



**MÄLARDALENS HÖGSKOLA
ESKILSTUNA VÄSTERÅS**

INTERNATIONAL PURCHASING IN TWO IRANIAN POLYMER PIPING FIRMS

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ABSTRACT

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Title: International Purchasing in Two Iranian Polymer Piping Firms

Problem description: Many researchers have contributed to the field of international purchasing; but there are no consistent findings to illustrate particular connections within the field. This particular research studies the ways that two Iranian producers of polymer piping systems handle international purchasing in current complex Iranian economic circumstances.

Purpose of the research: By going beyond macroeconomic theories of international trade and using three-factor model of international industrial purchasing this particular study aims to reveal how international industrial purchasing is handled by Iranian producers of polymer piping systems under current Iranian economic and politic circumstances.

Research question: How do internal and external drivers influence international purchasing practice of Iranian producers of polymer piping systems?

Method: A case study approach employing face-to-face semi-structured interview method is designed. A set of interview questionnaires was designed to gather empirical qualitative and quantitative data. A narrative analysis was then conducted to lead the discussions and to draw conclusions

Conclusion: International purchasing in both firms is influenced by internal factors including *attitudes* and *competence* as well as external factors including *market conditions* and *regulations*. The levels to which the first three mentioned factors influence international purchasing varies between the studied firms; but regulations have similar effects on the ways the studied firms handle international purchasing. Also, the modified three-factor model is perfectly applicable to the studied cases under current circumstances of Iranian economy.

Keywords: International Trade, Industrial Purchasing, Supply Markets, Polymer Piping Systems, Iran

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GLOSSARY

Constant returns to scale	“a technological relationship such that proportionate changes in inputs lead to proportionate changes in output” (Husted & Melvin, 2010:57)
Efficient purchasing	efficient purchasing is the efficient use of sources of supply that are available in foreign markets
International purchasing	depicts relations involving direct contacts between buyers and suppliers in different countries
Three-Factor Model	a model including three sets of influencing factors that are drivers of international industrial purchasing
PERT	a special polymer-based resin used in production of the new generation of polymer piping systems bringing them the characteristics of soft texture, smooth in-wall and out-wall, good flexibility, good impact strength and heating output, chemical corrosion resistance, and long service life
PP	a special type of polymer that has a crystal molecular structure
PPF	“a diagram that shows the maximum amount of one type of good that can be produced in a country, given the production of other” (Husted & Melvin, 2010:539)

ABBREVIATIONS

AM	Ante Meridian
AoM	Academy of Management
Approx	Approximately
ASNT	American Society for Non-destructive Tests
ASTM	American Society for Testing and Materials
CEO	Chief Executive Officer
CIA	Central Intelligent Agency
DIN	Deutsches Institut für Normung, German Institute for Standard
FRP	Fiber Reinforced Pipe
IMP	International Marketing & Purchasing Group
IRR	Iranian Rials
ISIRI	Institute of Standards and Industrial Research of Iran
ISO	International Standard Organization
Min	Minute
PE	Poly Ethylene
PM	Post Meridian
PPF	Production Possibility Frontier
PVC	Poly Vinyl Chloride
Q	Question
R&D	Research and Development

1 INTRODUCTION

This chapter brings an account of the research providing a brief description of international industrial marketing and purchasing, polymer piping industry and its business in the Iranian context, and Iran sanctions following by description of problem, explanation of the purpose of the research, and presenting the research question that this particular study aims to bring answers to it.

1.1 International Polymer Purchasing in Iran

Based on the needs of the Iranian polymer industry to import raw material, machinery and equipment etc., and referring to the theories of international trade, the Iranian polymer piping industry engages in international industrial trade to fulfill its demands.

1.1.1 *International Industrial Purchasing*

In contrast with the microeconomic view on industrial markets that mainly focuses on costs of production in two different countries where price is the basis of coordination regardless to the importance of relationships in the market, the network view on industrial markets considers inter-firm relationships in the market “as the mechanism for coordination and development and as a valid base for discussions about competitiveness of [industrial firms]” (Mattsson & Johanson, 2006:259). Hallén and Prenkert (2006) define business networks as they do have neither boundaries nor centers; the mentioned networks stretch in all directions; and interactions are possible to occur in all directions within networks. Many academicians have contributed to the development of network view on the industrial markets (Mattsson & Johanson, 2006).

Industrial marketing, also known as business-to-business marketing (Turnbull et al, 1996), is an organizational issue in formation of customer-supplier relationships that builds interactions between the mentioned two parties leading them towards mutual dependence and commitment (Mattsson & Johanson, 2006). Industrial market relationships are characterized by “longer business associations, stronger interdependencies, more complex processes, and a higher degree of complexity” (Gross et al, 1993; cited in Leonidou et al, 2006:146). Developing industrial marketing relationships, both customers and suppliers can benefit in many ways i.e. technological advances, long-term relationships, sustained profitability, and better market positions (Han et al, 1993; Sheth & Sharma, 1997; Leonidou et al, 2006).

The network view on industrial market has the potential to be employed as a valid base for carrying out discussions concerning competitiveness of industrial firms; it actually focuses on

means of competition and *inter-firm cooperation* (Mattsson & Johanson, 2006). Salmi (2010) argues that the analysis of industrial marketing mainly concentrates on the concept of business networks that is highly-related to the Industrial Marketing and Purchasing, IMP, Group.

Based on the fact that firms are interdependent in an industrial network, Hallén (1982) argues that when comparing purchasing and “input acquisition subject to marketing requirements of a particular industrial firm” (op.cit. p. 14), purchasing is much more important to that firm. He also argues that the purchasing function has an important role in product development; and properties of industrial networks strongly influence firms’ possibilities to fulfill their requirements.

International purchasing is a term used to show direct-contact buyer-seller relationships between firms in an international network, or indirect-contact between buyer and seller through “seller’s representative in the buyer’s country” (Hallén, 1982:111). International purchasing and import channels connect to production sections of both supplying and purchasing firms in an international industrial network leading them to make exchanges in terms of products, finance, information, and social matters according to the IMP model.

1.1.2 The International Polymer Piping Industry

Piping systems are mainly employed for the process of conveying, distributing, and storing liquid or gas fluids. Being introduced around 1970s, “polymer piping systems have been established in many ways such as building, technology, gas, and water supply” (Schüssler, 2010:32). Polymer pipe systems are widely used because they are lightweight, inexpensive, easy to install, and corrosion free. Due to the mentioned attributes, “polymer pipes are increasingly being installed for potable water distribution globally” (Whelton & Nguyen, 2013:679). Polymer piping systems are capable of carrying fluids up to temperatures around 100 degrees centigrade and pressures up to 10 bars. System components include fusion machines, pipes, automated and manual valves, measurement and control including installation fittings, adaptors, flanges, and fitting components. Polymer piping systems are extensively used all around the world (Schüssler, 2010).

In general, there are four major types of polymer piping systems (Whelton & Nguyen, 2013; Egeplast Website, 2013):

- *Poly Vinyl Chloride* that has been used since 1970s “is an amorphous thermoplastic with a glass transition temperature” (Whelton & Nguyen, 2013:681). This kind of piping system “comprised 66 % of the total buried potable water distribution pipe network worldwide” (Rahman, 2002; Cited in Whelton & Nguyen, 2013:681),
- *Poly Ethylene* that has been used since 1950s (Davis et al, 2007, Cited in Whelton & Nguyen, 2013) has many different types in terms of chemical composition and operating conditions; but they are all classified as PE pipes. This kind of pipes is also used in modern multi-layer polymer pipes (Whelton & Nguyen, 2013),

- *Fiber Reinforced* that is a polymer composite material is basically employed for large diameter water mains; FRP consist of “an epoxy or polyester resin, reinforcement fibers such as glass or carbon based, sand, and other fillers” (Whelton & Nguyen, 2013:681), and
- *Multilayer Plastic Pipe* that is the new generation of PE is a solution to market demands for polymer pipes that are more reliable under different physical and chemical conditions. Multilayer pipes are customized according to the needs of customers “with an overall intelligent pipe construction” (Egeplast Website, 2013). The use of high-quality and crack-resistant materials in different layers of multilayer piping systems, according to the needs of customers, bring them excellent properties at the same time as characteristics of PE pipes are applied to them (Egeplast Website, 2013).

