Impact of cultural dimensions on the choice of outsourcing destination in Information Technology area

HyeonJeong Kim

Supervisor: Prof. R. van der Wal

Abstract

It is undeniable that culture plays a vital role in any organization especially in multinational companies that have cross culture inter-organizational relationship. It is essential to learn the importance and the impact of culture on the decision of these companies. Therefore, the present study focuses on the impact of cultural dimensions, such as individualism, power distance, uncertainty avoidance, and masculinity, on the decision of outsourcing in information technology area. Furthermore, other factors such as cost competitiveness, resources & skills, and business & economic environment are added as control variables. The data is analyzed by using SPSS: Pearson correlation and linear regression model.

Key words: Outsourcing, cultural dimensions, trust, cost competitiveness, resources & skills, business & economic environment

Table of Contents

Chapter 1: Introduction

These days, inter-organizational relationships have become more important under economic globalization such as strategic alliances, joint ventures, social network analysis, and outsourcing. Various forms of cooperation have been increasing during the past decades among outsourcing companies. In addition, due to the rapid change of technologies, companies have to constantly update new technologies that can lead to high cost of investment, and the high probability of failure. Therefore, outsourcing has become even more important especially in information technology (IT) area in order to reduce these risks and costs (Kraus & Lind, 2007). Therefore, the paper is focused on outsourcing in IT field. According to Deloitte's survey (2012), it is estimated that the organizations around the world outsource approximately $480 billion worth in IT services. With the increasing importance of outsourcing (Corbett, 2004), many studies have been conducted to find out the possible factors influencing a decision of where to outsource a company's internal process. One of the factors is trust. Trust is a crucial factor for closer cooperation between the parties (Van der Meer-Kooistra & Vosselman, 2000). Furthermore, trust is related to cultural dimensions as well.

There are many studies about culture such as grid/group culture theory or Hofstede's cultural dimensions theory. As it is seen by figure 1, grid/group culture theory can be represented as a simple graph.
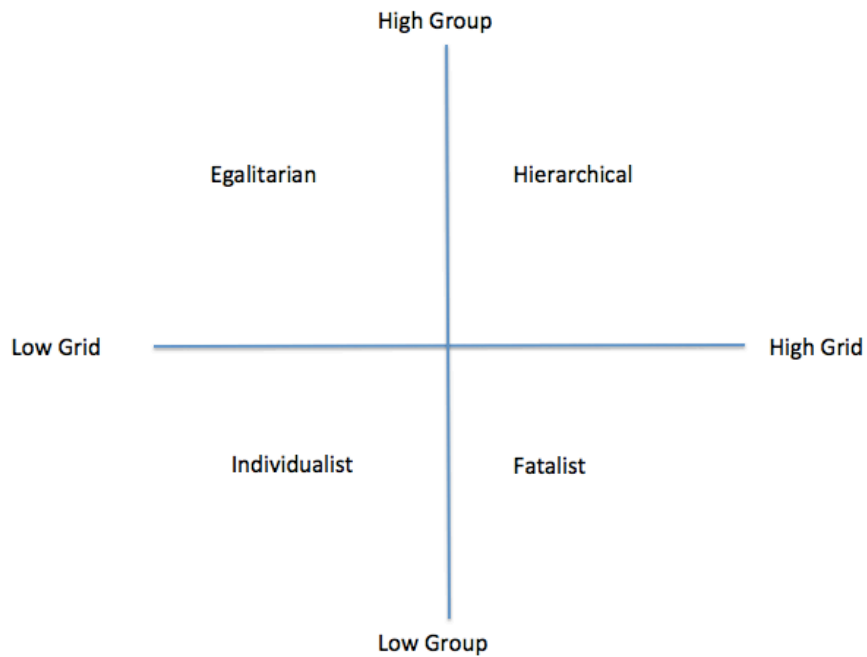
Figure 1: Grid/group culture theory

According to Biggs and Smith (2003), grid means the degree of institutionalized rules and procedures while group represents the degree of group cohesion. Two criteria lead to four classifications of culture. Egalitarians are highly cohered to groups but have lower degree of rules and procedures. People in this group are mutually cooperative but feel peer pressure. People in hierarchical part where is high in group coherence and have well-defined rules are stable and structured. They put more emphasis on strict regulation. Fatalist group represents that people are low in group coherence but have high degree of rules and procedures. People may blame others and feel powerless. People in individualistic culture where is low in group coherence and has low degree of rules are opened. They are ready to voluntarily work and used to be in unregulated environment.

However, this paper is focused on Hofstede's culture theory, as it is popular and widely known. Also, grid/group culture theory provides detailed information on individual basis while Hofstede's theory is country based. This paper aims to analyze data on country basis and thus Hofstede's theory is more appropriate in use. According to Hofstede, there are four cultural dimensions such as individualism, power distance, uncertainty avoidance, and masculinity. There are some studies about positive or negative relationships between trust and each of the cultural dimensions. These relationships will be discussed further in later chapter. Eventually,

5

cultural dimensions and outsourcing decisions are connected through trust.

The impact of national culture has not yet been adequately dealt by previous research as far as I know. One of them is a study about how individualism affects buyer-supplier relationship (Ketkar et al, 2011) or about the role of culture in building long-term buyer-supplier relationship (Canon et al, 2010). Some researchers only focused on the impact of specific cultural dimension on outsourcing. For example, Al Shammari (2004) investigated the relevance of power distance and uncertainty avoidance to outsourcing. Also, Allik & Realo (2003) found the relevance of individualism to outsourcing. However, there is hardly any research mentioning in depth about the relationship of all cultural dimensions on outsourcing in IT section. Therefore, the aim of this paper is to find out whether there are any relationships between all cultural dimensions and outsourcing decision in the absence of trust and if so, what the relationships are.

In order to find out this relationship, the research question of this paper is: *"What is the impact of cultural dimensions on the choice of outsourcing destination in IT area?"*

To answer this research question, several following sub-questions need to be answered:

1.   What are the definitions of outsourcing, trust, and cultural dimensions?

2.   What is the importance of trust on outsourcing?

3.   What is the correlation between trust and cultural dimensions: individualism, power distance, uncertainty avoidance, and masculinity?

4.   What is the impact of each cultural dimension such as individualism, power distance, uncertainty avoidance, and masculinity on outsourcing?

5.   Is there any relationship between all cultural dimensions together and the outsourcing decisions?

6.   How do the cultural dimensions' impacts on outsourcing change when other variables such as cost competitiveness, resource & skills, and business & economic environment are included?

Cost competitiveness, resource & skills, and business & economic environment are included as control variables in order to test relative effect of cultural dimensions. These variables will be discussed further later.

Based on the sub-questions mentioned, the paper is divided into five sections. In chapter 1, introduction of the paper is presented. In chapter 2, further explanations about outsourcing and the definitions of the terms (sub-question 1) are discussed. In

chapter 3, the importance of trust on outsourcing (sub-question 2) and the correlation between trust and each cultural dimension (sub-question 3) are addressed. Further, the recent flow of outsourcing and the importance of control variables are explained as well. In chapter 4, hypotheses and method are discussed. By testing correlations and regression models, three impacts are checked; i) the impact of each cultural dimension on outsourcing (sub-question 4), ii) the impact of all cultural dimensions together on outsourcing decision (sub-question 5), iii) the impacts on outsourcing decision when control variables are included in the model (sub-question 6). In chapter 5, conclusion, future researches, and limitations are stated.

Chapter 2: Definitions and outsourcing

2.1 Introduction

Firstly, the definitions of the terms used in this paper, such as outsourcing, trust, and cultural dimensions, are presented. Secondly, further information of outsourcing is discussed which is about a reason and the way of outsourcing. There are many factors that should be taken into account of outsourcing decision. These factors are addressed as well.

2.2 Definition

Lei and Hitt (1995) define outsourcing as "reliance on external sources for manufacturing components and other value-adding activities". The concept of trust is defined in many research papers. The Oxford dictionary defines trust as "… a firm belief in reliability, truth, or ability of somebody or something." Other scholars define trust as "one party's confidence that the other party in the relationship will not exploit its vulnerabilities" (Barney & Hansen, 1994), and "will behave in a predictable and mutually acceptable manner" (Dodgson, 1993).

In 1965, Geert Hofstede founded the theory of cultural dimensions that describes the effects of a society's culture on the values of its members, and how these values relate to behavior. There are four cultural dimensions. Individualism indicates individuals' self-concept whether individuals see themselves primarily as an individual or as part of a group. According to Merchant & Stede (2012), people from individualistic culture value more on their self-interest than group interests. However, collectivists do care about the groups and are motivated to maintain interpersonal harmony. Power distance relates to the extent to which members of a society accept that institutional or organizational power is distributed unequally. People who are high in power distance are more likely to accept centralization of authority and less likely to provide their own opinions for decision process. On the other hand, when power distance is low, people are more actively participate in the process (Merchant & Stede, 2012). Uncertainty avoidance relates to the degree individuals feel uncomfortable when the situation they face is ambiguous. People who are high in uncertainty avoidance are likely to be afraid of high risk and ambiguity. Thus, they want to eliminate or reduce risk (Merchant & Stede, 2012). In contrast, people low in uncertainty avoidance are less rigid and feel

comfortable with few rules. Some researches assert that people from high uncertainty avoidance cultures are usually more aggressive, while people form low uncertainty avoidance cultures seems lazy (Francis, 2010). Masculinity relates to the preference for achievement, assertiveness, and material success (Merchant & Stede, 2012). According to Hofstede, people high in masculinity prefer achievement, heroism, assertiveness, and material success. Also, the employees prefer to be rewarded based on hard performance. On the contrary, people high in femininity care for the weak, relationships, modesty, and quality of life. The people want equitable allocations based on need (Merchant & Stede, 2012).

