

**USING FUZZY LOGIC TO IDENTIFY SIGNIFICANT
FACTORS OF NEGOTIATION PERFORMANCE**

By

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LIST OF ABBREVIATIONS

BERNAMA	Malaysia News Agency
MATRADE	Malaysia External Trade Development Corporation
CIDB	Professional Services Development Corporation
EPU	Economic Planning Unit
GDP	Gross Domestic Profit
EU	European Union
MENA	Middle East and North Africa Region
PPP	Public Private Partnership
IMF	International Monetary Fund
NSS	Negotiation Support System
BATNA	Best Alternative To Negotiation Agreement
GA	Genetic Algorithm
Nego-DES	Negotiation Decision Expert System
JGAP	Java Genetic Algorithms Package
GOOA	Global Oriented Organization Accreditation

PENGGUNAAN LOGIK KABUR UNTUK MENGENALPASTI FAKTOR PENTING DALAM PRESTASI PERUNDINGAN

ABSTRAK

Terdapat banyak interaksi sosial dan perniagaan yang melibatkan perundingan, di mana peserta boleh bekerjasama untuk mencapai hasil yang saling menguntungkan kedua-dua belah pihak, atau persaingan untuk mendapatkan tawaran yang terbaik oleh satu pihak berbanding pihak yang lain. Dalam konteks ini, rundingan boleh ditakrifkan sebagai satu proses yang melibatkan dua atau lebih pihak untuk menyelesaikan setiap apa yang boleh diberi dan diambil, atau dilaksanakan dan diterima, dalam urusan niaga di antara mereka.

Rundingan dianggap sebagai salah satu aktiviti yang paling penting yang dilakukan oleh seorang pengurus setiap hari di dalam membangunkan perniagaan dalam pasaran yang berlainan. Ia dijangka mengambil kira-kira lima puluh peratus daripada masa kerja mereka. Walaupun ia memakan masa dan usaha yang banyak, kadar kegagalan rundingan yang dilaporkan adalah tinggi, yang sering menyebabkan perunding gagal untuk mencapai penyelesaian bersama.

Kajian ke atas penutupan perjanjian pada rundingan dan perniagaan tertumpu sama ada kepada gaya pembuatan keputusan atau pendekatan dan taktik yang diguna oleh perunding. Sejarah telah menunjukkan bahawa dunia sebenar terdiri daripada faktor-faktor pelbagai dimensi dan dipengaruhi secara besar-besaran, di mana sebab dan akibat adalah tidak tepat, keseimbangan seketika, dan dengan corak berulang dan prestasi yang tidak menentu. Dilihat dari perspektif ini, satu pendekatan baru dan pemikiran yang berbeza adalah diperlukan untuk melihat di dalam membangunkan model pelbagai dimensi dan menjana strategi yang membawa kepada pemahaman

yang lebih baik dalam mentafsirkan interaksi perniagaan dan penutupan perjanjian tanpa kehilangan nilai dalam keadaan yang berbeza atau dengan pelbagai pihak.

Kajian ini membentangkan metodologi dengan model pelbagai dimensi, dan keputusan dan sistem sokongan yang berasaskan peraturan kabur bagi membantu pembuat keputusan perniagaan di Malaysia untuk memahami dan mengenal pasti faktor-faktor yang mempengaruhi penutupan perjanjian perniagaan dengan rakan-rakan mereka di Timur Tengah dalam dunia yang cepat berubah dan tidak statik. Peraturan kabur "IF-THEN" menggunakan pembolehubah linguistik yang dianggap berkesan kepada hasil rundingan yang dijana. Satu kaedah algoritma berasaskan genetik dibangunkan untuk mendapatkan set peraturan kabur yang optimum. Di samping itu, sistem kesimpulan kabur diwujudkan untuk menilai prestasi hasil rundingan.

Hasil kajian ini mendedahkan bahawa rundingan tidak harus dilihat sebagai kemahiran yang sangat peribadi. Ia mengesahkan kesan yang kuat oleh dimensi organisasi serta aspek-aspek yang ketara dan tidak ketara daripada perjanjian itu sendiri. Tambahan pula, kajian ini juga menyokong bahawa perspektif dalam rundingan bukanlah di antara membuat keputusan atau proses penyelesaian masalah, ia adalah lebih ke arah mod disiplin yang bercampur.

USING FUZZY LOGIC TO IDENTIFY SIGNIFICANT FACTORS OF NEGOTIATION PERFORMANCE

ABSTRACT

Many social and business interactions involve negotiation, in which participants may cooperate to achieve a mutually beneficial outcome that serves both parties, or compete to get the best deal for a party over the other. Within this context, negotiation can be defined as the process whereby two or more parties attempt to settle what each shall give and take, or perform and receive, in a transaction between them.

Negotiation is considered as one of the most important activities that managers do on a daily basis in developing business in different markets. It is estimated to consume about fifty percent of their working time. Even with such lengthy consumption of time and effort, negotiation failure rate is reported to be high, which often leads negotiators to fail to achieve a mutual settlement.

Studies on negotiation and business deal closure are focused on either decision making style or the approaches and tactics used by negotiators. History has revealed that the real world consists of multidimensional factors with mass influences, where cause and effect are imprecise, equilibrium momentary, and with repeated patterns of irregular performance. Viewed from this perspective, a new approach and different mindset is required to look into developing multidimensional model and generating strategies that lead to better understanding in interpreting business interaction and deal closure without losing its value in different situation or with diverse parties.