Production of polymer piping systems, now-a-days, is a major industry, “and this industry will [be] continually growing throughout the years” (Freire et al, 2009:62). The production process of polymer piping systems calls for special attention since polymer pipes shall be processed using plasticizers and heat stabilizers (Freire et al, 2009).

There are internationally defined and accepted standards, such as DIN in Germany and ASTM in the United States, for polymer piping systems; and regardless of the industry in what the polymer piping systems are being used, welding of the polymer piping systems’ joints shall follow the defined standards of ASNT (Schüssler, 2010).

In the mentioned industry, the costs of production are rather high because of the necessity of calibrating at the entire production process of polymer piping systems, high prices of petrochemical and oil-based raw materials and catalyzes, and due to the fact that such systems have always to follow and meet internationally-defined standards (Freire et al, 2009).

1.1.3 Iranian Polymer Piping Industry & Market

During the 20th century, because of numerous different problems, Iran was not able to make its industry follow and match the global development of technology. This caused many economic, technological, and scientific hardships that led the country to be highly dependent on industrialized countries in terms of technology, know-how, and special-processed raw materials. As the Iran-Iraq war officially ended in July 18th 1988 when Iran accepted UN Resolution 598 calling for an immediate cease-fire (History Website, 2013), the Iranian government put its especial efforts and consideration towards industrializing of the country, making technological and scientific advancements in all branches of industry. Referring to American Central Intelligence Agency, CIA, the second main Iranian industry is petrochemical industry; and the second largest share of Iranian exports goes for the country’s petrochemical products (CIA Website, 2013). Petrochemical and polymer production industry represent two of the main industrial branches that the Iranian government tries to keep it up-to date and to be advanced in (Iran Polymer Institute, 2013). Having one of the largest national oil reserves in the world (Ghauri & Cateora, 2010), Iran is still dependent on

imported technologies, raw material, and special catalysts for refining oil and producing petrochemical and polymer products (Iran Polymer Institute, 2013).

As mentioned in section 1.1.2, all polymer piping system producers have to follow internationally-defined standards. Moreover, as a member body of International Standards Organization, ISO, Institute of Standards and Industrial Research of Iran, ISIRI, that is “the sole organization in the country that can lawfully develop and designate official standards for products” (ISIRI Webpage; ISO Webpage, 2013) has defined six mandatory standards for polymer piping systems referring to their functionalities in different branches of industry in addition to internationally defined standards in the mentioned branch (ISIRI, 2013). Consequently, Iranian polymer piping system producers shall follow and meet both international and domestic standards to be able to market their products.

According to the information provided by National Geoscience Database of Iran (2013), a total number of 585 companies are registered in the Iranian market for polymer piping systems out of which 17 companies are major market actors (Website of National Geoscience Database of Iran, 2013).

An initial interview with two marketing executives of two companies out of the mentioned 17 companies revealed that these companies use high-tech machinery and equipment in order to produce all types of polymer piping systems; and the entire production process of polymer piping systems is done by interior facilities of these 17 companies. As mentioned before, Iranian producers of polymer piping systems are highly-dependent to foreign companies in terms of machinery, equipment, technology and raw material. The main business partners of the companies, before the recent sanctions, were international large production companies from Germany, Italy, South Korea, China, and Taiwan. A large share of the companies’ expenses, more than half of the companies’ expenses, goes for international purchasing. Domestic customers of polymer piping systems include state construction companies, industrial companies, and private construction firms. The systems are also exported to Iraq, Turkey, Syria, Afghanistan, Tajikistan, Azerbaijan and Armenia.

Excluding the mentioned 17 companies, other market actors in the field of polymer piping systems are mainly importers of ready-to-assemble systems, or they use pre-produced polymers to produce only PVC, or they have technology to produce only one-layer polymer piping systems; and their productions and merchandises are used domestically by numerous individual customers and small construction firms.

According to previous statements, the market can be divided into two sets of series where each set represents a homogeneous series of firms: high-tech producers of polymer piping systems and low-tech producers of polymer piping systems. The high-tech set of producers of polymer piping systems, mainly two companies, is studied in this particular research.

1.1.4 Company Description

As stated above, two companies of high-tech set are studied in this paper. For confidentiality reasons they are called Firm 1 and Firm 2.

Established 1998, Firm 1 has production facilities to manufacture 220,000 meters of polymer pipes per day. The firm has twelve production lines for fittings producing 400,000 pieces of fittings. In the area of manufacturing 5-layer tubes, there are 5 high speed lines with a production capacity of 140,000 meters of pipes as well as 6000 pieces of fittings per day. The manufacturing department of the firm has various units including administration, production, quality control, maintenance, repair and storage that all operate under the supervision of the Director of manufacturing. The firm has an extensive network of sale agents to market the variety of its products both domestically and internationally. More than 40 % of the firm's production requirements are purchased from abroad that leads the company to be highly import-dependent for production as well as dedicating a large share of company's expenses to international purchasing. Before sanctions, Firm 1's international business partners were famous large companies from Germany, Italy, South Korea, China, and Taiwan; but after the recent sanctions against Iranian oil and petrochemical industry, the firm was forced to shift its international purchasing to small trade intermediate firms located in United Arab Emirates that led production expenses to increase. Domestic customers of the firm include state construction companies, large industrial firms, and large privately-owned construction companies. The firm exports its products to the neighboring countries Iraq, Afghanistan, Armenia, Turkey, and Tajikistan.

Firm 2 was founded in 1999 and produces all types of polyethylene, polypropylene pipes and fittings. The firm is recognized as one of the leading producers of polymer piping systems in the Iranian market for the mentioned products. Development and production of sanitary water polymer networks is one of the main concerns of the company. Employing modern high-tech production facilities, following internationally-defined standardization procedures during the process of production of polymer piping systems, and continuous investment in R&D programs in production of polymer piping systems to create new products based on consumer demand led the company to be one of the well-reputed producers of polymer piping systems in the Iranian market. Like the first introduced one, Firm 2 is also highly dependent on international industrial purchasing to be able to continue to produce polymer piping systems. A large share of the company's expenses contributes to international purchasing. Before the sanctions, Firm 2 had close relationships with well-known international companies, like Uponor and Lloyd's, from Germany, Britain, China, Taiwan, and South Korea; but after the recent sanctions Firm 2 shifted its relationships towards small intermediaries mainly located in United Arab Emirates in order to feed its needs for capital requirements of production. Domestic market for the products of Firm 2 is almost the same as the market for Firm 1; and the company mostly exports to the countries of Iraq and Afghanistan.

Foreign purchasing in both companies is handled by one, or just few, professional personnel of the firms' trade departments in who report directly to managers of the mentioned departments.

1.1.5 Sanctions and Their Role in Iranian Polymer Piping Industry

“U.S. sanctions have been a major feature of U.S.-Iran policy since Iran’s 1979 Islamic revolution” (Katzman, 2013:1). Also, bilateral sanctions of the United Nations, European Union, and their alliances on Iran are added to the U.S. sanctions on the country (Katzman, 2013). Iran’s nuclear program is considered as a potential threat to the global energy supplies by the United States and its alliances in the United Nations and the European Union (Katzman, 2013). Consequently, Iran is now under enormous sanctions of the international political society.

One of the main targets of the U.S. sanctions is Iranian oil trade and its related industries (US Department of State, 2013). An added trigger to the sanctions is the executive order 13590 that is applied to sales to Iranian energy sector including petrochemicals. Another added trigger, executive order 13622 of July 30th 2012, applies to purchasing of Iranian crude oil and petrochemical products (Katzman, 2013).

In return to the sanctions that the U.S. and its alliances have made on Iranian international sales and purchasing of petrochemicals, the Iranian government “has banned the export of petrochemical products, including polymers, polyethylene, polypropylene, [and] polyvinyl chloride as a measure to support national production” (Platts Website, 2012).

Following what explained so far, it is obvious that the Iranian polymer piping industry has shifted its trade to those countries that have not yet imposed sanctions against trade with Iranian industrial firms.

1.2 Problem Description

In accordance to the introduction, this research paper is carried out in an Iranian setting of the international industrial purchasing context based on the case study of two Iranian producers of polymer piping systems. Formation of theoretical framework will be based on classical theories of international trade leading to Hallén’s model (1982) focusing on handling purchasing from foreign markets.