2.3 Reason and the way of outsourcing

Before moving on to test the relationship between cultural dimensions and outsourcing, it is important to discuss why firms decide to outsource and how they do it. Maskell, etl al. (2007) argue that firms outsource not only to take cost advantages but also to improve quality and innovation. In order to implement outsourcing strategy, it follows four steps (Mclvor, 2000). Firstly, identify the core and non-core activities. Secondly, analyze the competencies of the company by evaluating the relevant value chain activities. Thirdly, measure all the actual and potential costs of core activities. Fourthly, analyze the relationships with suppliers.

Following the stages, there are still many factors that should be taken into account. In general, firms choose outsourcing when in-house costs of production are higher than the costs of production by outsiders. However, considering the differential cost perspective or transaction costs is only a cost-based and short-term approach (Arnold, 2000).

There are more factors that should be in consideration further such as information asymmetry, quality of products, and asset specificity (Vining & Globerman, 1999). It is also necessary to check the credibility of the company as trust plays an important role in outsourcing decision. This is because some factors may lead to principal-agent problem. This problem raises as principal hires an agent but do not sure that the agent works towards the principal's interest. According to agency theory, people are self-interested and thus what the principal wants and the agent's desire usually are not the same. In order to minimize the agency cost, it is important to figure out whether the outside company's goals are aligned to the firm before it chooses to outsource.

In addition, some factors may cause opportunism of contractee that is negatively related to trust (Mukherjee, 2003). Information asymmetry occurs when one party has more information compare to the other party. Therefore, this increases the probability of opportunism by contractee. The party to contract is informed more thus, it may only concern its own advantages. This makes the contractors more difficult to believe that the quality of products is good (Vining & Globerman, 1999). This causes a problem as quality of products affect user satisfaction and thus, influences the firm's profit as well (Chakrabarty et al, 2008).

Furthermore, asset specificity has negative impact on outsourcing decision (Ang, 1998). There is a risk that the contractees will behave opportunistically if asset specificity is high, for example, by threatening with price. According to transaction cost economics (TCE), it assumes that the probability of opportunism increases as asset specificity increases (Hill, 1990). Based on TCE, transaction costs do not only include implementing and maintaining costs but also drafting, negotiating, and safeguarding costs (Joseph, 2004). As there is a risk of opportunism, this behavior is predicted and reflected to the costs, which in turn, increases safeguards cost enormously. Safeguards are designed to protect the party from the opportunistic behaviors. This may be costly as monitoring or negotiating costs are included. However, Todd & John (1996) argue that trust can lower this safeguard cost (for example, by reducing monitoring costs as each party is confident in the other's performance), thereby economizing on transaction costs which in turn, altering the efficient boundaries of the firm.

The opportunistic behavior can also be presented on game theory.

		South	
		Frugal	Profligate
North	Frugal	(3,3)	(0,5)
	Profligate	(5,0)	(1,1)

Figure 2: The Eurobonds Game

In figure 2 (Reiss, 2013), playing (frugal, frugal) is a better Nash equilibrium for both sides. However, one party has an incentive to play "profligate" and the other party predicts this. Therefore, it ends with playing (profligate, profligate). If two parties bargain to choose "frugal", this still may not end with (frugal, frugal) due to the opportunistic behavior. For example, South suggests North to choose "frugal". In this

case, North knows that South will definitely play "frugal". Thus, North has a strong incentive to play "profligate" and be able to get a higher payoff. This bargaining cost, which is the cost incurred to achieve agreeable outcome among the parties, is included in transaction costs as well. However, this cost may be wasted due to the opportunistic behavior of one party. This usually becomes a problem for one-shot game. Infinitely repeated game is a different matter because always playing "profligate" is not a dominant strategy anymore (Aumann, 1959). One party starts to play "nice" strategy and observes the other's behavior. If the other party also plays "nice", then both parties continue to do the same.

The figure below provides brief view of the decision rule of outsourcing.
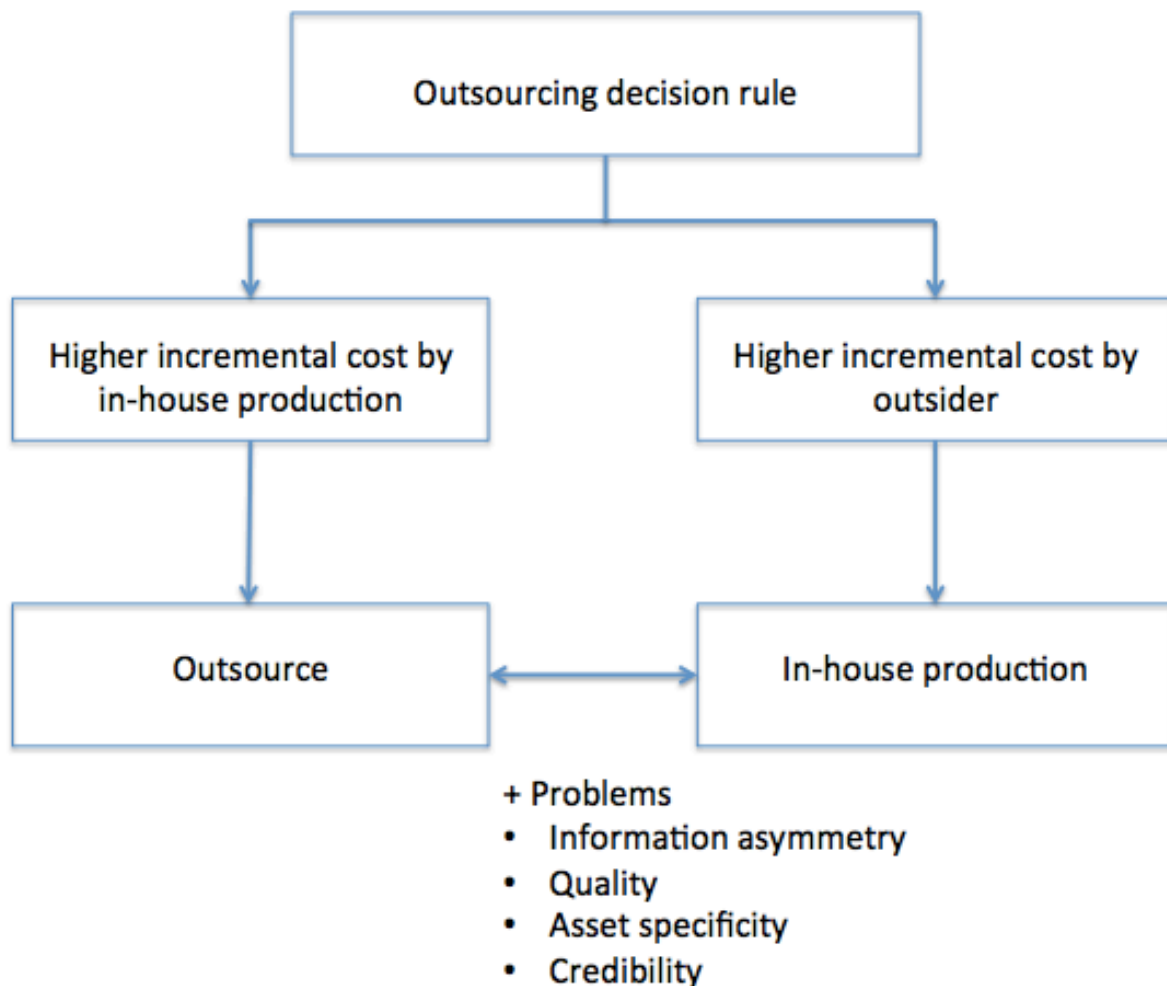
Figure 3: Outsourcing decision rule

If it is considered to reduce cost when produced by outsider, a firm is better off by outsourcing. However, there are more things to consider as the problems may increase the transaction cost. Therefore, considering the factors and the situations,

such as information asymmetry or trustworthiness, are crucial in order to succeed in outsourcing decision-making. The relationship between trust and outsourcing decision will be further discussed in chapter 3.

2.4 Summary

In this chapter, definitions of the terms are discussed. Also, cost is not the only factor that should be taken into account of outsourcing decision. There are many factors to be considered before making outsourcing decision. There can be a problem of opportunistic behavior due to information asymmetry or asset specificity. Higher probability of opportunism may increase transaction cost. Therefore, it is important to get the basic information of other party such as trustworthiness. Trust can reduce opportunistic behavior and thus it is one of the crucial factors to be considered.

Chapter 3: Relationships between trust and other factors

3.1 Importance of trust on outsourcing

The importance of trust in inter-organizational relationships such as outsourcing has been emphasized in many studies. Van der Meer-Kooistra & Vosselman (2000) argued that trust is a crucial factor in inter-firm relations in which closer cooperation between parties is required. Also, opportunistic manner will be limited through trust which can lead to the strong support alliances between business partners (Krishnan, Martin & Noorderhaven, 2006). In addition, Dyer & Chu (2000) asserted that trust has been claimed to reduce the hazards of working together and drawing up extensive contract especially in the IT industry where level of asset specificity is high. Trust seems to play an important role in outsourcing decision. On the other hand, trust can also lead to over-investment or less control in this inter organizational relationship and this can cause high cost (Wicks, Berman, & Jones, 1999). However, this paper does not take into account this negative effect on outsourcing since this negative effect can be minimized by contract and background check (company always tends to check the reputation of their partner before signing the deal).