This study presents a methodology with a multidimensional model, and a fuzzy rule-based decision support system that assists Malaysian's business decision makers to understand and identify factors affecting the business deal closure with their Middle East counterparts in a non-static fast changing world. "IF-THEN" fuzzy rules using linguistic variables that are considered to impact the outcome of the negotiation are generated. A genetic algorithm-based methodology is developed to obtain the optimal set of fuzzy rules.

In addition, a fuzzy inference system is created to assess the negotiation outcomes' performance.

The findings of this study revealed that negotiation should not be viewed as very personal skills. It validated the strong impact of organizational dimension as well as the tangible and intangible aspects of the deal itself. Furthermore, this research is in support with the perspective that negotiation could not be either a decision-making or a problem solving process; it is more toward a mixed mode discipline.

CHAPTER 1

INTRODUCTION

1.1 Introduction

The present research focuses on the aspects of negotiation and factors affecting deal making, taking Malaysian organizations in the Middle East market as observed cases. It attempts to combine the efforts of researchers that emphasize the possibility of fusing different negotiation approaches and introduce a new perspective to the negotiation literature.

As the field of negotiation is largely governed by different cultural and behavioral factors, we refer to history to explore previous business relations between the Far East and Middle East to understand the factors that influenced business transactions between the two regions and identify the prospective changes. Subsequent sections are in narrative mode to allow the reader to capture the old era and the forces that govern business transaction between nations.

Throughout human history, the desire for something better and greater has motivated people to optimize their efforts, activities, and actions to meet their needs and aspirations. Consequently, people have discovered the benefits and advantages of collaboration for protecting their existence and defending their rights. The need for negotiation to resolve the confrontations has naturally followed. Thousands of years ago, our ancestors have spread across the earth migrating and populating all the continents. Traveling to the far corners of the world they have searched for better life, spread the word of their God and convert others to their faith, ensuring security and extending political power or simply fulfilling their curiosity and wanderlust in discovering new boundaries.

Tendencies and transactions have marked the commercial history in strengthening the bonds of different nations and ethnicities across the globe. The awareness of others has raised questions of culture and identity, and generated a set of attitudes, values, and assumptions about “strangers,” which influenced the manner of dealing with each other. As a result, many schools of thought have developed theories aimed at interpreting the complex factors involved in the interaction between different groups to predict and adjust their satisfaction, success, and performance. Each of these schools of thoughts is driven by different concerns and agenda even though they have certain commonalities regarding the cause and effect, ordinary relationships, and an assumption of the world of perfect competition with an average level of returns and predictable outcomes. However, history has revealed that this is not the reflection of the real world which consists of multidimensional factors, where cause and effect are imprecise, equilibrium is momentary, and repeated patterns occur irregularly. Following this perspective, a new approach is required to look into developing a multidimensional model that can generate strategies leading to a better understanding of business interactions and relevant factors for deal closure, without losing its value in diverse situations.

In order to explore in greater detail the business relationships between the people of the Middle East and the Far East region, the following section looks into the history to identify the relevant evidence.

1.2 The Commercial History between Arabs and the Southeast Asia Region

Early evidence indicates a long history of trading links between the Indian Subcontinent and other places. Mesopotamia (modern day Iraq) has been known to have had contacts with the Indus Valley civilization from about 3000 years BC,

whereas Egypt marked its presence in the commercial history by opening trade routes to south India in the Ptolemaic period (4th century BC) subsequently to Rome and the Mediterranean. Ships were sailing goods between the Red Sea and India with the main maritime routes starting at Canton (Guangzhou), passing through Southeast Asia, the Indian Ocean, the Red Sea, finally reaching Alexandria, and vice versa. “The first evidence of Indus contacts with Persian Gulf and with Mesopotamia occurred in the mature period in the latter part of the third millennium B.C.” (Shaikh, 2000). “Excavations in Bahrain, Eastern Arabia, Failaka Oman and Tarut, and research on the existence of the Persian Gulf trade attest to the existence of contacts by sea between the Indus world, the Persian Gulf, and Mesopotamia during the mature Indus period” (Shaikh 2000). Arab traders thus provided a fundamental link between Eastern trade products and the European Market.

By the year A.D 878, when Khanfu (China) a town principally visited by Arab merchants fell to a rebel named Huang Ch’ao, the Arab traders were prevented from visiting Canton (Guangzhou). Instead, they preferred to dock in Malaysian port. “The Arab marines now gave up visiting Canton and stopped short in Malaysia, in the Sumatran Empire of Crivijaya, which was then enjoying a period of great prosperity. Why should Moslem merchants bother to go farther and become embroiled in difficult negotiations, when at their favorite Malaysian port of Zabag they could purchase “camphor, aloe, cloves, sandalwood, nutmeg, cardamom, cubeb...?” The maritime kingdom of Crivijaya played the role between China and the Arabs which the Arabs played between the Far East and the lands of Christendom” (Boulnois, 1966).

The Trans-Asian commerce highway was possibly one of the oldest and greatest trading routes in the world that brought people from different cultures,

religions, and races to interact and learn from each other. The spread of Islam in the region was channeled through trade, as can be seen from many rules of ethnics and commerce that are rooted in the Islamic religion.

By the 10th century the Arab dominance of the Trans-Asian trade routes brought them large profits. Europeans were not able to compete with this domination, and have been driven to despair trying to work out how to carve out profitable routes for themselves. The fall of Constantinople in 1453 to the Seljuk Turks and the final removal of the Moors from Spain in 1492 set a chain of events that led to the collapse of Arab control of international maritime trade, and gave birth to a new age of European colonization.

