2009) The Correlation Analysis Between Da'wah Programme And TV Channels: A Case Study At Radio Television Malaysia (RTM). *Journal Center of Islamic Thinking and Understanding*, Vol. 3 (Disember 2007). Pp.: 113 -128

**Norhayati Rafida A. R.** (2005) Gender Stereotypes on Women Negotiation Skills in Conflict Resolution: A Case study at USIM. *Jurnal Ulum Islamiyyah*. Nilai: USIM. Vol 4 (1) pp.: 89 – 110





## UNIVERSITI PUTRA MALAYSIA

### STATUS CONFIRMATION FOR THESIS / PROJECT REPORT AND COPYRIGHT

ACADEMIC SESSION : \_\_\_\_\_

TITLE OF THESIS / PROJECT REPORT :

NEGOTIATION APPROACHES, INITIAL POSITION AND CHOICE OF COMMUNICATION  
MEDIUM IN SOLVING ENVIRONMENTAL CASES IN MALAYSIA

NAME OF STUDENT: NORHAYATI RAFIDA BINTI ABDUL RAHIM

I acknowledge that the copyright and other intellectual property in the thesis/project report belonged to Universiti Putra Malaysia and I agree to allow this thesis/project report to be placed at the library under the following terms:

1. This thesis/project report is the property of Universiti Putra Malaysia.
2. The library of Universiti Putra Malaysia has the right to make copies for educational purposes only.
3. The library of Universiti Putra Malaysia is allowed to make copies of this thesis for academic exchange.

I declare that this thesis is classified as :

\*Please tick (✓)

☐

**CONFIDENTIAL**

(Contain confidential information under Official Secret Act 1972).

☐

**RESTRICTED**

(Contains restricted information as specified by the organization/institution where research was done).

☐

**OPEN ACCESS**

I agree that my thesis/project report to be published as hard copy or online open access.

This thesis is submitted for :

☐

**PATENT**

Embargo from \_\_\_\_\_ until \_\_\_\_\_  
(date) (date)

**Approved by:**

\_\_\_\_\_  
(Signature of Student)  
New IC No/ Passport No.:

Date :

\_\_\_\_\_  
(Signature of Chairman of Supervisory Committee)  
Name:

Date :

[Note : If the thesis is **CONFIDENTIAL** or **RESTRICTED**, please attach with the letter from the organization/institution with period and reasons for confidentiality or restricted. ]