3.2 Correlation between trust and individualism

According to Realo, Allik & Greenfield (2008), the correlation between interpersonal trust and institutional collectivism practice is significantly positive. It means that a country with higher interpersonal trust score will have lower individualism (or higher collectivism). Using the World Value Survey measures which indicate a wide extent of trust beyond immediate family and kinship, individuals with such a wide range of trust are less inclined to support individualism society. In the same thought with those researchers, many social scientists such as Etzioni (1993) and Iane (1994) also claim that due to the rapid society development and the change of advanced technology, people tend to be more self-interest; they do not align their goals with the political and society value. Consequently, it leads to the unlimited growth of individualism and a reduction of mutual trust. However, the existing data proves the other way around, and gives no support for such a pessimistic prediction. In other words, individualism seemed to be more inclined to trust each other and a relatively strong public spirit. Adam Smith used to illustrate this strong spirit and stated, "Society is the mirror in

which one catches sight of oneself". In fact, in "Introduction to Adam Smith's Theory of moral sentiments," Haakonssen (2002) also agreed that in order to recognize the difference among individuals, people tend to interact each other and try to understand the reasons for other people's behavior meanwhile the understanding how others see us actually shapes our view about who we really are. As a result of this, the independence of each individual may be considered as a prerequisite for establishing mutual trusting and voluntary associations. Putnam (2000) gave another explanation about the positive relationship between individualism and trust. According to him, despite all the autonomy, self-interest and independence, people recognize that they will not benefit individual unless they pursue their goals collectively. Thus, people are brought together merely based on self-interest, and such interaction leads to a higher level of mutual trust than expected (Beem, 1999).

3.3 Correlation between trust and other cultural dimensions

Most of researchers found that hierarchical order leads to lower interpersonal trust. For example, in Trust, Well-Being and Democracy (1999), Inglehart claimed "democracy makes people happy and trusting". Hence, the more people live in the hierarchical order, the higher power distance they feel, and the less likely to trust other people. In the same thought, Hofstede (1980) stated that people in nations with high power distance mostly obey superiors, prefer superiors exercising leadership, and do not expect to participate in decision-making. Meanwhile, in low power distance culture, people want their superiors to consult with them (Lam et. al, 2002) and freely discuss with their superiors about their points of view, which in turn, lead to a closer relationships with superiors than in high power distance society. Due to such a free and open communication, together developing and sustaining social harmony, and sharing common goals help promoting trust in the organization (Huff, Couper & Jones, 2002). In other words, the correlation between trust and power distance is negative.

In 1997, Inglehart believed that higher uncertainty avoidance has negative impact on interpersonal trust. People with high uncertainty avoidance, they are more likely to trust themselves and their family, and less likely to trust outsiders.

Unfortunately, no well-known research about the correlation between trust and masculinity could be found as far as I know. Therefore, it will be tested in the paper using empirical data.

In conclusion, there are some correlations between trust and cultural dimensions. And due to the link between trust and outsourcing as mentioned above, an important question is raised: is there any relationship between outsourcing and these cultural dimensions? The relationships between outsourcing and cultural dimensions will be discussed later.

3.4 The recent flow of outsourcing

According to Wursten (2008), the outsourcing landscape is from countries such as America, United Kingdom, European countries to India, Philippines, and China (top outsourcing destination ranking in 2013). In cultural terms, these come from high individualistic countries to low individualistic ones and from a lower power distance to a higher power distance society. Individualism seems to have negative effect and power distance has positive effect on outsourcing index. This can be partly explained by Allik & Realo (2003). According to them, the countries with higher levels of social capitals, such as UK or US, tend to be more individualistic. In countries with lower power distance, companies are more willing to be decentralized and let the goods or services produced by outsiders (Al Shammari, 2004). In other words, countries with higher power distance would receive outsourcing from those countries. In addition, Al Shammari also asserts that uncertainty avoidance may be relevant to outsourcing index. In his perspective, firms internalize activities and even do not accept outsourcing to avoid risk in high uncertainty avoidance culture. According to Pradihan & Abraham (2005), IT sector prefers to have employees who are hard working, patient, attentive, less aggressive, and better interpersonal skills. Therefore, the outsourcing destination is referred to have femininity rather than masculinity culture.

3.5 Importance of three control variables

Outsourcing allows companies to maximize the profit by making full use of external capabilities, innovation and investment; and finally, providing better service, quality and cost to the customer. Outsourcing can only be effective when the cost of the outsourcing is minimized. In other words, the cost competitiveness of the outsourcing destination determines the price of the outsourcing product, which in turn, influences the profit of company (John, 2006).

Resources and skills are also important elements in outsourcing decision. Outsourcing

company has a tendency to transfer its process to a country with large labor force in which is much cheaper to hire. Besides, skills and talented employees are required in order to run activities effectively. Readily available IT skills and good language skills contribute a big amount to the success of outsourcing services especially in IT area (Zhao & Watanabe, 2008).

A country is able to create stable economic and business environment to the foreign customers with strict regulation and supervision. In order to gain the trust of the customer, a restriction on data protection is required (Zhao & Watanabe, 2008). In this case, investors feel that they are protected from the possible fraud and high probability of loss.

These three factors have strong impact on outsourcing decision. Therefore, including them as control variables make it possible to find out relative effect of cultural dimensions on outsourcing decision.

3.6 Summary of arguments

There are different arguments from many researchers so far. Some assert that there is a positive relationship between the variables while the others do not agree. Figure 4 summarizes different kinds of arguments in one table.

Author	Argument	Method	Conclusion
Van der Meer-Kooistra & Vosselman	Trust is a crucial factor in inter-firm relations	Building model, case research	Positive relationship between trust and outsourcing
Krishnan, Martin & Noorderhaven	Trust reduces opportunistic manner	Empirical data	Positive relationship between trust and outsourcing
Dyer & Chu	Trust reduces the hazards of working together	Statistics model	Positive relationship between trust and outsourcing
Wicks, Berman & Jones	Trust may lead to over-investment	Theoretical framework	Negative relationship between trust and outsourcing
Realo, Allik & Greenfield	Radius of trust	Empirical data	Negative relationship between trust and individualism
Etzioni	Due to the rapid change of technology, people become more self-interested and do not align their goals with others	Empirical study	Negative relationship between trust and individualism
lane		Empirical study	Negative relationship between trust and individualism

Haakonssen	Independence of individuals is a prerequisite for establishing mutual trust	Theoretical framework	Positive relationship between trust and individualism
Putnam	People will not benefit individuals unless they pursue their goals together	Empirical study, data, interviews	Positive relationship between trust and individualism
Beem	Interactions of individuals leads to a higher level of trust	Case study	Positive relationship between trust and individualism
Inglehart	People living in hierarchical order do not likely to trust others	Empirical study	Negative relationship between trust and uncertainty avoidance
	People high in uncertainty avoidance are more likely to trust themselves	Empirical study	Negative relationship between trust and power distance
Hofstede	People high in power distance obey superiors and do not participate in decision making	Building model	Negative relationship between trust and power distance
Lam et. Al	Free discussion leads to closer relationships with superiors	Empirical study	Negative relationship between trust and power distance
Huff, Couper & Jones	Open communication or sharing common goals help promoting trust	Experiment	Negative relationship between trust and power distance

Figure 4: Summary of arguments

Most researchers argue that there is a positive relationship between trust and outsourcing as trust is a crucial factor reducing hazards of working together. There are many opposite arguments about the relationship between trust and individualism. This relationship is tested in the later chapter. Also, many authors assert that there is a negative relationship between trust and power distance. The idea supporting this argument is that people low in power distance are more likely to participate and maintain closer relationships with superiors which in turn leads to build trust in the organization. An author believes that there is a negative relationship between trust and uncertainty avoidance as people high in this dimension are more likely to trust themselves instead of others.

Chapter 4: Methodology and results

4.1 Sample

In the beginning, in order to find a correlation between trust and each of cultural dimensions, 75 countries are selected due to their availability of trust and cultural dimensions index. In the process of finding the relationship between cultural dimensions and outsourcing, outsourcing index of best 38 locations in IT section is used. This index shows the countries which have the most contract of outsourcing in IT area. The idea of choosing only top ranking outsourcing destination represents that the focus of this study is to explain the reason why these countries are in the best interest of many investors. However, due to the lack of cultural dimension index, out of 38 top outsourcing locations, only 28 nations are chosen. This can lead to the bias which will be mentioned in the limitation part.

4.2 Data

In order to measure interpersonal trust, trust index from World Value Survey is used. The trust index is calculated by getting the average percentage of respondents saying, "Most people can be trusted" minus average percentage of people answering, "You can never be too careful when dealing with others".

The entire cultural dimensions index is collected from "*The Hofstede Center.*" This index is calculated based on the criteria of Geert Hofstede's cultural dimensions.

Outsourcing index of top 38 destinations in IT field and three additional control variables, such as cost competitiveness, resources & skills, and business & economics environment, are acquired from "*Sourcingline.*" SourcingLine.com is a leading provider of data, tools, directories and reviews on the global services market and service providers. Their current focus is on the IT services market. Outsourcing index is based on number of outsourcing contract in each country. Beside this index, countries have been scored across dozen of criteria which fall into three major ones. Firstly, cost competitiveness index is based on salary of specialists (software engineer, IT managers, etc), real estate, and taxes. Secondly, resources and skills index is built on workforce size, basic education, educational achievement, university graduate, technology readiness, and English speaking population. Thirdly, business and economic environment index depends on economy competitiveness,

infrastructure, macroeconomic stability, labor market efficiency, regulation, corruption perceptions, legal protection, and intellectual property (protection and software piracy).