The collapse of Arab control in international maritime led to a new set of rules governing international business transactions. In order to understand those changes the section that follows discusses the differences between Eastern and Western perspectives of the world.

1.3 Characteristics of the East versus the West

The words East and West do not connote geographical dimensions only. They often imply aspects of identity, values, and character. The dichotomy between East and West has a long tradition in various disciplines and lead to controversial debates among thinkers. The relationship between the eastern and western worlds has drawn particular attention due to the increased internationalization of business and thoughts.

The self fulfillment in Eastern thinking is sovereign from materialistic aspirations. They accept the truth as given and seek for a balanced life leading to collective rights and responsibilities, strong sense of the community, tolerance, acceptance, charity, collective solidarity, discipline, and harmony. On the other hand,

Western perspective is based on the analytical approach to the universe that gives more credence to tangible factors hence individual rights, personal achievements, efficiency, equality, freedom, and justice are the ground rules in the western world (Shaikh 2000).

Nisbett (2003) in his book: “The Geography of Thought: How Asian and Westerners think differently and why” noted that Easterns typically see relationships whereas Westerns typically see categories. He noted that “there is good evidence that for East Asians the world is seen more in terms of relationships than it is for Westerns, who are more inclined to see the world in terms of static objects that can be grouped into categories” (Nisbett 2003). This is further emphasized by Hofstede (1983).

In terms of management and organizational practices, the huge body of research conducted by Hofstede (1983), reveals that four dimensions, namely power distance, individualism, masculinity and uncertainty avoidance, have different influence and control in different nations. That is further manifested through the society and the way organizations are structured and the ways people are motivated. Hofstede (1983) concludes that Arabs tend to be more closely related to Malaysians in their ways than to the other nations. Table 1.1 summarizes how Malaysia scores against Arab countries and others regions regarding the four relevant dimensions.

Table 1.1: Cultural Dimension score of Malaysian against Arab countries and other regions

Regions	PDI	INV	MAS	UAI
World Average	55	43	50	64
Latin American	70	28	41	85
Europe	45	61	59	74
Asian	64	24	58	63
Malaysia	95	30	45	40
Arab Countries	80	38	52	68

PDI: Power Distance Index; higher values indicate greater inequality in power, INV: Individualism; higher scores indicative of individual needs dominates collective needs, MAS: Masculinity; higher scores reflects more tasks supersede considerations, UAI: Uncertainty Avoidance Index; higher indicative of less risk tolerance

Source: Hofstede (1983)

Power Distance Index (PDI), which measures the value of hierarchical relationships, is higher among Eastern societies compared to the Western ones. Malaysia scored 95, which is the highest in the range and the closest to the Arab countries that scored 80. Immediately below, is the Latin America, with a PDI of 70, whereas the world average for PDI is 55. In high power distance cultures, where society class divisions are accepted, it is observed that those in high authority positions openly demonstrate their rank, while subordinates are expected to follow directions from above, and take the blame when the things go wrong.

Uncertainty Avoidance Index (UAI) deals with the society's acceptance for uncertainty and ambiguity. It indicates to what extent members of the society are comfortable in unstructured situations that differ from the ones people are usually encountering. It has been observed that people in uncertainty avoiding countries tend to be more emotional. The higher the UAI values, the less risk tolerant the society is. Regarding the UAI, Malaysia scores 40, which is less than the world average of 64, and close to the Asian then the Arab countries as they score 63 and 68, respectively.

Individualism (IDV) explains the degree to which individuals are integrated into groups. Higher scores indicate weaker ties between individuals within the society, whereas lower scores signify that collective rights are more important than individual rights. In this regard, Malaysia with its IDV of 30 is closer to IDV of 38 recorded for the Arab countries. The world average for individualism is 43, while Asia scored 24 and Latin America 28.

Masculinity (MAS) refers to the distribution of roles and values between genders. It indicates different dimension of gender assertiveness and competitiveness. Higher scores indicate that the society is more assertive and competitive, describing the masculine trait. Malaysia score 45, which is below the world average of 50 and close to the Latin America and Arab countries, which score 41 and 52 respectively, whereas the Western countries score 59.

Overall, history reveals strong business relationships between Arabs and the Far East, where cultural index shows more behavioral similarities between the two regions compared to the rest of the world. Such factors seem to be absent in governing business relationship between the Far East and Middle East at the present time. This could be attributed to the effect of colonialism, which is explored in the next section.

1.4 Colonialism Effects on Beliefs, Culture, and Business Norms

A significant stimulus for colonialism was trade. Bernstein (1992) noted that “The formulation of colonial states was central to establishing some of the conditions of generalized commodity production, including various labor regimes geared to export production” (Bernstein 1992). He noted that due to acquisition of power and economic control “ ...These activities continued and developed the forms of

European expansion that had begun in the sixteenth century, and were marked by armed conflicts between Europeans (as well as between them) and the people of the areas on which they sought to impose their domination” (Bernstein 1992). The luxury goods exported by Arab traders led Europeans to become aware of the East civilization and its sophisticated systems in controlling, organizing, and managing production. At that time, Europe could not compete with such advanced production system “This high level of material culture and social organization had in fact to be destroyed, so that European capitalism might arise and transform the world” (Bujra 1992). In fact, the Europeans were amazed by the cultural and social scheme more than by the luxury goods of the East and its production system.