Wilkinson (2001) sees the field of inter-firm relations and networks as it includes developed theories and concepts explaining why marketing systems arise to perform production and make marketing work. In the field of marketing, Wilkinson defines inter-firm relationships as “marketing and distribution channels in domestic and international markets; supply chains; business to business markets and the nature and role of relations between buyers and sellers; and institutional studies of intermediaries such as retailers and wholesalers” (Wilkinson, 2001:23). Karlsen et al (2003) argue that purchase activities of industrial firms bring them the chance to build relations with foreign firms as well as bringing the chance to learn how to handle foreign markets. Handling foreign markets is often expected to consider issues of marketing and exports while their success in foreign markets is of vital importance to them; and “efficient use of sources of supply that are available in foreign markets is often very important for industrial firms” (Hallén, 1982:99). He argues that efficient purchasing is an

important condition of achieving higher profits “no less than is the efficient use of the buying firm’s own productive and development capability” (Hallén, 1982:99).

Many Swedish and Finnish researchers have contributed to the field of international purchasing and internationalization of firms (Karlsen et al, 2003). As a joint-member of the IMP Group, the Swedish researcher Hallén (1982) conducted a case study on five Swedish firms and their 35 supply markets within five European countries of Sweden, Germany, France, Italy, and Britain. Like many other previous researchers who used macroeconomic theories of international trade to contribute to the field of purchasing (Wilkinson, 2001), Hallén defines a model of the factors that influence international purchasing (Hallén, 1982). Results of his study are illustrated from a European context where no trade barriers exist.

So far, many researchers have contributed to the field of international purchasing; but “to date, no consistent empirical evidence appears to exist for one particular connection form (Annavaarjula & Beldona, 2000; Contractor, Kundu, & Hsu, 2003; Riahi-Belkaoui, 1998; Ruigrok & Wagner, 2003; cited in Wagner, 2004:447). For more information refer to Wagner (2004).

This study applies the three-factor model of international industrial purchasing to an Iranian context focusing on two international Iranian producers of polymer piping systems in order to analyze and compare the ways that the two companies handle international purchasing in current complex Iranian economic circumstances; and to find out how the model fits the mentioned context under the mentioned circumstances. Conducting this study helps to understand how international industrial relationships are handled by Firm 1 and Firm2 in such complex settings.

1.3 Purpose

According to the described problem, the purpose of this research is to reveal how international industrial purchasing is handled by Iranian producers of polymer piping systems “by going beyond macroeconomic theories of international trade” (Hallén, 1982:99), and keeping more practical view on the drivers of international purchasing rather than focusing only on cost differences as driving force of international trade.

In response to the purpose, the following statement is defined as the research question:

- *How do internal and external drivers influence international purchasing practice of Iranian producers of polymer piping systems?*

This research paper is designed to bring reliable and valid answers to the defined research question through an academic approach.

1.4 Relevance, Value, and Target Audience of the Research

Marketing management research papers tend to be theoretically and/or empirically of relevance (Bryman & Bell, 2007; Fisher, 2007; Sachdeva, 2009; Denscombe, 2010).

Theoretically, this particular research, as explained previously, aims to apply Hallén's model to a complete new setting. Empirically, behaviors of the two selected high-tech producers of polymer piping systems on the way handling international purchase is studied.

In general, this research brings more insight view to market actors in polymer piping industry, both Iranians and internationals, whose interest is building relationships between Iranian firms and other international firms. In particular, Firm 1 and Firm 2 benefit from outcomes of this research in increasing their efficiency in handling foreign markets. The two firms who participated in this research will be anonymously provided by copies of results of this research. Thus, the value of this research is summarized as it anonymously provides a valuable basis of comparison for the participants from each other as industrial purchasers in similar foreign markets. The research shows how the companies differ in terms of operational adaptations in foreign markets; the research also provides in-depth understanding of how international purchasing is carried out by the two mentioned producers of polymer piping systems.

From a theoretical point of view, academic researchers including students and instructors, whose point of interest is the field of marketing systems, can benefit from outcomes of this research paper. Academicians will benefit from the discussions of purchasing approaches of similar firms in an international context; they can also benefit to find out how Iranian producers of polymer piping systems adapt to new market contexts when outsourcing.

1.5 Delimitations

This research is conducted in an Iranian context focusing on polymer piping industry using a case study of two high-tech producers of polymer piping systems, mentioned as Firm 1 and Firm 2. By applying Hallén's model to the mentioned context, the aim was to illustrate how these two firms handle foreign purchasing under current Iranian economic conditions. Selection of the companies was based on their willingness to cooperate with academic researchers in order to benefit from the outcomes of their studies. However, the Iranian polymer piping industry can be divided into two main clusters in terms of the set of technologies they use in the process of production: high-tech producers and low-tech producers; but this study is limited to two Iranian industrial firms that employ high-tech systems in producing polymer piping systems; and the other cluster is not considered in this study. The main consideration was on the purchasing side of marketing activities of the selected companies rather than their entire marketing activities. Applying the mentioned delimitations, depth of the study is increased in order to ensure valuable depiction of the area of research.

2 THEORETICAL FRAMEWORK

“The further backward you can look the farther forward you are likely to see” Winston Churchill.

This chapter provides an overview of some classical models of international trade, including Adam Smith’s classical theory and Ricardian theory as well as discussing studies carried out during the 20th century’s economists that led to Hallén’s model of factors influencing international industrial purchasing, in order to draw a suitable conceptual framework for this particular research.

2.1 Classical Models

International economy is a complex context that all countries all-round the world take part in it. Enormous amounts of goods and services are exchanged between different countries. Two questions here appear: *how the exchange activity can be understood? & what the exchange patterns would be?* These two questions are the cornerstones of the theories of international trade. Many economic models are developed to reveal and predict economic behavior. Among them, the Ricardian Model considering comparative advantage as basis for international trade, Heckscher-Ohlin model considering factor endowments as the basis for international trade, and Adam Smith’s initial theory of international trade considering absolute advantage as the basis for international trade can be considered as well-known theories; the first two mentioned theories are also widely used by economists (Feenstra, 2004).

2.1.1 Adam Smith’s Theory

One of the initial models of international trade was introduced and developed by Adam Smith in his book *The Wealth of Nations* some 200 years ago (Husted & Melvin, 2010). Adam Smith’s theory is based on the concept of *Absolute Advantage*. Based on a couple of assumptions, Smith’s theory brings up this simple rule that “each country should concentrate on the production of those goods it produces most efficiently” (Husted & Melvin, 2010:59); that is considered as the rule of absolute advantage. Some basic assumptions should be considered to explain Smith’s theory of international trade:

1. Factors of production are not mobile between countries: this guarantees that in both countries, the slope of production possibility frontier is constant as the international trade starts,
2. None of the countries have any barriers for international trade in goods: this means that no transport costs, tariffs, and quotas exist in the countries,
3. Exports shall pay for imports: this guarantees the balance of trade in the countries where the foreign currency earned by exports is perfectly repatriated; or in other words, goods pay for goods,

4. The only relevant factor of production is labor: this leads to illustrate universal results in a simple manner, and
5. Changes in factors of production, the labor, leads to similar changes in output, the rule of constant returns to scale: this means that a technological relationship exists between factors of production (Husted & Melvin, 2010).

Adam Smith's model can be summarized as:

- Different countries have different production possibilities due to their heterogeneous status,
- If countries exit autarky, and specialize in production of the goods that they have absolute advantage of production, the world output can possibly be expanded, and
- Naturally, the mentioned situation in previous statement can be achieved by the outcomes of the mixture of market forces and free international trade where the least expensive good has absolute advantage (Husted & Melvin, 2010).

2.1.2 Ricardian Theory

Another classical theory of international trade was developed by the British economist David Ricardo. His theory, also known as the Ricardian model, is a constructive development of Adam Smith's theory that brings this idea: *technological difference is the determinant factor in making the direction of international trade* (Feenstra, 2004). Technological differences result in comparative advantage where the comparative price of a particular product in a particular country is less expensive than the rest of the world (Husted & Melvin, 2010). The model results in the rule that "once trade is allowed between the two countries, each country should move to specialize in the production of its comparative-advantage good" (Husted & Melvin, 2010:61) to export its excess production of that good in order to pay for its comparative disadvantage good that is consequently imported (Feenstra, 2004).