4.3 Hypotheses

As mentioned above, trust is believed to be one of the main characteristics to maintain a long-term relationship between parties and hence, enhancing the outsourcing probabilities. In addition, due to the lack of literature support for the relationship between cultural dimension and outsourcing, the correlations of trust and each of the cultural dimensions are checked first. The null hypothesis is:

H_0: *There is no correlation between two variables*

The four alternative hypotheses are:

H_1: *Trust and individualism are significantly positively correlated*

H_2: *Trust and power distance are significantly negatively correlated*

H_3: *Trust and uncertainty avoidance are significantly negatively correlated*

H_4: *Trust and masculinity are significantly negatively correlated*

Due to the possible correlation between trust and each of the cultural dimensions, cultural dimension may have impact on outsourcing, the null hypothesis is:

H_0: *There is no impact of each cultural dimension on outsourcing index*

The fifth and sixth hypotheses are:

H_5: *Individualism has a significant negative impact on outsourcing index*

H_6: *Power distance has a significant positive effect on outsourcing index*

According to the literature framework mentioned above by Al Shammari (2004), Pradhan and Abraham (2005), the seventh and eighth hypotheses are:

H_7: *Uncertainty avoidance has a significant negative impact on outsourcing index*

H_8: *Masculinity has a significant negative impact on outsourcing index*

Above four hypotheses are tested separately using single regressions first and then the four variables are added up in a multiple regression model that is:

Outsourcing index=a*individualism + b*power distance + c*uncertainty avoidance + d*masculinity + e

Finally, three control variables: cost competitiveness, resources & skills, and economics & business environment are added into the regression model to test H_5 to H_8. This is tested by the regression model:

Outsourcing index=a*individualism + b*power distance + c*uncertainty avoidance + d*masculinity + e*cost competitiveness + f*resources & skills + g*economics & business environment + e

4.4 Methodology

The investigation is based on data of many countries at the same point of time. Hence, the data is considered as cross-sectional data (Babbie, 2006). The analysis of these data is carried out by SPSS. First, Pearson Correlation is generated to find out the possible relationship between trust and each cultural dimension. Second, linear regression model is conducted with outsourcing index as a dependent variable while each cultural dimension, in turn, is independent variable. Third, all the cultural dimensions at the same time are inserted into the model in order to check whether all the cultural dimensions have any significant effect. Fourth, three control variables such as cost competitiveness, resources & skills, and business & economic environment are strongly believed to be one of the most important indicators for choosing outsourcing destinations. Therefore, three of them are added into the regression in order to make the model complete. Last but not least, if there is any significant relationship between the cultural dimension and outsourcing index, other forms of regression such as logarithm model will be conducted.

4.5 Validity of regression model

Before moving on to test regression model, it is important to check the validity of the model. The figure below represents the predictive validity framework studied by Libby et al (2002):

Independent Variables *Dependent Variables* *Control Variables*

Conceptual	**CONCEPT A** Analyst's Relationship-Based Incentives	→ 1 →	**CONCEPT B** Forecast Accuracy

| *Operational* | **OPERATIONAL DEFINITION A** Underwrite Follow Not Follow | → 4 → | **OPERATIONAL DEFINITION B** Signed Forecast Error on Experimental Case | ← 5 ← | **OTHER POTENTIALLY INFLUENTIAL VARIABLES** Subject Background, Experience, Time on Task, Information Available |

(Link 2 from CONCEPT A to OPERATIONAL DEFINITION A; Link 3 from CONCEPT B to OPERATIONAL DEFINITION B)

Figure 5: Predictive validity framework

According to Libby et al (2002), there are five links to be assessed before testing the model; i) external validity (link 1); relationships of concepts and theories, ii) construct validity (link 2 and 3); relationships between operational definitions and concepts, iii) internal validity (link 4); relationship between dependent and independent variables, iv) statistical-conclusion validity (link 5); relationship between other factors and dependent variable. There is no theory that can be tested right away (Libby et al, 2002). In order to check the validity of the regression models, five validity tests are carried out in the paper; i) R square test, ii) normality test, iii) ANOVA F test, iv) homoscedasticity test, v) multi-collinearity test.

Firstly, R square is used to measure goodness to fit in a model. This measure indicates how well a regression line fits to real data. If the value is close to 1, it represents that the regression line is very close to the actual values. Adjusted R square test of regression model with four cultural dimensions (model 1) and model with four cultural dimensions and three control variables (model 2) are shown below:

Independent variable	Adjusted R square
4 cultural dimensions	0.025
4 cultural dimensions & 3 control variables	0.999
Dependent variable: outsourcing index	

Table 1 (table 1 to 2 in appendix)

Here, adjusted R square is used instead of R square due to the number of independent variables. R square keeps increasing when independent variables are

added. In order to prevent overstatement of goodness of fit, adjusted R square is taken into account. According to table 1, the regression model 2 has higher adjusted R square value than model 1. This value is very close to 1, which means that the model 2 is much more reliable.

Secondly, normality test is used to check whether the residuals are normally distributed or not. When the plots seem linear in PP plot, this represents the normal distribution.
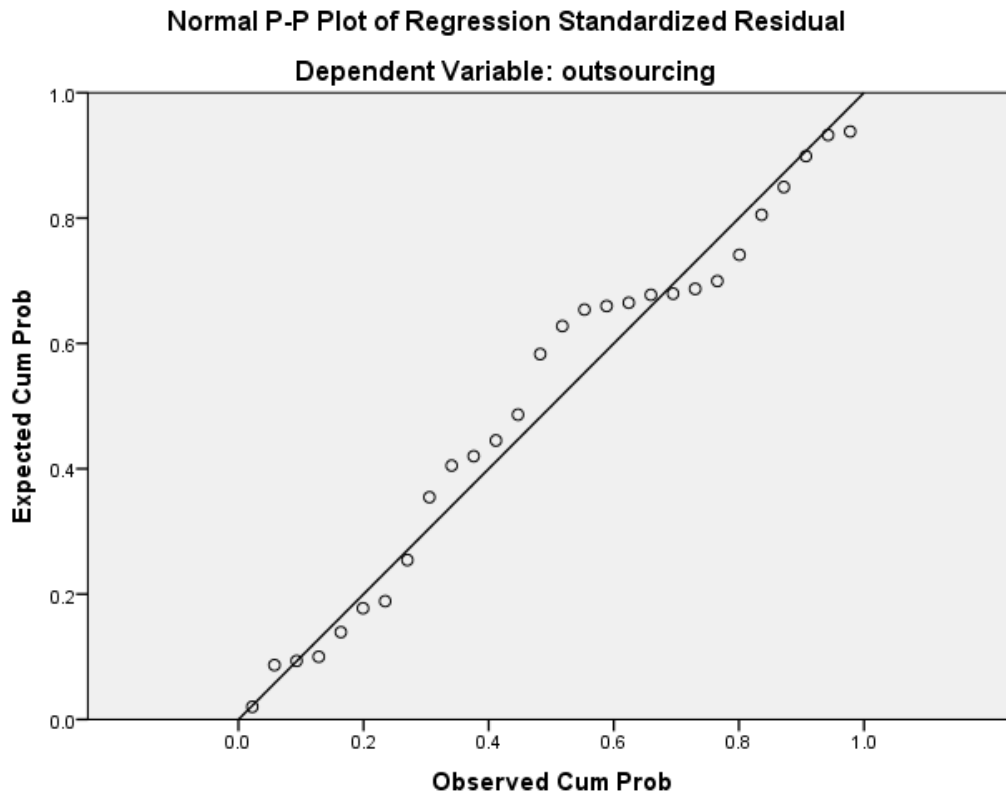
Figure 6: PP plot of regression model with four cultural dimensions
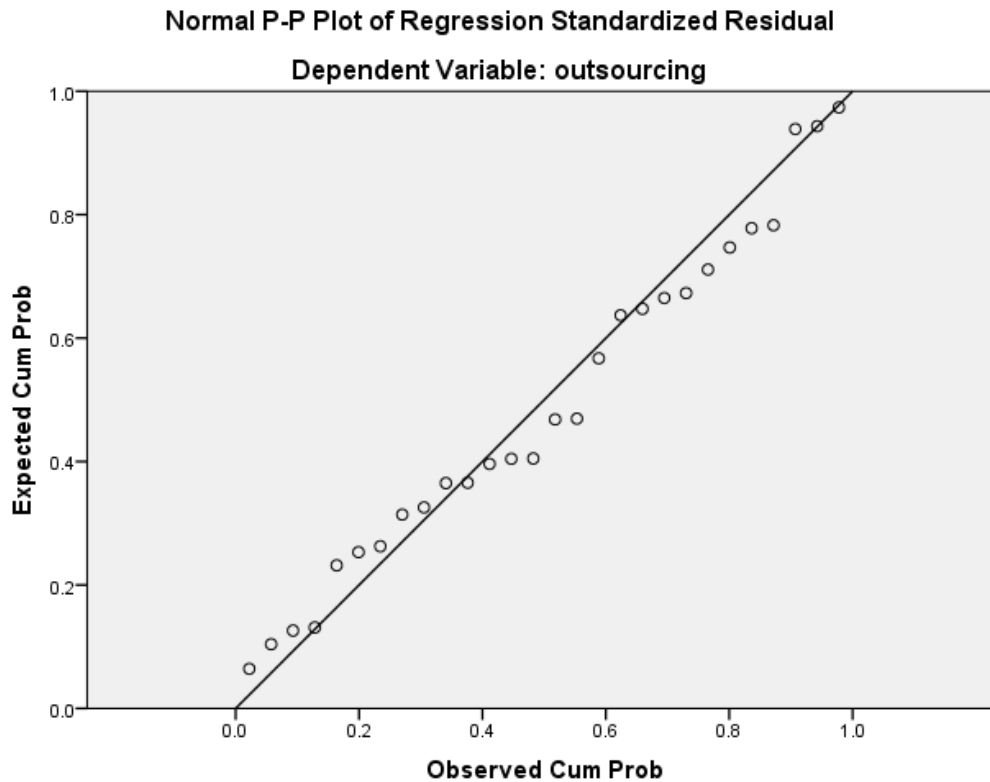
Figure 7: PP plot of regression model with cultural dimensions and control variables

According to the figures above, both plots can be considered as normal distribution. There are some plots that are not on the exact line but those are ignorable, as they are not placed too far away from the line.