Under colonialism, the occupied nations were obliged to produce for European needs. In order to further ensure the benefits from colonial countries, Europeans have destroyed the local culture of natives to their political and economic interest. Education, that was largely influencing ideas and identities of the people, was restructured to promote Western values systems.

The global economic system of the present time is largely attributed to the effects of the colonialism. Nowadays, this can be seen in commercial, banking, and monetary institutions that have a massive influence over the trade and capital flows as they continue to be centered on Western needs and programs. Within this view, a new perspective is required to model and strategize in order to bridge mutual business relations among different nations, particularly between south-south region and Eastern-Arab world.

1.5 Middle East Markets as an attractive Hub to Malaysian Companies and the Deal Closure Dilemma

At the present times, many Malaysian organizations are venturing into the Middle East markets. The favorable economic situation in the Middle East buoyed by high oil prices has created awareness among Malaysian organizations, regardless of their nature of business, of the potential size of opportunities in the market. This is motivated by their desire to expand targets, sales markets, increase production capacity, lower production costs, and diversify geographical business risks.

The considerable Middle East market opportunities inspired the attention of the Malaysian Government who began strategizing its efforts to capture a reasonable portion of the market. As reported by BERNAMA (2008)¹ many trade and investment missions have been led by ministers and senior managers of different governmental bodies, such as Malaysia External Trade Development Corporation (MATRADE), Construction Industry Development Board (CIDB), Professional Services Development Corporation (PSDC), the Economic Planning Unit (EPU) in the prime Minister's office, and a number of Malaysian organizations' representatives to secure substantial investment and trade interests in the region. These efforts should be beneficial to the Malaysian business community.

As a result, a number of Malaysian organizations managed to make inroads into the lucrative Middle Eastern market, while others are still facing market

¹ Muin Abdul Majid, Malaysian Contractors advises to form consortiums for Middle East projects May 30 2008

Manik Mehta, Malaysian Steel Industry Eyes Middle East Steel Market Oct 15 2008

Malaysian Companies seek to increase Export to Iran Oct 17 2008

Malaysia Target RM50 bln increase in Export Next year Oct 19 2008

Malaysia's MDeC Expand Middle East Operations. Oct 21 2008

Malaysia's Export Figure Still Up, Says MATRADE Oct 21 2008

challenges or have withdrawn from the market: UEM Builders Berhad as noted by their quarterly report² is a case in point.

In December of 2011, Malaysia reported a trade surplus of 8.31 billion MYR. International trade plays a large role in the Malaysian economy. Malaysia is one of the major exporters of natural rubber, palm oil, sawn logs, sawn timber, cocoa, pepper, pineapple and tobacco. The country mainly imports electronics, machinery, petroleum products, plastics, vehicles, iron and steel products and chemicals. Malaysia's main trading partners are the United States, European Union, Singapore, Japan and China³. None of the Middle East countries is listed as a main trading partner to Malaysia. This may indicate the challenges and misunderstandings faced by Malaysian executives when penetrating the Middle East market, even after considerable efforts that have been expended by the Malaysian government and its various agencies. Indeed, as quoted by Roseliah Taha (2008), the senior manager of services section at MATRADE's product and service development division, in her specialized marketing mission organized by MATRADE to Dubai and Abu Dhabi in the United Arab Emirates and Doha, Qatar; "We hope that Malaysian companies can get together and form strong partnerships by way of consortia. There are many major projects here costing billions of dollars, joining hands in consortia was viable option to grab a slice of the action". She added, "We also want the companies to get first-hand knowledge about the experience of Malaysian firms already here. They should also be well prepared to face the challenges when doing business in this part of the world"

Despite the business potential and inroads made by some Malaysian organizations there are still a number of challenges that Malaysian organizations are

² UEM BUILDING BERHAD (29354-H) Incorporated in Malaysia, Quarterly Report On consolidated Results for the Fourths Quarter Ended 31 December 2007.

³ Ttradingeconomic". Google. Retrived 2012-03-18.

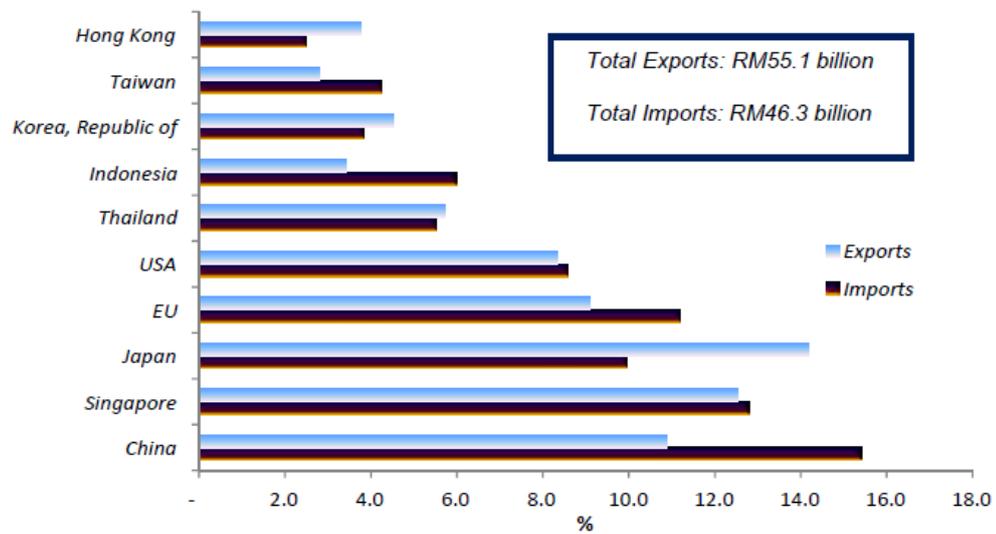
facing when entering the Middle East market. Siew Kam Soon⁴ in his email interview with ZDNet Asia says “The analyst noted that the two most critical challenges local ICT players faced were securing strong committed local partners and adapting to the local work culture”⁵