Ricardian theory has always been a relevant economic theory to explain international trade (Feenstra, 2004); "[the model] makes accurate predictions about actual international trade flows" (Krugman & Obstfeld, 2006:45). The Ricardian model is widely used by many academicians like Graham (1948): using a couple of numerical examples; McKenzie (1954): making an activity analysis of a particular case; Jones (1961): developing conditions of efficient multilateral specialization. Hence, the theory has the potential to be used in different relevant studies (Richter & Rosenmüller, 2012); and it has the ability to explain trade patterns either historically or in the circumstances of modern economics considering technological differences (Feenstra, 2004). Applying Ricardian theory of comparative advantage, every country that involves in international trade will be better off by specializing in production of one good.

To evaluate the classical model of international trade, it is notable that the trade takes place according to the law of comparative advantage; international trade increases international

production capacity as a whole; and the international trade is a phenomenon resulted from free market activity (Husted & Melvin, 2010; Feenstra, 2004).

2.1.3 Criticism on the Classical Models

Even though using classical theories of international trade has its own advantages, at the same time they have some disadvantages and restrictions. For example, the belief is that Adam Smith failed to discover the principle of comparative costs that led his entire approach to be less credible (Myint, 1977). Smith is also criticized because “his trade theory is mixed up with other dubious doctrines, such as the capacity of equal capitals to put into motion different quantities of productive labor and the *vent-for-surplus* theory, which do not lend themselves to a clear and consistent interpretation” (Myint, 1977:231). A complete summary of criticism on Smith’s theory is available at Bloomfield (1975). Consequently, the theory calls for some adjustments and developments (Husted & Melvin, 2010; Feenstra, 2004).

Classical models of international trade are also “restricted by a number of conditions that must be fulfilled if actual trading is to take place” (Hallén, 1982:100). He defines the following points as the restrictions of the classical models:

1. Trading costs and transportation costs shall be lower than the outcomes, gains, of the trade activity
2. No matter what country are the products made in, shall the products meet middlemen and customers’ needs and wants,
3. All marketers, customers, and middlemen shall have the full access to the market information through efficient networks,
4. An industrialist shall not be attracted and/or interested by differences in costs and prices,
5. Having deducted costs of transportation and having considered traders’ profit, tariffs shall not be existing or exceeding the cost differences between the two countries, and
6. There shall be no other government or financial barriers for trading and/or products (Cateora & Hess, 1979; Cited in Hallén, 1982:100).

2.2 20th Century Models

Network view on markets led to foundation of new theories and concepts based on existing economic theories and models of international trade. In general, recent theories and concepts of marketing systems are developed to “help explain why systems of interrelated firms and other organizations arise to carry out production and marketing work” (Wilkinson, 2001:23).

2.2.1 Founding Researchers and Their Models

During the 20th century, many economists, like John Commons, Joseph Schumpeter, and Ronald Coase, contributed to the theoretical aspects of marketing systems, and their studies have become cornerstones of later theories and researches. Making a transaction-based study, John Commons identified bargaining, managerial, and benefit transactional activities among people. In his studies, Commons showed that collective economic organizations are able to manage conflicts among individuals while these organizations are under control of individual actions. The concepts of network strategy and network position are based on Commons' ideas as well as market exchange, behavioral dimensions, and economic dimensions that are inspired by Commons. Wroe Alderson's studies of market transactions and behavior systems as well as network structure models of business are also based on Commons' studies. Joseph Schumpeter was another economist who defined that it is innovative competition that shapes institutional change, not price competition. To ensure their position in business systems, Schumpeter showed that both organizations and business networks shall adapt to technologic changes and network conditions. Lots of recent marketing concepts such as "differential advantage, innovative competition and value delivery systems [as well as] recent attempts to develop computer-based models of industrial organization" (Wilkinson, 2001:25), are inspired by Schumpeter's studies. Ronald Coase was awarded the Nobel Prize in Economics because of his studies that resulted in introducing the concept of transaction cost. His study was developed later on by Oliver Williamson "in ways that have had a profound influence on marketing theories of business networks as well as economic theory [...]" (Wilkinson, 2001:25). For further information regarding to relevant theories, refer to Ian Wilkinson (2001).

2.2.2 The Three-Factor Model of Industrial International Purchasing

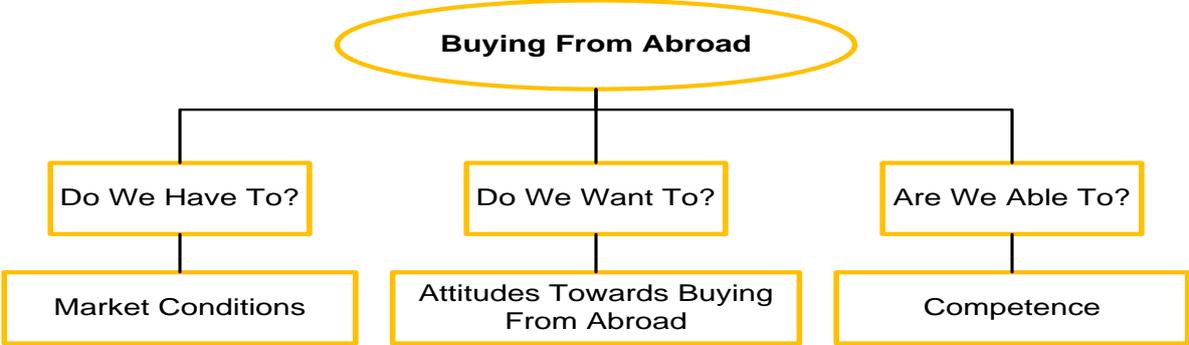
Going beyond the classical theories of international trade and taking their restrictions into account, Hallén suggests a model of three underlying factors that influence buying from abroad (Hallén, 1982). These factors are categorized as "*Market conditions, Attitudes towards buying from abroad, and the Ability to execute purchasing transactions in foreign markets*" (Hallén, 1982:99). He refers market conditions to the basic idea of the classical model where domestic demand exists for the products that are produced more profitably by foreign producers. Attitudes reflect the second restriction of the classical model where foreign-produced commodities and foreign producers may negatively be viewed and prejudged. The ability to handle purchasing and conduct transactions in foreign markets relies on the third and fourth restricting assumptions presented above where all traders should be attracted to price differentiations while they shall "master the specific skills of dealing with international trade" (Hallén, 1982:100). The model is illustrated in figure 1. As the figure shows, the process of buying from abroad is referred to three consequential questions that address three driving forces behind buying from abroad.

Answering to the first question that looks to find existing market needs for buying from abroad is referred to market conditions. The need to buy from abroad can be seen as the importing industry, company, lacks domestic factors of production i.e. sets of technologies, know-how, material, and potential domestic suppliers. The need to buy from abroad can also

be referred to the concept of global sourcing where an industrial firm purchases components, material, and technologies from abroad in order to remain competitive in the market. The need to buy from abroad can also be seen as the quality of domestic factors of production is not satisfactory to be employed in the process of production (Ghauri & Cateora, 2010).

The second question addresses the willingness of the domestic market actors to purchase and employ imported factors of production. The existence of “prejudice against foreign producers and foreign suppliers” (Hallén, 1982:100), intra-firm tension to deal with foreign suppliers based on the firms’ objectives and issues rather than national objectives and issues, and supplier-customer relationships are some of the elements that influence buying from abroad (Hallén, 1982). Boycott of products that is an “attempt by one or more parties to achieve certain objectives by urging [...] consumers to refrain from making selective purchases in the marketplace” (Friedman, 1985; Cited in Thelen & Shapiro, 2012:182) is also an important factor influencing the willingness of customers to purchase/reject an imported product (Thelen & Shapiro, 2012). Another important factor determining the willingness to buy from abroad is culture (Dana et al, 2006). Cultural similarities and dissimilarities, like language, are important in addressing behavioral patterns. Companies’ willingness may be to deal with domestic suppliers rather than foreign suppliers according to the mentioned factors above (Hallén, 1982).

The third question, as explained before, addresses the specific skills that negotiators shall have for dealing with international trade. These skills are knowledge of the market, understanding the culture, and the ability to use techniques of trade both individually and on an organizational level (Hallén, 1982).



*Figure 1 the Three-Factor Model of Determinants of International Purchasing
(Adapted From Hallén, 1982)*

Hallén’s model was developed in a context of five European countries, parallel with IMP Group project, where no trade barriers existed. The five countries were members of European Economic Community, EEC, and European Free Trade Association, EFTA, that have signed free trade agreements for industrial products in 1972 in order to facilitate trade and reach the goals of “increased productivity, a more efficient use of resources, the expansion of economic activity and full employment as well as promoting financial stability and improving living standards” (Website of the Kingdom of Belgium, 2013) in the member countries.