Thirdly, F test from ANOVA table is to test whether there is at least one independent variable linearly related to the dependent variable. If p value of the test is lower than 10%, it means that there is at least one independent variable linearly related to the dependent variable.

	F	Significance
Regression model 1	1.177	0.347
Regression model 2	5136.642	0.000

Table 2: F test results (table 3 to 4 in appendix)

From table 2, p value in model 1 is higher than 0.10 while p value in model 2 is equal to zero. In other words, the linear regression model 2 is valid.

Fourthly, the figures below represent the scatterplot to check homoscedasticity.
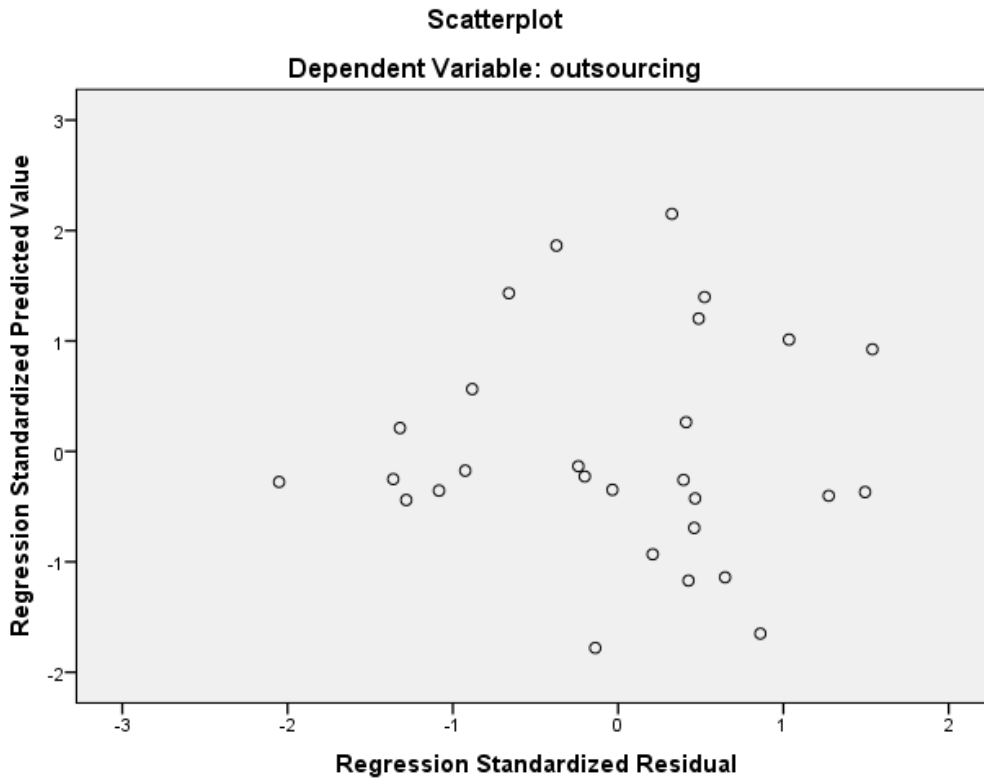
Figure 8: Scatterplot of regression model with four cultural dimensions
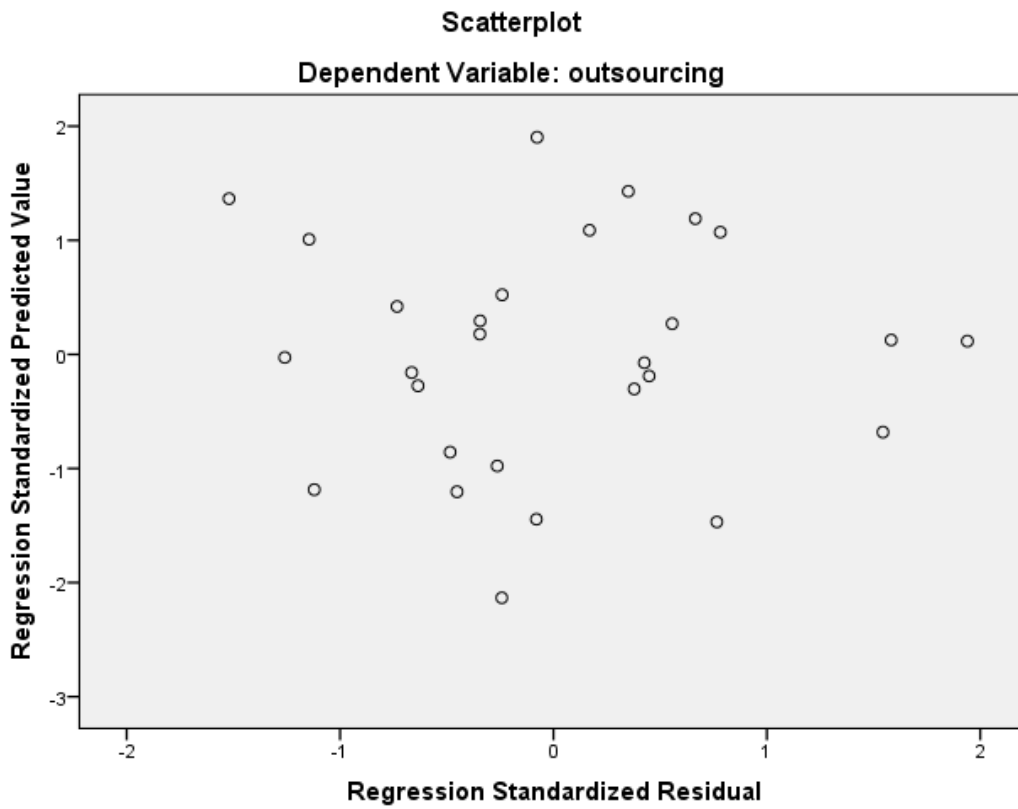
Figure 9: Scatterplot of regression model with cultural dimensions & control variables

Homoscedasticity is one of the assumptions for linear regression. Unfortunately, the figures do not seem to satisfy the assumption of homoscedasticity. The variance of error terms is not constant in the models.

Fifthly, in order to check the accuracy of this regression model, multi-collinearity test has been carried out. The VIF and tolerance are based on the proportion of variance an independent variable shares with the others in the model. For example, VIF of 5 represents that the variance of the coefficient is 5 times bigger compare to the situation that the independent variables are linearly independent to each other (O'Brien, 2007). In other words, higher VIF indicates that the independent variables are highly correlated with each other, which in turn the accuracy of the model is low. VIF is equal to $1/(1-R^2)$ that is the reciprocal of tolerance (O'Brien, 2007). When VIF is higher than 10 (equivalent to the situation when tolerance level is lower than 0.10), it is exposed to a serious multi-collinearity problem.

Collinearity Statistics	
Tolerance	VIF
0.586	1.706
0.612	1.634
0.954	1.048
0.438	2.281

Table 3: Multi-collinearity test of regression model with four cultural dimensions (table 10 in appendix)

According to table 3, the VIFs are lower than 10, which support the model 1's accuracy.

Collinearity Statistics	
Tolerance	VIF
0.566	1.766
0.554	1.805
0.636	1.572
0.304	3.294
0.551	1.814
0.504	1.982
0.499	2.006

Table 4: Multi-collinearity test of regression model with cultural dimensions & control variables (table 11 in appendix)

Again, the accuracy of model 2 is supported as all the VIFs are lower than 10 (tolerance level is higher than 0.10).

To sum up, the validity of the models is checked. However, there is a violation of homoscedasticity and hence it is necessary to be aware of a danger of heteroscedasticity.

4.6 Results

Due to the small amount of samples, 10% significant level is chosen throughout this paper.