Regardless of Malaysian government’s efforts to secure a reasonable market share in the Middle East market, the Jan 2012 Statistics show that none of the Middle East countries are on the list of main trade partners of Malaysia., Furthermore, the bilateral trade between the Malaysian and Middle East counterpart is almost negligible. The figure 1.1 below illustrates this statement. The Middle East region is still considered, by most of the Malaysian senior executives, as one of the challenging markets. Due to historical social and business connections between the Arab region and the Far East, there is a significant interest motivate the researcher to explore the factors that can bridge back past successful relations. .

⁴ The Director of Frost and Sullivan’s Asia-Pacific Consulting

⁵ Edwin Yapp ZDNet Asia, August 12, 2008 ,
<http://www.zdnetasia.com/news/business/0,39044229,62044792,00.htm>

Figure : 1.1 Exports and Imports by Major Countries, Jan 2012, percentage share

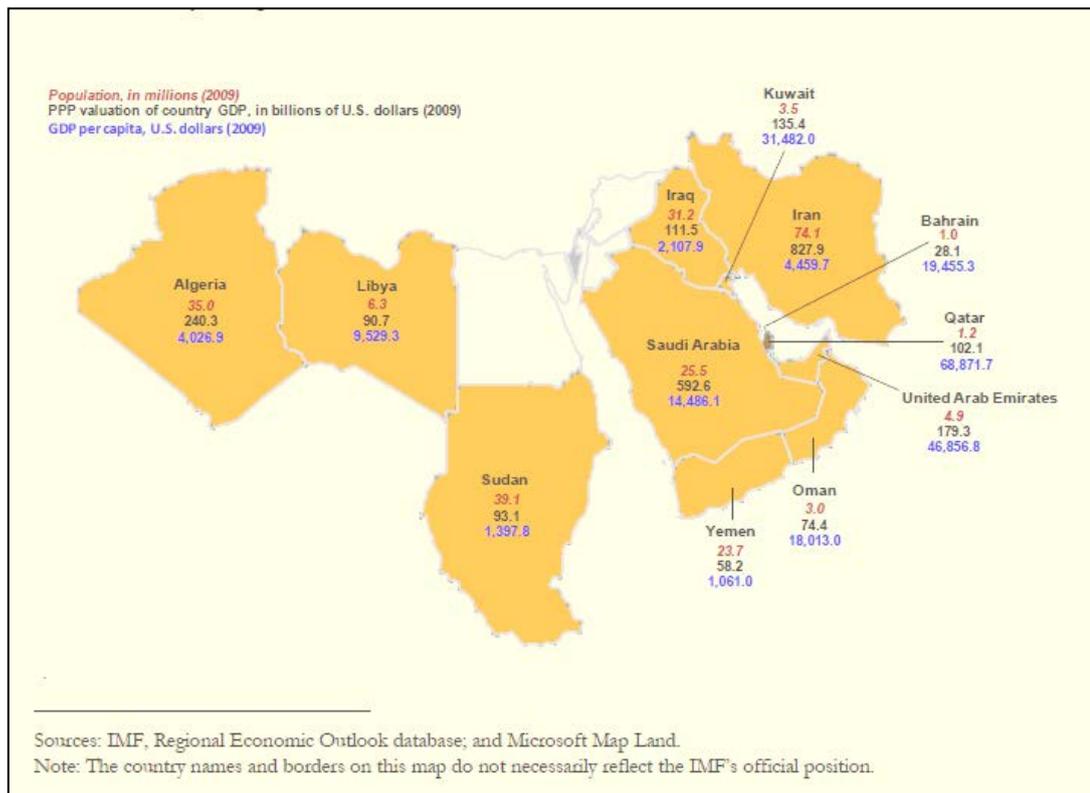


Source Malaysian Government Statistic 2012

1.6 Middle East and North Africa (MENA) Business Outlook

The impact of the global financial and economic crisis of 2009 on the Middle East and North Africa region was relatively small, except for the case of Dubai. Figure 1.2 gives an overview on the region location and some economic indices such as population, Public Private Partnership (PPP) valuation, and Gross Domestic Product (GDP).

Figure 1.2: MENA, Oil Exporting Countries



Source: Regional Economic Outlook, IMF 2010.

The post-crisis period provides an opportunity for the countries of MENA to re-evaluate their trade and growth strategies in attempts to accelerate development and create employment. MENA countries enjoyed economic growth since 2000, which was reflected in their high per capita income. However, the capital-intensive oil sector remains the principal driver for revenue and wealth creation in the region, which carries a number of burdens and challenges, such as economic dependency, weak institutions and macroeconomic volatility. In the first part of the year of 2009, crude oil price fell to US\$40 per barrel and external financing dried up, which limits the oil exporters' combined current account surplus to US\$ 53 billion in 2009 compared to a high of US\$ 362 billion in 2008. However, government spending helped alleviate the impact of the crisis on the non-oil sector, which grew by 3.6 percent. The overall economic growth of these countries was 1.5 percent in 2009.