2.3 Conceptual Framework

This study is conducted in an Iranian context; and the country is under heavy sanctions. International trade between Iran and many countries is highly restricted as a result of the sanctions (Katzman, 2013). Before the sanctions, international trade with Iranian producers of polymer piping systems was regularly in place as well as the Iranian market. The only change in the regular international trade with Iranian producers of polymer piping systems can be noted as the sanctions of the international political society on Iranian economy.

Consequently, the three-factor model calls for adjustments to fit the Iranian case. An efficient adjustment can be seen as adding a regulating factor along with other three underlying factors behind buying from abroad that Hallén defines in his model. Under circumstances of sanctions, deciding to go internationally, Iranian entrepreneurs are influenced by the question ‘are we legally allowed conducting international trade activities?’ at the same time as they are influenced by the elements of three-factor model. Answering the mentioned question leads to a fourth underlying factor that, in this case, is regulations raised by sanctions.

Based on the explanations above, the three-factor model is adjusted to have the capability to be applied to the Iranian context under the current circumstances. The adjusted model is illustrated in figure 2.

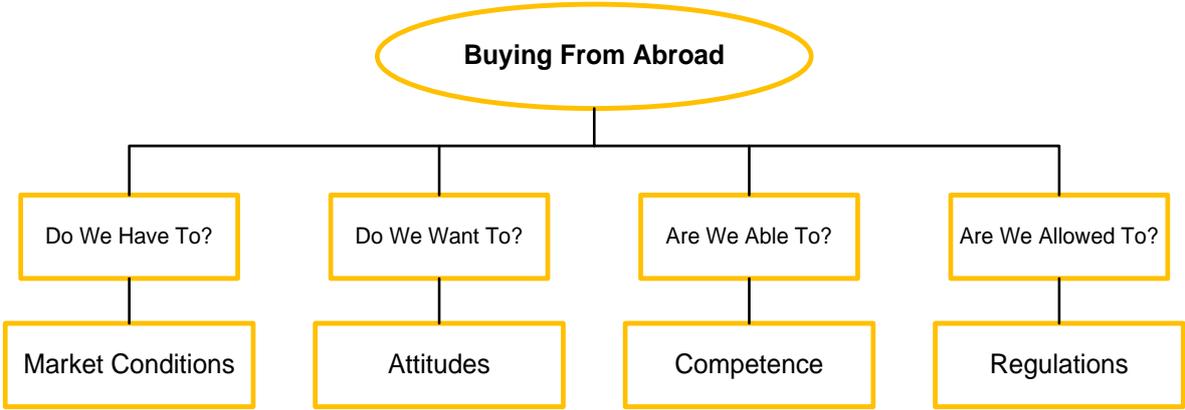


Figure 2 the Adjusted Three-Factor Model

As it is seen in the figure 2, the fourth factor that is a response to the influences of enormous sanctions on the Iranian economy is placed besides other three factors of the original model. Market conditions and regulations can be seen as external factors that influence international purchasing while competence and attitudes can be seen as internal factors that influence international purchasing of a firm. The model illustrated in figure 2 depicts the conceptual framework that is employed by this particular research.

3 METHODOLOGY

In this part, methodological aspects of this research paper are discussed and motivated.

3.1 Choice the Research Topic

The initial idea of writing a master thesis in the field of marketing systems can be referred to the author's previous experience in industrial markets. Having interviewed Professor Hallén after he presented one of his previous researches under the topic of international industrial purchasing as a guest lecturer of the course Marketing Systems at Mälardalen University convinced me that Hallén's study has the potential to be applied to a new context with a new setting of market conditions.

Nevertheless, "The practice of business research does not exist in a bubble [...] sealed off from the social sciences and the various intellectual allegiances that their practitioners hold" (Bryman & Bell, 2007:5). There are different views on the relevance of a marketing management studies: some researchers see it as an applied field of science that brings understanding, and some others see it as an evidence-oriented exercise that is "insufficiently guided by theoretical concerns" (Bryman & Bell, 2007:6). These two views lead the researchers in this field to adapt their research projects to one of these two modes explained by Bryman and Bell (2007): mode one concerning the classical academic model in what production of knowledge is an outcome of the academic agenda while a discovery is built on the basis of an existing knowledge, and mode two that concerns a context in which findings are closely limited to it (Bryman & Bell, 2007). This particular research fits mostly with the second mode explained above considering Iran as a new context focusing on two particular cases of the high-tech producers of polymer piping systems; but this does not mean that this research is not on the basis of an existing knowledge. Indeed, this research attempts to contribute to Hallén's existing model by applying it to the Iranian context. Consequently, this research feeds academic theoretical purposes while trying to draw findings of a limited context.

Several attempts were made to approach different Iranian industrial firms for reaching an agreement with one or a few companies of a particular industrial sector in order to conduct the research project; but none of the attempts were successful. Later on, employing personal contacts with the marketing manager of Firm 1, that particular firm confirmed that I would be allowed to conduct a study on that particular firm. Firm 2 was suggested by the marketing manager of Firm 1 due to her personal contacts with the mentioned firm.

The two firms, as mentioned in the introduction, are both in the same industry; they are both grouped as high-tech producers of polymer piping systems in the Iranian market; they are both similar in terms of the sets of technologies that they employ in the process of producing polymer piping systems; a large share of their purchasing expenses goes for international purchasing that leads them both to be highly dependent to purchasing from abroad; they are both well-reputed in the Iranian market for polymer piping systems; in terms of brand, sales, and market conditions, they represent two of the largest and strongest firms within the

Iranian market for polymer piping systems; they both sell to similar customers; and they are both representatives of the high-tech homogeneous setting of Iranian producers of polymer piping systems.

3.2 Research Design

Planning for taking action to reach the aim of this research that is to find out how international industrial purchasing is handled by Iranian producers of polymer piping systems considering two Iranian firms, employing a case study approach focusing on intensive investigation of the current situation of the Iranian producers of polymer piping systems can be highly reliable, useful, and appropriate (Denscombe, 2010; Bryman & Bell, 2007). Case studies are beneficial due to their unique characteristics of *depth of study*, particularity of the case, emphasis on *relationships and processes*, and consideration of *natural settings* (Denscombe, 2010:54).

Designing a research strategy, three basic concepts shall be considered: suitability of the research strategy, its feasibility, and related ethical issues (Denscombe, 2010; Bryman and Bell, 2007; Denzin & Lincoln, 2000). Choice of a case study approach is suitable in this case since a case study tends to “understand the complex relationship between factors as they operate within a particular social setting” (Denscombe, 2010:5). I was also granted access to sources of data from Firm1 and Firm 2 that form the case of the research.

There are two distinctive approaches to conduct a research to collect data: *qualitative approach* using uncountable elements and *quantitative approach* using countable elements (Denscombe, 2010; Bryman & Bell, 2007); the two approaches are distinguished by the usage of *measurement* in quantitative approach rather than in qualitative approach (Bryman & Bell, 2007). While quantitative approach requires a deductive approach that objectively considers reality, qualitative approach exemplifies the real situation showing how individuals interpret their social world (Bryman & Bell, 2007; Denzin & Lincoln, 2000).

The nature of this study, as explained previously, calls for employing both qualitative and quantitative data. In response, a *qualitative approach* is designed to gather both qualitative and quantitative data. The use of qualitative and quantitative data together can fill the gaps for the required empirical data (Bryman & Bell, 2007).

As explained previously, applying a modified version of the three-factor model, this research attempts to compare the two mentioned firms in order to see how they handle purchasing from abroad. Consequently, a deductive approach focusing on the “nature of relationship between theory and research” (Bryman & Bell, 2007:430) is applied to this research.

3.2.1 Research Method

A strategy is the plan of taking an action that calls for an appropriate method approaching the process of data collection that focuses on particular sets of procedures and assumptions depending on what the researchers try to achieve (Bryman & Bell, 2007; Denscombe, 2010).

In the framework of a large-scale study of IMP project, Hallén and his colleagues in IMP Group approached their respondents employing systematic structured interviews using long questionnaires containing both open-ended and close questions that brought them a huge database that was later on used to develop Hallén's three-factor model. Their interviews were face-to-face ones that in some cases took more than half of a working day to be completely conducted. Consequently, they had to put lots of efforts and time to code the data that they had collected. Their method of data collection is still of high levels of usefulness to handle a large project as they have done previously.