		Trust	Individualism	Power distance	Masculinity	Uncertainty avoidance
Trust	Correlation	1	0.381**	-0.455**	-0.155	-0.374**
	N	75	75	75	75	75
Individualism	Correlation	0.381**	1	-0.654**	0.098	-0.214
	N	75	75	75	75	75
Power distance	Correlation	-0.455**	-0.654**	1	0.148	0.205
	N	75	75	75	75	75
Masculinity	Correlation	-0.155	0.098	0.148	1	-0.030
	N	75	75	75	75	75
Uncertainty Avoidance	Correlation	-0.374**	-0.214	0.205	-0.030	1
	N	75	75	75	75	75

**. Correlation is significant at 10% level

Table 5 (table 5 in appendix)

Pearson correlation is tested using 75 samples due to the availability of data. The table is from bivariate statistics due to the number of variables. Only two variables are used in correlation test, for example, correlations between trust and individualism, or between trust and power distance. As it can be seen in table 5, Hypothesis 1 is proven. Pearson Correlation is equal to .381 and p value is .001. This means that there is a significantly positive correlation between trust and individualism.

Hypothesis 2 is supported, as p value is zero. In other words, there is a significantly negative correlation between trust and power distance. Table 5 also supports hypothesis 3 with p value equals to 0.001. This means that there is a significantly negative correlation between trust and uncertainty avoidance.

However, hypothesis 4 is not supported. P value is higher than 0.10 which concludes that there is no significant correlation between trust and masculinity.

Independent variable	Unstandardized coefficients	Significance
Individualism	-0.008	0.285
Power distance	0.011	0.161
Uncertainty avoidance	-0.012	0.089
Masculinity	-0.002	0.848
Dependent variable: outsourcing index		

Table 6 (table 6 to 9 in appendix)

Table 6 shows the coefficient of regression models of outsourcing index as dependent variable and each cultural dimension as independent variable.

Descriptive Statistics

	Mean	Std. Deviation	N
outsourcing	5.454	.8664	28
individualism	38.0000	22.65359	28
powerd	65.8214	21.45116	28
masculinity	49.54	14.294	28
uncertaintyA	65.00	23.243	28

Table 7: Descriptive statistics of the regression model

Due to the lack of outsourcing index, 28 samples are tested instead of 75 nations (table 7). Dependent variable has relatively small mean and standard deviation compare to cultural dimensions. This can be interpreted as cultural dimensions data spread out more widely than outsourcing index.

Back to table 6, there is a negative relationship between individualism and outsourcing index. Also, the relationship between power distance and outsourcing index is positive. However, both p values are higher than .10 which are insignificant. Therefore, hypothesis 5 and 6 are not supported.

Table 6 also represents that there is a significantly negative influence of uncertainty avoidance on outsourcing index as p value is smaller than 0.10. Hence, hypothesis 7 is supported. Table 6 illustrates that there is insignificantly negative influence of masculinity on outsourcing index as p value is higher than 0.10.

Independent variable	Unstandardized coefficients	Significance
Power distance	0.008	0.432
Masculinity	-0.004	0.811
Uncertainty avoidance	-0.011	0.127
Individualism	-0.002	0.833
Dependent variable: outsourcing index		

Table 8 (table 10 in appendix)

When all the indicators of national cultures are added into the regression model, none of them show any significant impact on outsourcing index (table 8).

	Unstandardized coefficients	Significance
Power distance	0.000	0.246
Masculinity	0.000	0.748
Uncertainty avoidance	0.000	0.566
Individualism	0.000	0.408
Cost competitiveness	0.551	0.000
Resources & skills	0.357	0.000
Economic & business environment	0.103	0.000
Dependent variable: outsourcing index		

Table 9 (table 11 in appendix)

As it is mentioned above, cost competitiveness, resources & skills, and business & economic environment are added as control variables in table 9 to make the model more realistic.

Descriptive Statistics

	Mean	Std. Deviation	N
cost	6.782	1.7822	28
resources	3.307	1.7565	28
environment	5.636	1.4980	28

Table 10: Descriptive statistics of control variables

Again, 28 samples are used in the regression model (table 10). Compare to table 7, control variables have relatively lower mean and standard deviation. In other words, control variables data are more concentrated than the data of cultural dimensions. According to table 9, those three factors are significant as expected while the impacts of cultural dimensions on outsourcing index are completely eliminated (coefficients of cultural dimensions are zero).

4.7 Interpretations

Based on the results, there is a tendency of higher level of trust in a country where individualism index is high as it is expected from literature reviews (hypothesis 1). People seem to interact with each other and put more trust on the other people to achieve higher goal. The correlation between trust and other three cultural dimensions are significantly negative except for masculinity as p value is higher than 0.10 (hypothesis 2, 3, 4). Eventually, the results accord with the expectations from the literatures so far. Besides, trust can lead to stronger internal organizational relationships and enhance outsourcing probability. In other words, higher individualism leads to higher trust, which in turn encourages those countries to outsource their process to other countries with lower individualism. In fact, this is the current trend of outsourcing as mentioned above. Unfortunately, the data does not significantly prove this effect (hypothesis 5). According to the literatures, power distance and uncertainty avoidance respectively have positive and negative influence on outsourcing index. It means that the country with higher power distance, and therefore lower trust, tend to operate in hierarchical order and accept outsourcing from outsiders. Also, country deals with more outsourcing in low uncertainty avoidance culture. The data does not support the relationship between power distance and outsourcing index (hypothesis 6) while proves the relationship between uncertainty avoidance and outsourcing (hypothesis 7). Unfortunately, the correlation between trust and masculinity cannot predict its relationship with outsourcing index that is understandable due to the insignificant relationships (from correlation and regression). Some researchers argue that countries in higher masculinity culture usually choose the one where employees are more patient, less aggressive, and attentive. However, the data does not significantly support this as well (hypothesis 8). Table 11 can help supporting these interpretations.

Independent variable	R Square
Individualism	0.044
Power distance	0.074
Masculinity	0.001
Uncertainty avoidance	0.107
Dependent variable: outsourcing index	

Table 11 (table 12 to 15 in appendix)

According to table 11, all the R square values are small. Unfortunately, the regression model is not much accurate compare to the real data. R square for uncertainty avoidance is the highest among four cultural dimensions. This somewhat explains the unique significant impact of uncertainty avoidance on outsourcing index.

When all the other factors are included in the regression model, uncertainty avoidance becomes insignificant along with other cultural dimensions. The reason can be due to the opposite effect of power distance on outsourcing index. The coefficient of power distance is equal to 0.011 which is quite high compare to other variables (table 6). This can mitigate the significant negative effect of uncertainty avoidance on the dependent variable. In other words, all dimensions do not significantly affect the choice of outsourcing destinations. This minor effect even completely disappears when other three control variables are added. This means that the control variables such as cost competitiveness, resources & skills, and business & economic environment are much more important compared to cultural dimensions. Therefore, it can be concluded that three control variables, relative to the cultural dimensions, plays more important roles in outsourcing decision.

Chapter 5: Conclusion

5.1 Conclusions & Recommendations

Outsourcing is considered to be a fact of life. Meanwhile, according to Deloitte' survey in 2012, IT field consists of 78 percent in the entire outsourcing area. Whether or not, cultural dimensions impact on the decision of outsourcing destination in this area is still controversial. Some researchers argue that power distance and uncertainty avoidance are important factors which affect outsourcing, while others believe that individualism and power distance are the main effecters on outsourcing. Also, there are some scholars who find no support about the influence of any cultural indicators on this decision. Therefore, this paper examines the effect of cultural dimensions on outsourcing decisions. Before moving on to the relationship between cultural dimensions and outsourcing index, the correlations between trust and cultural dimensions are tested first. Hypotheses 1, 2, and 3 are supported, which means: i) trust and individualism are significantly positively correlated, ii) trust and power distance are significantly negatively correlated, iii) trust and uncertainty avoidance are significantly negatively correlated. However, hypothesis 4 is not supported. There is no significant correlation between trust and masculinity (null hypothesis is not rejected). Based on the data, the effect of cultural dimensions on the outsourcing is not proved. Most of cultural dimensions do not seem to have significant impact on outsourcing index. Hypothesis 5, 6, and 8 are not supported. In other words, there is no significant effect of individualism, power distance, and masculinity on outsourcing index. Only hypothesis 7 is supported which means uncertainty avoidance has a significantly negative effect on outsourcing index (null hypothesis is rejected). The result is similar when all the cultural dimensions are put together in the regression model. Putting all cultural dimensions together removes the unique significant effect of uncertainty avoidance. All cultural dimensions have no significant effect on outsourcing decision anymore. After control variables are added into the model, the impact of cultural dimensions on outsourcing index is completely eliminated. Only control variables have significantly positive effect on outsourcing index. In other words, cultural dimensions do not significantly affect the choice of outsourcing destination. This can result from many factors. Firstly, the small sample can lead to higher probability of insignificant results especially when the effects of the cultural

dimensions are already very small. Secondly, other factors such as external environment, amount of available resources, etc.; seem to play much more important role on outsourcing decision compare to cultural dimensions.

Due to the limitations of the paper, there are many further researches can be carried out. For example, more data can be collected and this impact can be researched on other fields as well such as business, service, and so on. It is also interesting to study whether there is any relationship between cultural dimensions and other inter-organizational relationships such as joint venture, strategic alliance, and social network analysis. Furthermore, it is essential to find out what other critical factors influence outsourcing.

5.2 Limitations

There are some limitations in this paper. Firstly, there is only limited data available (only 28 countries are selected for regression model). Due to the lack of data, the results can be unreliable in all situations and can lead to bias. Secondly, there are a lot of arguments about positive or negative correlation between trust and individualism, which in turn can affect the direction of impact of cultural dimensions on outsourcing index. Thirdly, there can be a problem of invalidity of regression model as the assumption of homoscedasticity is violated. Fourthly, many other factors that could influence the choice of outsourcing destinations are not included in this paper. This can make the "picture" incomplete. Fifthly, data may not be reliable as this is secondary data. Besides, some data are based on survey which can lead to the non-response bias.