The continued capital inflows and the recovery in crude oil prices provided the resources for economic resurgence in these countries. Higher oil prices in 2010 boosted oil exports by 31 percent to US\$ 682 billion, current accounts surplus to US\$ 140 billion, and oil GDP growth of 4.3 percent. It is notable that the governments of these countries are planning to expand spending, which will sustain domestic non-oil sector, and sustain positive overflow on the global economy, the neighboring countries and their counterparts. It has been expected that the recovery will strengthen further by the year 2011 with an overall GDP growth of 4.5 percent and most likely to be sustainable in the long run. Consequently, all countries in the region face a critical employment challenge where about 40 million jobs will need to be created in the coming decade. The public sectors and state owned organizations will not be able to create these jobs in a sustainable manner, and the task has to be driven by the private sector. A vibrant private sector will also contribute to improving economic landscape of the region, whereas new entrepreneurs will emerge to capitalize on the benefits of the considerable intraregional trade and investments motivated more by business deliberations than by political concerns (the World Bank 2011, IMF May 2010, The World Bank 2011). Table 1.2 summarizes selected economic indicators for MENA Oil Exporters. The expected opportunities created by private sector expansion in the Arab world will draw businesses from the entire world, with Malaysia being no exception to it.

Table 1.2: Selected Economic Indicators: MENA Oil Exporters

	Average 2000-05	2006	2007	2008	2009	2010	Proj. 2011
Real GDP Growth	5.3	5.4	5.6	4.4	1.5	4.3	4.5
(Annual change; Percent)							
Algeria	4.5	2.0	3.0	2.4	2.0	4.6	4.1
Bahrain	6.0	6.7	8.1	6.1	2.9	3.5	4.0
Iran, I.R.of	5.5	5.8	7.8	2.3	1.8	3.0	3.2
Iraq	...	6.2	1.5	9.5	4.2	7.3	7.9
Kuwait	7.7	5.1	2.5	6.4	-2.7	3.1	4.8
Libya	4.3	6.7	7.5	3.4	1.8	5.2	6.1
Oman	3.5	6.0	7.7	12.3	3.4	4.7	4.7
Qatar	9.0	15.0	13.7	15.8	9.0	18.5	14.3
Saudi Arabia	4.0	3.2	2.0	4.3	0.1	3.7	4.0
Sudan	6.4	11.3	10.2	6.8	4.5	5.5	6.0
United Arab Emirates	7.7	8.7	6.1	5.1	-0.7	1.3	3.1
Yemen	4.5	3.2	3.3	3.6	3.9	7.8	3.8
Consumer Price Inflation	6.0	6.8	9.9	15.5	7.3	6.6	6.5
(Annual change; Percent)							
Algeria	2.3	2.3	3.6	4.9	5.7	5.5	5.2
Bahrain	0.7	2.0	3.3	3.5	2.8	2.4	2.0
Iran, I.R.of	13.5	11.9	18.4	25.4	10.3	8.5	10.0
Iraq	...	53.2	30.8	2.7	-2.8	5.1	10.0
Kuwait	1.7	3.1	5.5	10.5	4.7	-4.5	4.0
Libya	-3.3	1.4	6.2	10.4	2.7	4.5	3.5
Oman	0.1	3.4	5.9	12.6	3.5	3.9	2.9
Qatar	3.5	11.8	13.8	15.0	-4.9	1.0	3.0
Saudi Arabia	-0.1	2.3	4.1	9.9	5.1	5.2	5.0
Sudan	7.6	7.2	8.0	14.3	11.3	10.0	9.0
United Arab Emirates	3.6	9.3	11.6	11.5	1.0	2.2	3.0
Yemen	11.6	10.8	7.9	19.0	3.7	9.3	8.4
Central Government Fiscal Balance	5.3	12.8	9.7	13.8	-0.8	2.8	4.6
(Annual change; Percent)							
Algeria	6.6	13.5	4.4	8.1	-8.4	-5.3	-4.24.6
Bahrain	4.6	4.7	3.2	8.0	-7.3	-0.8	2.1
Iran, I.R	2.0	4.7	3.2	0.0	-2.7	-0.8	-0.5
Iraq 1	...	15.5	9.7	1.7	-22.6	-19.1	-5.7
Kuwait	27.0	35.4	40.2	27.7	27.0	22.0	23.0
Libya	12.6	31.8	25.5	24.6	10.7	17.2	18.4
Oman	8.4	13.8	11.1	13.9	3.0	7.5	7.9
Qatar	8.8	9.1	12.8	11.5	12.9	10.5	15.2
Saudi Arabia	3.8	21.0	12.2	32.6	-4.6	1.9	6.0
Sudan	-0.6	-4.3	-5.3	-1.4	-4.7	-3.4	-4.5
United Arab Emirates 2	6.3	28.5	21.5	20.5	0.4	11.3	13.4
Yemen 1	0.0	1.2	-7.2	-4.5	-10.2	-5.3	-5.1

	Average 2000-05	2006	2007	2008	2009	2010	Proj. 2011
Current Account Balance	12.1	23.4	19.6	19.6	3.4	7.8	10.0
(Annual change; Percent)							
Algeria	14.0	24.7	22.8	20.2	0.3	2.5	3.4
Bahrain	5.0	13.8	15.8	10.6	4.1	5.5	5.7
Iran, I.R	5.2	9.2	11.9	7.2	2.4	2.3	1.7
Iraq	...	18.9	12.7	15.1	-19.4	-21.0	-5.5
Kuwait	27.8	49.8	44.7	40.8	25.8	31.6	32.6
Libya	20.9	44.6	40.7	40.7	16.9	24.5	25.6
Oman	9.4	15.4	6.2	9.1	0.3	2.4	3.2
Qatar	25.6	28.3	30.7	33.0	16.4	25.1	39.4
Saudi Arabia	13.6	27.8	24.3	27.9	5.5	9.1	10.8
Sudan	-9.5	-15.2	-12.5	-9.0	-12.9	-8.4	-8.5
United Arab Emirates	11.0	22.1	9.4	8.5	-3.1	7.8	7.6
Yemen	5.3	1.1	-7.0	-4.6	10.7	-3.6	-5.6