To handle a small-scale project, many interesting ideas can be borrowed from similar successfully-performed large-scale projects such as the IMP project explained above; but there is also the need to adapt the research method to match with the new context because this research is designed to be conducted in a different context; purchasing side of the international trade is considered and supply side is left aside; political trade barriers are imposed by international political society; time flexibility was highly restricted since this research had a compact schedule; and the research is narrowed down to a particular industry in the new context.

According to the arguments above, a semi-structured face-to-face interview method is designed for this research. In contrast with structured interview in which everything is pre-coded, and open interview that is left by the interviewee's idea about the research area, semi-structured interview lets the researchers to cover the main issues while letting the interviewee to point out his or her opinions as complementary data (Fisher, 2007). Employing this kind of research method ensures reduction of interviewer variability error due to the standardization of questionnaires and responds; it increases accuracy of the collected data; and processing of the collected data is easier and less time-consuming (Bryman & Bell, 2007). Employing semi-structured interview not only helps to gather the needed information, but also it helps to collect some additional important data that might be pointed out by respondents during the interview. According to Bryman & Bell (2007), by asking further questions during a semi-structured interview, the researcher can, to some extent, guaranty that the important data will not be missed.

3.3 Sources of Data

Both primary and secondary data as well as academic literature of three different languages of Persian, English, and Swedish form the database of this research. Prime use of the secondary data was during the process of formulating introduction. The main use of academic literature is if formulating theoretical framework, literature review, and methodology part. The two mentioned sources put the research into its place bringing a better understanding of the field of the research and its surroundings. Primary data are gained mainly during the process of conducting interviews; and the primary data led the researcher to draw conclusions responding the research question and the purpose of the research.

3.3.1 Academic Literature

Based on general guidelines of writing a master’s thesis, it shall include a section titled literature review to broaden the perspective of the research; to eliminate the rediscovery of the existing knowledge; to facilitate building on the basis of an existing performed research; and to ensure that nothing is missed by the researcher (Bryman & Bell, 2007; Fisher, 2007). Even though “it is not unusual for a well conceptualized and relevant, in-depth, and interpretive research synthesis to contribute to one-fifth of a research paper's overall word count” (Rhoades, 2011:355); but the task of literature review “[...] can be stand-alone research papers published in peer-review journals and their importance cannot be overemphasized” (Dunne, 2011; Lucas & Cutspec, 2005; Cited in Rhoades, 2011:355). The entire presented arguments are considered in the design of this research: there is no particular chapter representing literature review; but it is included in the entire process of writing introduction and theoretical framework.

Cornerstone of the conceptual framework part is Hallén’s study (1982) on international industrial purchasing conducting a case study of 5 Swedish firms within the framework of five European countries. Theoretical part is further developed by the scientific literature gathered using Discovery that is a reliable “search [engine] for most of the scholarly journal databases [...]” (Mälardalen University Library, 2013), and Google Scholar accessed through Mälardalen University’s library webpage. The two mentioned databases directed the search for academic literature towards academic literature hubs summarized in table 1.

Database	Content	Web Address	Access Channel
DiVA	Undergraduate, Graduate, and Post-graduate Theses	http://www.diva-portal.org/smash/search.jsf	Direct Open Access
Emerald	Economics, Management, & Business Scholarly journals	http://www.emeraldinsight.com/	Throughout Mälardalen University Library WebPage
IMP Group	Scientific Articles on Industrial Marketing	http://www.impgroup.org/papers.php	Direct Open Access
JStor	Scientific & Scholarly Journals and Articles	http://www.jstor.org/	Throughout Mälardalen University Library WebPage
Social Science Citation Index	Citation Database	http://thomsonreuters.com/	Throughout Mälardalen University Library WebPage

Table 1 Databases of Academic Literature

The key words in searching for academic literature were: International purchasing, Industrial Marketing, International Trade, Trade Theories, Efficient Purchasing, Network View, and Buyer-Seller Relationship. Employing the words *and*, *or*, *not* in searching academic literature as well as combining the mentioned keywords with each other, a large amount of relevant academic papers was generated that was later employed in the process of the research.

Together with academic and scientific articles, a number of relevant books are also used as sources of academic literature.

The mentioned sources feed the need of this particular research for academic literature.

3.3.2 Primary & Secondary Data

Secondary data is mainly the base of the introduction part. The expressions of Polymer Piping Systems, International Standards, Iran Sanctions, and International Trade Regulations are used as keywords to search for secondary data through World Wide Web. Iranian governmental, institutional, official, statistical and informational online resources are also used to describe the Iranian context. Considerable amounts of secondary data of the two companies are also collected from their WebPages; and the data are used in the process of company description in the introduction section. The author is not permitted to reveal names of the two firms. Consequently, the firms' web addresses are not referred in this paper.

Results of the interviews with respondents from Firm 1 and Firm 2 form the base of the primary data for this research. Primary data are initially used after two preliminary interviews with marketing department executives of the two firms asking them to bring some general information about the companies and their basic statistics in order to employ the data for developing the company description part. The most important and the largest share of the primary data are generated by semi-structured interview questionnaires that will be discussed later under the heading *Interview Questionnaire Design*. These data make it possible to fulfill the demands of conceptual framework. Primary data that is generated by the research method is then processed to develop the analysis part that leads the research to its final aim of responding to purpose of the research, and to answer the research question.

3.4 Semi-Structured Interview

Relevant theoretical considerations will be discussed in this chapter.

3.4.1 Interview Questionnaire Design

A well-designed questionnaire shall meet these criteria: it has to be well-ordered and well-flown on issues that are to be covered; it has to generate data in order to answer research question; a correct language theme shall be employed in formulation of questions; and it gathers information to contextualize responses of participants (Bryman & Bell, 2007; Fisher, 2007).

The interview questions are designed based on the platform of the questionnaires of IMP project that were used by Hallén (1982) to draw his model. Since the conceptual framework of this research is a modification of Hallén's three-factor model, it is obvious that the questions he used to collect data for developing his model are of high levels of reliability for this similar research; but at the same time the influence of some factors like the different eras that the two researches are conducted: 1982 and 2013, differences in the scale of the researches: large-scale Vs. small-scale, duration of interviews: long Vs. medium, information technology changes: the use of internet etc., contextual differences: Europe Vs. Iran, number of the studied firms and their field of business: five heterogeneous Vs. two homogeneous, international political sanctions on Iran, and language difference: English Vs. Persian shall be considered to modify and update the mentioned questions. Moreover, the interview

questions are modified so as they lead the process of data collection to end with answering the research question in later steps of the research.

IMP project questionnaires were accessible; they were first reviewed; relevant questions were selected; the selected questions were adapted to the context of the research; and they were finally redesigned and translated to Persian as Iranian official language. If the questionnaire was translated by an official translator, there was a risk of unfamiliarity of the translator with marketing management expressions leading to bias in the process of data collection because of incorrect translation. In response, the author, who himself is Iranian, translated the questionnaire.

The interview questionnaires are divided into two parts: the first part is designed for interviewing purchasing managers of the firms; and the second part is designed for interviewing purchasing operatives of the firms. The logic behind designing different questionnaires can be referred to the fact that, in general, macro-level organizational strategies are defined by their management teams; and micro-level organizational activities are handled by employees and personnel. So, it is logical to have the view of the firms both from management and operative points of view. Moreover, not everyone in an organization has the same amount of knowledge and information about a particular issue. The interview question consists of eight questions that each question includes a pair of relevant sub-questions. Questions are of both kinds of open and close questions. Table 2 illustrates the overall data that each particular question aims to gather as well as the theoretical relevance of that question with conceptual framework of the research.

	Q. #	Set of Collected Information	Theoretical Relevance	Perspective
Part One	1	Firm's Financial Information	Description of Case Company	Managerial
	2	Firm's Purchase Composition	Market Conditions; Regulations	Managerial
	3	Firm's Purchase Department	Market Conditions; Market Structure; Regulations	Managerial
	4	Purchase Department Relationships	Market Conditions; Attitudes; Regulations	Managerial
	5	Missed Relevant Data	Entire Conceptual Framework	Managerial
Part Two	6	Specialization of Purchasing Operatives	Market Conditions	Operative
	7	Market Knowledge	Competence	Operative
	8	Preferred Supplier	Attitudes	Operative
	9	Missed Relevant Data	Entire Conceptual Framework	Operative

Table 2 Structure of the Questionnaire

The English version of semi-structured interview questionnaire is presented in appendix 1.