Appendix

Data for correlation between trust and cultural dimension index

Country	Trust	Individualism	Power Distance	Masculinity	Uncertainty Avoidance
Argentina	40.6	46	49	56	86
Australia	92.4	90	36	61	51
Austria	70.2	55	11	79	70
Bangladesh	47.7	20	80	55	60
Belgium	63	75	65	54	94
Brazil	17.5	38	69	49	76
Bulgaria	50.9	30	70	40	85
Canada	85.9	80	39	52	48
Colombia	30.9	13	67	64	80
Costa Rica	48.9	15	35	21	86
Croatia	38.7	33	73	40	80
Czech Republic	48.8	58	57	57	74
Chile	34.4	23	63	28	86
China	120.9	20	80	66	30
Denmark	131.9	74	18	16	23
Ecuador	72.7	8	78	63	67
Egypt	37.2	25	70	45	80
El Salvador	60.4	19	66	40	94
Estonia	48.4	60	40	30	60
Ethiopia	55.2	20	70	65	55
Finland	117.5	63	33	26	59
France	37.9	71	68	43	86
Germany	75.8	67	35	66	65
Ghana	17.4	15	80	40	65
Great Britain	61.7	89	35	66	35
Greece	54.6	35	60	57	112
Guatemala	51.9	6	95	37	101
Hong Kong	82.4	25	68	57	29

Hungary	44.8	80	46	88	82
India	52.5	48	77	56	40
Indonesia	16.9	14	78	46	48
Iran	21.8	41	58	43	59
Iraq	82.6	30	95	70	85
Ireland	72.1	70	28	68	35
Israel	48.3	54	13	47	81
Italy	60.8	76	50	70	75
Japan	79.6	46	54	95	92
Korea (South)	56.9	18	49	63	49
Kuwait	48.5	25	90	40	80
Lebanon	33.8	40	75	65	50
Luxembourg	53.9	60	40	50	70
Malaysia	17.7	26	104	50	36
Malta	42.2	59	56	47	96
Mexico	41.7	30	81	69	82
Morocco	27.4	25	70	53	68
Netherlands	90.6	80	38	14	53
New Zealand	102.2	79	22	58	49
Nigeria	29.8	30	80	60	55
Norway	148	69	31	8	50
Pakistan	65	14	55	50	70
Panama	45.9	11	95	44	86
Peru	30.5	16	64	42	87
Philippines	20.1	32	94	64	44
Poland	40.9	60	68	64	93
Portugal	21.9	27	63	31	104
Romania	43.6	30	90	42	90
Russia	55.4	39	93	36	95
Saudi Arabia	105.8	25	95	60	80
Serbia	38.2	25	86	43	92
Singapore	59.8	20	74	48	8
Slovakia	33.4	52	104	110	51

Slovenia	38.6	27	71	19	88
South Africa	38	65	49	63	49
Spain	40.9	51	57	42	86
Sweden	134.5	71	31	5	29
Switzerland	107.4	68	34	70	58
Taiwan	70	17	58	45	69
Tanzania	27.6	25	70	40	50
Thailand	83.1	20	64	34	64
Turkey	10.2	37	66	45	85
United States	78.8	91	40	62	46
Uruguay	54.2	36	61	38	100
Venezuela	48.5	12	81	73	76
Vietnam	104.1	20	70	40	30
Zambia	28.1	35	60	40	50

Data contains countries, the index of trust, cultural dimensions, and three control variables

	Country	trust	individualism	outsourcing	cost	resources	enviornment	powerd	masculinity	uncertaintyA
1	Argentina	40.6	46.00	5.4	7.5	2.5	4.4	49.00	56	86
2	Brazil	17.5	38.00	3.6	4.3	2.4	4.1	69.00	49	76
3	Bulgaria	50.9	30.00	6.4	8.8	2.9	5.2	70.00	40	85
4	Canada	85.9	80.00	4.4	2.5	6.3	8.3	39.00	52	48
5	Costa Rica	48.9	15.00	5.3	7.3	2.3	4.8	35.00	21	86
6	Czech Republi	48.8	58.00	5.6	6.9	3.2	6.5	57.00	57	74
7	Chile	34.4	23.00	5.7	7.2	3.0	6.9	63.00	28	86
8	China	120.9	20.00	6.4	7.0	5.6	5.6	80.00	66	30
9	Egypt	37.2	25.00	5.7	9.0	.9	4.3	70.00	45	80
10	Estonia	48.4	60.00	6.6	7.5	5.2	6.9	40.00	30	60
11	Ghana	17.4	15.00	4.9	7.5	.9	4.3	80.00	40	65
12	Hungary	44.8	80.00	5.6	6.9	3.4	6.3	46.00	88	82
13	India	52.5	48.00	7.1	8.3	6.0	4.2	77.00	56	40
14	Indonesia	16.9	14.00	6.7	8.6	4.3	4.4	78.00	46	48
15	Israel	48.3	54.00	4.7	3.8	5.5	7.0	13.00	47	81
16	Malaysia	17.7	26.00	5.8	7.9	2.2	6.9	104.00	50	36
17	Mexico	41.7	30.00	5.3	6.9	2.8	5.3	81.00	69	82
18	Pakistan	65.0	14.00	4.2	6.6	.8	3.1	55.00	50	70
19	Panama	45.9	11.00	4.4	5.8	1.9	5.6	95.00	44	86
20	Philippines	20.1	32.00	6.3	9.0	2.8	3.9	94.00	64	44
21	Poland	40.9	60.00	5.6	6.8	3.6	5.5	68.00	64	93
22	Romania	43.6	30.00	5.2	6.8	2.7	5.2	90.00	42	90
23	Russia	55.4	39.00	5.2	6.4	3.4	4.7	93.00	36	95
24	Singapore	59.8	20.00	6.5	6.4	5.7	9.4	74.00	48	8
25	South Africa	38.0	65.00	4.6	6.9	.6	6.3	49.00	63	49
26	Thailand	83.1	20.00	5.9	8.2	2.3	5.9	64.00	34	64
27	United States	78.8	91.00	4.2	1.7	6.9	8.3	40.00	62	46
28	Vietnam	104.1	20.00	5.4	7.4	2.5	4.5	70.00	40	30
29		.	.	.	.	.	.	.	.	.

Table 1: Adjusted R square table with 4 cultural dimensions as independent variables and outsourcing index as dependent variable

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.412[a]	.170	.025	.8553

a. Predictors: (Constant), uncertaintyA, individualism, masculinity, powerd

Table 2: Adjusted R square table with 4 cultural dimensions and 3 control variables as independent variables, and outsourcing index as dependent variable

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	1.000[a]	.999	.999	.0237

a. Predictors: (Constant), enviornment, masculinity, powerd, uncertaintyA, cost, resources, individualism

Table 3: ANOVA table of regression model with four cultural dimensions

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.443	4	.861	1.177	.347[a]
	Residual	16.827	23	.732		
	Total	20.270	27			

a. Predictors: (Constant), uncertaintyA, individualism, masculinity, powerd

b. Dependent Variable: outsourcing

Table 4: ANOVA table of regression model with cultural dimensions and control variables

ANOVAᵇ

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	20.258	7	2.894	5136.642	.000ᵃ
	Residual	.011	20	.001		
	Total	20.270	27			

a. Predictors: (Constant), enviornment, masculinity, powerd, uncertaintyA, cost, resources, individualism

b. Dependent Variable: outsourcing

Table 5: Correlation between trust and cultural dimensions

Correlations

		Trust	Individualism	powerd	masculinity	uncertaintyA
Trust	Pearson Correlation	1	.381**	-.455**	-.155	-.374**
	Sig. (2-tailed)		.001	.000	.185	.001
	N	75	75	75	75	75
Individualism	Pearson Correlation	.381**	1	-.654**	.098	-.214
	Sig. (2-tailed)	.001		.000	.405	.065
	N	75	75	75	75	75
powerd	Pearson Correlation	-.455**	-.654**	1	.148	.205
	Sig. (2-tailed)	.000	.000		.205	.078
	N	75	75	75	75	75
masculinity	Pearson Correlation	-.155	.098	.148	1	-.030
	Sig. (2-tailed)	.185	.405	.205		.797
	N	75	75	75	75	75
uncertaintyA	Pearson Correlation	-.374**	-.214	.205	-.030	1
	Sig. (2-tailed)	.001	.065	.078	.797	
	N	75	75	75	75	75

**. Correlation is significant at the 0.01 level (2-tailed).

Table 6: Linear regression of individualism on outsourcing index

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant) 1	5.758	.323		17.829	.000
individualism	-.008	.007	-.209	-1.092	.285

a. Dependent Variable: outsourcing

Table 7: Linear regression of power distance on outsourcing index

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant) 1	4.730	.527		8.979	.000
powerd	.011	.008	.272	1.442	.161

a. Dependent Variable: outsourcing

Table 8: Linear regression of uncertainty avoidance on outsourcing index

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant) 1	6.246	.476		13.125	.000
uncertaintyA	-.012	.007	-.327	-1.765	.089

a. Dependent Variable: outsourcing

Table 9: Linear regression of masculinity on outsourcing index

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	5.568	.612		9.103	.000
1 masculinity	-.002	.012	-.038	-.194	.848

a. Dependent Variable: outsourcing

Table 10: Linear regression of the entire cultural dimensions on outsourcing index