Source: Regional Economic Outlook, IMF May 2010

1.7 Problem Statement

The Middle East market is growing and its size provides opportunities for Malaysian organizations. However, Malaysian presence and its market share are insignificant. This can be explained by the breakdown in business negotiations or the failure to potentially close business deals. Why is this so?

Taking into consideration the perceptions of several Malaysian executives and businessmen in considering the Middle East market, as well as with the case of the withdrawal of UEM Builders; (where they were the first company to secure a reasonable sized project in the Middle East Market;⁶) a challenging conceptual question may arise: why is it challenging and difficult to secure committed local partners in the Middle East? Moreover, why a premiere construction and infrastructure Malaysian company withdrew from the market and could not sustain business relationship?

This research aims to understand and identify the factors affecting the business deals closure in a dynamically changing world. It aims to bridge the gaps in the

⁶ CHEAH CHOR SOOI, UEM awarded RM870m Infrastructure project. August 02 2003, http://www.emedia.com.my/curent_news/BTimes

research on negotiation and business deals closure. The identified gaps in the literature are as follows:

1. Currently, little work has been done where almost no comprehensive focus has been given to the topic of individual and organizational behavior in selecting negotiation strategy (Agndal 2007).
2. Past literature in negotiation studies has not been able to comprehensively capture the fuzzy environment that surrounds negotiations. We believe that incorporating fuzzy techniques may provide better knowledge and understanding of factors that govern bilateral negotiations.
3. Thus far, no academic research has been conducted to understand the appropriate approach to support Malaysian companies getting into the Middle East market.
4. Considerable number of research reported in the literature are based on students' situation and feedbacks, and unrelated parties. Applying these findings to real world situation is very risky (Agndal 2007).

Studies on negotiation and business deal closure are focused on either decision-making styles or the approaches and tactics used by negotiators. The effect of personality and organization characteristics in imprecise environment tends not to receive the attentions they deserve. Furthermore, no study has been conducted to account for various factors that affect business deal closure. As such, a research in modeling a structure, taking into consideration the various factors influencing the success of the negotiating process is critical. Understanding such problem in fuzzy environment will be a valuable contribution to further understand the significance of each of these factors in influencing the business deal closure and its effects on negotiation performance.

In addition, the study will identify the factors that affect Malaysian organizations' efforts to secure business deals with their counterparts, and to identify the appropriate approach to the Middle East market. Thus far, no such research has been conducted, and we hope our study will provide valuable addition to the knowledge and business practices.

In summary, this study will identify the most significant combination of factors that can help Malaysian business decision makers to close deals with Middle East counterparts.

Overall, the study will address the following questions:

- 1- What are the most significant factors that affect negotiation outcome with the Middle East market?
- 2- What is the optimum combination of factors that help decision makers to successfully close deals in the Middle East market?

1.8 Objectives of the Study

On account of the level of uncertainty in the real world, the rapid and significant fluctuations in the business environments, and due to globalization and the increase in international business flows, much research needs to be done to understand the relevant negotiation factors. This study will attempt to achieve the following objectives:

- 1- To formulate a multidimensional model for understanding factors influencing the outcome of business deals closure and negotiations.
- 2- To incorporate fuzzy logic in studying the factors affecting the outcomes of negotiation.

- 3- To generate best-set factors set involved in making and maintaining business deals in the Middle East Market.
- 4- To develop a decision-making support system that can help Malaysian decision makers to successfully close business negotiations with their Middle East counterparts.

1.9 Scope of the Study

The study will focus on investigating the factors affecting decisions involved in business deal closure that impact negotiation business performance of Malaysian companies targeting Middle East market. The personality traits and characteristics, organizational characteristics, and deal characteristics will be studied in a fuzzy context. Thus, the scope of the study will cover:

1. Decision mode by Malaysian organizations
2. Decision mode involved in relation to negotiation performance and deal closure in Middle East market.

This scope has implications in the factors governing negotiation of the two different cultures brought to the international business arena. It will cover Malaysian organizations that have already made their presence in the Middle East market, as well as, the organizations that are still facing those challenges.

The study is driven by desire to generate a multidimensional factors model leading to a creation of a decision support system. Hence, the research will not distinguish between different business sectors, and organizations' size.

1.10 Significance of the Study

This study will have significant contributions towards both managerial practices and theory development. The study will provide a new analytical approach in understanding Middle East market players. It aims to develop a decision support system that will help in clarifying the ambiguity characterized market, and bridging the gap between Malaysian organizations and their counterparts in the Middle East. It will model a concept in approaching the Middle East market to secure reliable and committed partners, and generate a successful business deal closure, taking into consideration the satisfaction level of the Malaysian decision makers. It will help in strategizing policies and procedures of government bodies involved in promoting Malaysian business sectors overseas to generate satisfactory results in penetrating such attractive market.