3.4.2 *The Interviewer*

Because of time and budget limitations, the compact schedule of the thesis project, and the fact that this research is handled only by one researcher, it was almost impossible to travel to Iran for conducting face-to-face interviews in order to collect empirical data. Consequently, other types of interviews like telephone interview, and online interview were considered as other alternatives to the selected method; but they were rejected because of a 3.5-hour difference of local times between Sweden as the country that the researchers live in, and Iran as the country that the firms are located in. The mentioned local time difference makes it almost impossible to carry out different interviews with different respondents at different hierarchical positions in the two mentioned firms. Also, insufficient speed of internet connections in Iran that cause many disconnections during an online interview result in the logical decision that an online interview is not feasible for this particular research. In response to the mentioned limitations, the final decision was made to handle the interviews by a reliable third-party interviewer.

The selected interviewer holds a Master's degree in Business Administration from the School of Management and Business of Isfahan University; for the last four years of her job experience, she has been working as a marketing manager; and she has been participating in numerous academic-industrial joint projects in Iran. Consequently, she is both academically and practically educated and experienced in the mentioned field. At the same time, she is familiar with the environments of the two firms due to the close business contacts with the two firms. Employing e-mails, online and telephone interviews she got completely informed about the research, the purpose of the research, its conceptual framework, and the demanded empirical data. Afterwards, she was trained how to conduct and lead interviews. The entire interviews were also recorded using an electronic voice recorder in order enable the researcher to double check them and see if everything is in-place, and to make sure that no information or specific points are left aside or missed during the interviews. Even though the interview questions are completely checked for their ability to collecting the needed empirical data, having assumed that there might be the risk of missing some important useful information or occurring practical mistakes by the interviewer, the respondents were asked for the possibility of further interviews in case of any needs; and they all agreed on that.

3.4.3 *Selection of the Firms & Respondents*

After contact with one representative marketing executive of Firm 1, I was guided towards other executives of the firm as well as granting the opportunity to make connections with Firm 2 and its representative executives. The contact person and her personal network of contacts within the context gave links to the right people within the two firms. Since the lady was completely informed about the aim of the research, she put lots of efforts to find the right people within the two firms, and to inform and encourage them to participate in the research. Then, the entire set of the selected respondents, as well as the two firms' CEOs, were approached by e-mail contacts for their approval on an interview that was planned to be handled by a third-party interviewer. Having approval e-mails of the firms' CEOs and respondents from the firms, the set of the respondents was fixed and approved in advance. Since the two firms handle international purchasing by few highly-experienced purchasing

operatives, one purchasing operative of each firm was interviewed as well as purchasing manager of each firm. Therefore, a total number of four interviews were conducted in order to completely fulfill the demands of the research for empirical data. Table 3 summarizes the interview procedure.

Firm #	Location	Date of Interview	Time of Interview	Duration of Interview	Position of Interviewee
1	Firm 1	2013-05-07	11:30 A.M	Approx. 30 min.	Purchasing Manager
1	Firm 1	2013-05-08	09:00 A.M	Approx. 25 min.	Purchasing Operative
2	Firm 2	2013-05-07	08.00 A.M	Approx. 35 min.	Purchasing Manager
2	Firm 2	2013-05-08	03:00 P.M	Approx. 35 min.	Purchasing Operative

Table 3 Summary of Interview Process

There is a critique that the selected interviewees may not be representatives of the entire firms (Denscombe, 2010; Fisher, 2007; Bryman & Bell; 2007). Since the selected respondents are relevant people to the field of study, the above critique is because the respondents represent their entire organizations in this case.

3.5 Analyzing Data

Usually, large amounts of data are collected by different research approaches that should be sifted and carefully analyzed so as they get able to “identify patterns, biases, themes, and meanings” (Leedy & Ormrod, 2005; Neuendorf, 2002; Cited in Berg 2007:304) in order to make a detailed examination of the study case to achieve the aim of the research to describe consistent elements, or illustrate how the case works, or to interpret the meaning of the case (Denscombe, 2010; Fisher, 2007; Neuman, 2011).

Qualitative data is preliminary analyzed at the same time as the empirical data collection is ongoing; but it shall be analyzed in a systematic approach to make better understanding and contribute to the field of science by making advancements in knowledge. Qualitative data analysis “allows us to be systematic and logically rigorous [...]” (Neuman, 2011:507).

Denscombe (2010) argues that qualitative data analysis reflects the kind of data and the purpose of data collection; and there is, “[...] therefore, no single approach to the analysis of qualitative data that covers all situations” (Denscombe, 2010:272). Such analysis can be summarized in these categories: *content analysis*, *grounded theory*, *discourse analysis*, *conversation analysis*, and *narrative analysis* (Bryman & Bell, 2007; Denscombe, 2010; Neuman, 2011); and this last type of analysis fits this research best. Fisher (2007) defines narrative analysis as *writing case studies and accounts* “to give a narrative account of the subject of [the] study” (Fisher, 2007:186). He defines two general types for analyzing case study: “*following up theoretical proportions* [and] *developing a case description*” (Yin,

1994; cited in Fisher, 2007:187). In theoretical approach the entire process of collecting and analyzing data is guided by theoretical framework of the research (Fisher, 2007). Based on the above arguments, a theoretical approach is employed in this particular case study both for empirical data collection and data analysis.

Qualitative data examine patterns of similarities and differences across cases and try to come to terms with their diversity. [Through analysis of] qualitative [data,] researchers also examine differences among cases, but with a different emphasis, the goal is to explain the co-variation of one variable with another, usually across many cases (Ragin, 1994:107; Cited in Neuman, 2011:508).

At the same time, qualitative data shall be treated step-by-step in a systematic way to solve the “dilemma of drafting” (Fisher, 2007:181). By the time empirical data collection was finished, interview transcripts were first checked with interview audio recordings; then the variances between transcripts and interview recordings were detected, and interview transcripts were corrected; the complete correct transcriptions were translated to English; responses from the two firms were distinguished and treated under the same procedure; for each company, the data were processed based on the design of the interview questions; the processed data were then applied to research’s conceptual framework; and the overall process was controlled once more to prevent any mistakes. Finally, the analysis took place in order to show how each particular firm handles foreign purchasing.

Quantitative empirical data were employed to illustrate financial situation and proportion of purchases for each particular firm. In-line with the conceptual framework, quantitative data were also employed for illustration of differences in the ways the market conditions differ for each firm as well as the entire qualitative data. Since the empirical quantitative data were only statistical data, there was no need to analyze them; and they are directly presented under the section that presents empirical findings.

3.6 Trustworthiness of the Research

Validity and reliability are the most important concerns of every researcher in all measurements. Together, validity and reliability “connect measures to constructs” (Neuman, 2011:207). Validity and reliability are hard, or somehow impossible, to be perfectly achieved. Due to the fact that constructions and illustrations are “ambiguous, diffuse, and not observable” (Neuman, 2011:208), proving their validity and reliability are prominent to researchers (Bryman & Bell, 2007). While reliability deals with consistency of the research material, validity addresses its trustworthy (Denscombe, 2010; Fisher, 2007; Neuman, 2011). Reliability and validity, to some extent, are discussed in the entire process of the research. This particular section concerns methodological aspects of validity and reliability in writing academic papers. Neuman argues that “reliability is necessary for validity and is easier to achieve than validity” (Neuman, 2011:216).

3.6.1 Reliability

Reliability of quantitative data can be defined as no variance is detected in outcomes of an indicator “because of the characteristics of the measurement process or measurement instrument itself” (Neuman, 2011:208). In this case, the empirical quantitative data includes only official financial statistics of the two firms. As motivated in previous sections, quantitative data are presented purely; and they are employed to illustrate the differences between the two firms. It is obvious that financial statistics of the firms are officially registered in firms’ annual financial statements; and these data remain consistent at any time.

Reliability in qualitative approach means consistency (Denscombe, 2010; Neuman, 2011). Reliability of the qualitative material shows that researcher is consistent in the way he makes his observations (Neuman, 2011). Qualitative data were collected by unified questionnaires targeting similar respondents; and conclusions are illustrated by homogeneous treatment of the qualitative data.