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	5.938	1.062		5.593	.000		
	powerd	.008	.010	.198	.799	.432	.586	1.706
	masculinity	-.004	.015	-.059	-.242	.811	.612	1.634
	uncertaintyA	-.011	.007	-.308	-1.584	.127	.954	1.048
	individualism	-.002	.011	-.061	-.213	.833	.438	2.281

a. Dependent Variable: outsourcing

Table 11: Three control factors are included in the table 9

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.073	.055		-1.330	.199		
	powerd	.000	.000	.008	1.195	.246	.566	1.766
	masculinity	.000	.000	.002	.326	.748	.554	1.805
	uncertaintyA	.000	.000	.004	.584	.566	.636	1.572
	individualism	.000	.000	-.008	-.845	.408	.304	3.294
	cost	.551	.003	1.134	159.707	.000	.551	1.814
	resources	.357	.004	.724	97.469	.000	.504	1.982
	environment	.103	.004	.178	23.828	.000	.499	2.006

a. Dependent Variable: outsourcing

Table 12: R square table with individualism as independent variable and outsourcing index as dependent variable

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.209[a]	.044	.007	.8634

a. Predictors: (Constant), individualism

Table 13: R square table with power distance as independent variable and outsourcing index as dependent variable

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.272[a]	.074	.038	.8496

a. Predictors: (Constant), powerd

Table 14: R square table with masculinity as independent variable and outsourcing index as dependent variable

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.038[a]	.001	-.037	.8823

a. Predictors: (Constant), masculinity

Table 15: R square table with uncertainty avoidance as independent variable and outsourcing index as dependent variable

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.327[a]	.107	.073	.8344

a. Predictors: (Constant), uncertaintyA

Reference

Allik, J. & Realo, A. (2003). "Individualism-Collectivism and Social Capital", 1-22

Al-Shammari, H. (2004). "Antecedents of Inter-Country Variance of Outsourcing Practices: Culture and Institutional Context", Working Paper, University of Texas at Arlington

Ang, S. (1998). "Production and Transaction Economies and IS outsourcing: a Study of the U.S", Banking Industry, *MIS Quarterly22 (4),* 535-552

Arnold, U. (2000). "New Dimensions of Outsourcing: a Combination of Transaction Cost Economics and the Core Competences Concept", *European Journal of Purchasing & Supply Management*, Vol. 6, 23-29

Aumann, R. J. (1959). "Acceptable Points in General Cooperative n-Person Games", *Contributions to the Theory of Games IV*. Annals of Mathematics Study 40, Princeton, NJ: Princeton University Press, 287-324

Babbie, E. (2006). "The Practice of Social Research", Wadsworth-Thomson

Barney, J. B. & M. H. Hansen (1994). "Trustworthiness as a Source of Competitive Advantage", *Strategic Management Journal*, Vol. 15, 175-190

Beem, C. (1999). "The necessity of politics: Reclaiming American public life", Chicago: Chicago University Press

Biggs, S and Smith, S. (2003). "A Paradox of Learning in Project Cycle Management and the Role of Organisational Culture", *World Development*, 31(10), 1743-1757

Canon, J., et al. (2010). "Building Long-term Orientation in Buyer-Supplier Relationships: The Moderating Role of Culture", *Journal of Operations Management*, Vol. 28, 506-521

Chakrabarty, S. et al. (2008). "Understanding Service Quality and Relationship Quality in IS Outsourcing: Client Orientation & Promotion, Project Management Effectiveness, and the Task-Technology-Structure Fit Collectivism", *Journal of Cross-Cultural Psychology*, Vol. 39, 447–462

Corbett, M. (2004). "The Outsourcing Revolution"

Dodgson, M. (1993). "Learning Trust and Technological Collaboration", *Human Relations*, Vol. 46, 77-95

Dyer, J., & Chu, W. (2000). "The Determinants of Trust in Supplier-Automaker Relationships in the U.S., Japan and Korea", *Journal of International Business Studies*, 31(2), 259-285

Etzioni, A. (1993). "The Spirit of Community. The Reinvention of American Society", New York: Simon & Schuster

Francis, N. (2010). "Uncertainty Avoidance in International Project Communications", *International Project Management Communications*

Haakonssen, K. (2002). "Introduction to Adam Smith's Theory of moral sentiments" Cambridge, UK: Cambridge University Press

Hill, C. L. (1990). "Cooperation, opportunism, and the invisible hand: Implications for transaction cost theory", *Academy of Management Review*, Vol. 5, 500-514

Hofstede, G. (1980). "Culture's Consequences: International Differences in Work-related Values", Beverly Hills, CA: Sage

Huff, C. L., Couper J. & Jones W. (2002). "The development and consequences of trust in student project groups", *Journal Of Marketing Education*, Boulder, Vol. 24, Iss. 1, 24-34

lane, R. E. (1994). "The Road not Taken: Friendship, Consumerism and Happiness", Critical Review 8 , 521-554

Inglehart, R. (1997). "Modernization and Postmodernization: Cultural, Economic, and Political Change in 43 Societies"

Inglehart, R. (1999). "Trust, Well-Being and Democracy in Democracy and Trust", ed. Mark E. Warren. Cambridge: Cambridge University Press.

John D. Campbell, (1995). "Outsourcing in maintenance management: A valid alternative to self-provision", *Journal of Quality in Maintenance Engineering*, Vol. 1 Iss: 3,18 - 24

Ketkar, S., Kock, N., Parente, R., & Verville, J. (2011). "The Impact of Individualism

on Buyer-Supplier Relationship Norms, Trust and Market Performance: An Analysis of Data From Brazil and the U.S.A", *International Business Review*, 782-793

Joseph T. M. (2004). "Explaining and Predicting the Choice of Organizational Form: Integrating Performance Ambiguity and Asset Specificity Effects"

Kraus, K. & Lind, J. (2007). "Management Control in Inter-Organisational Relationships", *Issues in Management Accounting* (3rd ed.), 269-296

Krishman, R., Martin, X., & Noorderhaven, N. (2006). "When Does Trust Matter to Alliance Performance?", *Academy of Management Journal*, Vol. 49, 894-917

Lam, S.S.K., Schaubroeck, J. & Aryee, S. (2002). "Relationship between organizational justice and employee work outcomes: a cross-national study", *Journal of Organizational Behavior*, Vol. 23, 1-18

Lei, D., Hitt, M. (1995). "Strategic restructuring and outsourcing: the effect of mergers and acquisitions and LBOs on building firm skills and capabilities", *Journal of Management*, Vol. 21, No.5, 835-59

Libby, R., et al. (2002). "Experimental Research in Financial Accounting", *Accounting, Organizations and Society,* 775-810

Merchant, Van der S. (2012). "Management Control Systems"

Maskell, P., et al. (2007). "Learning Paths to Offshore Outsourcing: From Cost Reduction to Knowledge Seeking", *Industry and Innovation*, Vol. 14, 239-257

McIvor, R. (2000). "A Practical Framework for Understanding the Outsourcing Process", *Supply Chain Management: An International Journal*, Vol. 5, 22-36

Mukherjee, A. (2003). "A model of trust in online relationship banking", *International Journal of Bank Marketing*, Vol. 21, 5-15

O'Brien, R. M. (2007). "A Caution Regarding Rules of Thumb for Variance Inflation Factors," *Quality and Quantity,* Vol. 41(5), 673-690

Pradhan, J.P. & Abraham, V. (2005). "Social and Cultural Impact of Outsourcing: Emerging Issues from Indian Call Centers", *Harvard Asia Quarterly*, Vol. 3

Putnam, R. D. (2000). "Bowling alone: The Collapse and Revival of American

Community", New York: Simon and Schuster

Realo, A., Allik, J., & Greenfield, B. (2008). "Radius of Trust – Social Capital in Relation to Familism and Institutional"

Reiss, J. (2013). "Philosophy of Economics", *Routledge Contemporary Introductions to philosophy,* 56-64

Rosseau, D.M, Sitkin, B., Burt, R.S. & Camerer, C. (1998). "Not so different after all: a cross-discipline view of trust", *Academy of Management Review*, Vol. 23, 393-404

Sourcingline. www.sourcingline.com/top-outsourcing-countries

The Hofstede Center. www.geert-hofstede.com/countries.html

Todd H. C. & John F. M. (1996). "Integrating Variable Risk Preferences, Trust, and Transaction Cost Economics", *The Academy of Management Review,* Vol. 21, 73-99

Van der Meer-Kooistra, J., & Vosselman, E.G.J. (2000). "Management control of interfirm transactional relationships: The case of industrial renovation and maintenance", *Accounting, Organizations and Society*, Vol. 25(1), 57-77

Vining, A. & Globerman, S. (1999). "A Conceptual Framework for Understanding the Outsourcing Decision", *European Management Journal*, Vol. 17, 645-654

Wicks, A. C., Berman, S.L. & Jones, T.M. (1999). "The Structure of Optimal Trust: Moral and Strategic Implications*", The Academy of Management Review 24*, Vol. 1, 99-116

Williamson, O. E. (1991). "Comparative Economic Organization: the Analysis of Discrete Structural Alternatives", *Administrative Science Quarterly*, Vol. 36, 269-296

Wursten, H. (2008). "Intercultural Issues in Outsourcing", *Intercultural Management*

Zhao, W., & Watanabe, C., (2008). "A Comparison of Institutional Systems Affecting Software Advancement in China and India: The Role of Outsourcing from Japan and the United States", *Technology in Society*, 429-4