The study will further advance the work of Wood & Gray 1991 that tends to move collaboration alliances from practice to theory. It will explore the cognitive interaction between culturally unrelated individuals in uncertain and fuzzy environment taking into consideration the boundaries of organization characteristics. The study will make contribution to the negotiation theory by giving a comprehensive attention to the personal characteristics, organization characteristics, and deal characteristics in affecting negotiations outcomes. Furthermore, it will make use of decision-making theory in generating a decision support system in a business negotiation field. In addition, it will extend the effort of establishing fuzzy set theory; as introduced in 1965 by Zadeh (1965a, 1965b), beyond the pure science field.

This study will serve the Malaysian organizations in strategizing their move to build their presence in the Middle East Market. Moreover, it will introduce a new approach in analyzing and explaining managerial and business phenomena facing

managers on a daily basis in a high volatile business environment. Taken as a whole, the study will enhance our knowledge of business negotiation between culturally diverse individuals under uncertain environment.

1.11 Definition of Terminologies (Variables)

Throughout the thesis, a number of terminologies are repeatedly used. This section provides definitions of the common terms used in this study.

- **Global Mindset Personal Characteristics**

Global mindset represents a set of characteristics that enable managers to accept life as a balance of contradictory forces. It enables a person to successfully manage the conflicts arising from diversity and to confidently embrace new opportunities coming from adversity. Moreover, it is perceived to make people more open to adapting their behavior to change and ambiguity and, in that way, favoring the power of processes over structures (Rhinesmith 1992).

- **Knowledge**

Knowledge is the awareness, consciousness, or familiarity gained by experience or learning (Collins English Dictionary, 2009). Within the context of this research, we consider the international dimension of knowledge that includes constant scanning for relevant information on a global basis (Rhinesmith 1992).

- **Conceptualization**

Conceptualization is the act of creating something by thinking. It is inventing or contriving an idea or explanation and formulating it mentally, (free dictionary, Farelax).

- **Flexibility**

Flexibility is being open-minded and ready to change old habits in order deal with different situation in a new way. It requires being adaptable and ready to cope with the global rapid changes, (free dictionary, Farelax).

- **Sensitivity**

Sensitivity is the ability to respond to affective changes in your interpersonal environment see (free dictionary, Farelax). Within the context of this research, we consider that sensitivity requires not only sensitivity to others, but also a well-developed ego and self-concept (Rhinesmith 1992).

- **Judgment**

Judgment is the capacity to assess situations or circumstances insightfully and to draw sound conclusions, see (free dictionary, Farelax). It comes with experience and self-exposure to different circumstances and environment. Also, it is the willing to make decisions based on their experience, rather than on refined empirical data” (Rhinesmith 1992).

- **Reflection**

Reflection is a remark expressing careful consideration, see (free dictionary, Farelax). Within the context of this research, we consider that reflection is providing the necessary perspective for dealing with the next round of challenges giving us a certain sense of development and progress ” (Rhinesmith 1992).

- **Organization Characteristics**

Organization characteristics refer to a set of structures, systems, policies, procedures, norms, and climate that group people in organization to practice their daily activities, and respond rapidly to changes in their environment. In other words, it is a “series of activities that form physiology of an organization” (Rhinesmith 1992).

- **Organizational Climate**

Organizational climate is a set of conditions that exist and have an impact on individual's behavior within the organization (Denison 1990).

- **Organizational Structure**

The framework, typically hierarchical, within which an organization arranges its lines of authorities and communications, and allocates rights and duties. Organizational structure determines the manner and extent to which roles, power, and responsibilities are delegated, controlled, and coordinated, and how information flows between levels of management, see (business dictionary).

- **Corporate Communication**

Corporate communication can be defined as process of sharing information within the organization, see (business dictionary).

- **Corporate Decision Making**

The Corporate Decision making can be defined as the thought process of selecting a logical choice from available options. When trying to make a good decision, a person must weigh the positives and negatives of each option, and consider all the alternatives, see (business dictionary).

- **Corporate Leadership**

Corporate leadership can be defined, as activity or the ability to lead a group of people or an organization. In its essence, leadership in an organizational role involves (1) establishing a clear vision, (2) sharing that vision with others so that they will follow willingly, (3) providing the information, knowledge, and methods to realize that vision, and (4) coordinating and balancing the conflicting interests of all members or stakeholders, see (business dictionary).

- **Deal Characteristics**

Deal characteristics are the features that attract and lead managers to distinguish between different opportunities in the market, based on their business and organization objectives, (Roberts et al., 2007).

- **Degree of Control**

Degree of control refers to the influence in regulating one portion by another, compared to the majority position and it is never definite, whereas its nature and extent vary over time with sociopolitical, economic, ideological and technological developments, (Roberts et al., 2007).

- **Mechanism of Control**

Mechanism of Control can be defined as the aspect of controlling and managing relationship between organizations in delivering a common task. It has a bilateral form or unilateral one, (Roberts et al., 2007).

- **Negotiation Performance**

The achievement of maximized individual outcomes while arriving to a collective agreement with the intention of long term relationship (Fischhoff et al., 1980; Thompson 1991; Hyder et al., 2000).

1.12 Summary and Organization of the Remaining Chapters (Chapter Outline)

This thesis is organized into six chapters. Chapter 1 introduces the research problem, the research scope, objectives, and definitions of the main terminologies used throughout the remainder chapters. Chapter 2 reviews the relevant literature and different theories, including important studies on business negotiation and deal closure. Chapter 3 is designed to introduce the basic elements of the fuzzy approach research. Chapter 4 discusses the strategy and modeling part of the research. Also, it