In qualitative approach, the cases and their properties are changing over time (Denzin & Lincoln, 2000; Neuman, 2011). This research was conducted in a particular time; and during the process of the research, no outstanding changes were observed in under-study cases. The general belief is that in a qualitative approach, the relationship between the researcher and the case is matured over time (Neuman, 2011); that in this case the researcher got more and more related to the case as the research process continued and qualitative secondary data from reliable academic and official sources, as explained previously, were collected and contributed to the entire research. Moreover, employing a well-designed academic research method, motivated previously, following the specific guidelines of various research methodologists, reliability of the primary research data is also guaranteed.

Another consideration in qualitative research is that measurement is not fixed and mechanical as in quantitative approach since it deals with the study of humanity (Denzin & Lincoln, 2000; Neuman, 2011). Also, qualitative researchers agree that different researchers draw different results of a particular case because of the unique mixture of research methods that are arduous to be repeated; but this is not contradicting with reliability of a research case since different researchers can differently contribute to understandings of a particular case (Bryman & Bell, 2007; Denscombe, 2010; Neuman, 2011). Consequently, if the same study is repeated in the same context considering similar firms and respondents as well as employing similar research methods, similar results may be achieved.

An important consideration here is the interviewer. Interviews were handled by a third-party interviewer. The researcher found her reliable since she is academically trained and practically experienced in the same field of this research. Also, she is a reliable person because she is “dependable, stable, and responsible person who responds in similar, predictable ways in different times and conditions” (Neuman, 2011:216).

3.6.2 Validity

Arguments on validity refer to “the accuracy and precision of the data [and] appropriateness of the data in terms of research question being investigated” (Denscombe, 2010:298).

Validity also refers to fitness between ideas and the real world; and lack of validity means that there is poor fitness, or no fitness between the ideas as the basis of analysis and the real world as the basis of the collected data. Even though every single researcher has to prove validity of the research material, but validity is differently observed in qualitative approaches (Bryman & Bell, 2007; Neuman, 2011).

General view on validity in qualitative approach is “closely associated with quantitative measurement” (Neuman, 2011:214). Truthfulness of qualitative research shall be approved; and it should try to make a close relationship between thoughts and the real world (Neuman, 2011); but the application of validity to qualitative research calls for “[...] little change of meaning other than playing down the salience of measurement issues” (Bryman & Bell, 2007:410). Based on suggestions of Guba and Lincoln (1995), Bryman and Bell (2007) suggest *trustworthiness* as assessing criteria of validity in qualitative research. These criteria are: *Credibility* that is equivalent to internal validity that aims to assure other academicians that the research findings are believable; *Transferability* that is equivalent to external validity that aims to make the findings of the qualitative research, which are in-depth regarding to a particular context, applicable to other contexts; *Dependability* or the same reliability that is the *merit* for the research’s trustworthy dealing with the entire research process to show the likelihood of the research and its findings to be applied to similar studies; and *Confirmability* that deals with the *good faith* of the researcher on objectivity of the researcher in the entire research process (Bryman & Bell, 2007). Moreover, *Authenticity* is another criterion for trustworthiness of a research that concerns *fairness* as well as *ontological, educative, catalytic, and tactical authenticity* (Guba & Lincoln, 1995; cited in Bryman & Bell, 2007:414).

Based on what mentioned above, “the case researcher needs to provide grounds for validating both [theoretically and practically]” (Denzin & Lincoln, 2000:442). In response to the defined criteria, construction of the introduction part was accomplished with careful selection of valid and reliable material from a large variety of available information regarding to the case. Also, formulation of theoretical and conceptual framework was based on the available peer-reviewed academic literature published in highly-reliable scientific journals. Conceptual framework, especially, was formulated according to Hallén’s three-factor model (1982) that is a highly-reliable and valid model that is approved for the European context while it is cited in numerous peer-reviewed academic literatures. The semi-structured interview design was constructed on theories and concepts that were presented in reliable and recently-published scientific methodological literature as well as referring to rather aged published material. The interview questionnaire was formulated getting the aid of the IMP project questionnaire that was the origin of the data that Hallén employed for illustrating the three-factor model. The entire conceptual framework was also carefully considered in formulating questionnaires. Moreover, the Iranian context and its current political, economic, and social circumstances were carefully considered in formulation of the questionnaire. Political issues were indirectly questioned in order to remove sensitive and

emotional reflections of the respondents in order to gather highly reliable responses. In order to increase validity and reliability of the primary empirical data, the respondents were precisely assured of confidential use of the data they provided to the researcher. Also, a brief introduction to the research was given to the respondents at the start of each interview in order to capture their attention for increasing the relevance of their responses. A highly reliable third-party interviewer, who is highly-experienced both academically and practically, was selected and completely trained to handle semi-structured interviews.

Added to all mentioned above, the reference list of the paper shows that the entire academic papers and books, used to write this paper, are cited by many other reliable academic papers leading to increased validity of the research material.

3.7 Research Ethics

“Today researchers struggle to develop situational and transsituational ethics that apply to all forms of research act and its human-to-human relationships” (Denzin & Lincoln, 2000:19).

Discussions about ethical issues appear in different steps of every particular business research (Bryman & Bell, 2007). Based on their different views on ethics, and based on the nature of their researches including the context, participants of the research, and many other factors that vary from one research to another, different researchers follow different codes of ethics (Bryman & Bell, 2007; Denzin & Lincoln 2000).

Based on the suggestions of Diener and Grandall (1978), Bryman and Bell (2007) present four main ethical issues that shall be considered by business researchers. A business researcher has to consider “whether there is harm to participants, [...] there is a lack of informed consent, [...] there is an invasion of privacy, and [...] deception is involved” (Bryman & Bell, 2007:132).

Harm to participants was controlled according to AoM *Code of Ethical Conduct* that makes the researcher responsible for checking whether the research may have the potential to harm the participants (Bryman & Bell, 2007). The issue was considered from two points: personality of the respondents, and their employment. Consequently, the participants were all treated anonymously; and the data they contributed to the research were treated confidential. No names of the participants were included in questionnaires or in the research paper.

Lack of informed consent was considered by asking the respondents in advance for their willingness to participate in the research. The area and the aim of the research were explained to the participants in two different occasions: in the process of asking them to participate in the semi-structured interviews; and by the start of each interview. The participation of the respondents was completely based on their consciousness about the research and their willingness to do so.

Invasion of privacy that is closely linked to the lack of informed consent (Bryman & Bell, 2007) was considered to be excluded by designing the interview questions so as the

participants were not asked to answer privacy-sensitive questions. Actually, the highest privacy-sensitive interview question asked about the level of participants' personal market knowledge, their information about other markets, and their language skills.

Deception occurs when the researcher's attempt to represent his/her research something other than what it actually is (Bryman & Bell, 2007). In this case, the researcher sincerely depicted the general purpose of the research to the respondents as well as bringing brief introduction of the topic of the research at the beginning of each particular interview.

Regarding to the researcher's own practical issues in the process of writing this research paper, it can be assured that the entire research is sincerely written objectively; the researcher's self beliefs had no influence on writing this research; every single borrowed phrase is referenced faithfully according to Harvard referencing system; the entire research process, theories, methods, and analysis are discussed and described with neutral influence of the researcher; and presentation and analysis of the empirical data is based on the researchers promise of respect to ethical issues; and no personal objectives have influenced drawings of conclusions. Moreover, the two firms that participated in the research were granted copies of the research process to be informed about the outcomes of the research; and to be assured that the researcher has kept his promises regarding to anonymity of the participants and confidential treatment of the data.

3.8 Criticism on the Research Method

It is obvious that nothing is absolute in the scientific world; and this research is not an exception. By presenting different views on particular subjects, the researcher tried to criticize his arguments and decisions; and to compare them with other available alternatives. Instead of making repetitive arguments, this part presents some general critical issues.

First of all, the three-factor model that was used as the basis of the conceptual framework of this research is a model that was developed more than thirty years ago in a European context. It was questionable if the model has the potential to be applied to a new context; but the findings of the research show that the model has the ability to be applied to a new context by making some adjustments, motivated in conceptual framework and approved by the results.

Second, the research strategy could be designed so as it could make it to make a wider generalization from the research. Some research strategies like surveys would be suggested in that case; but the compact schedule of the research, research budget, and the fact that this research was handled by one researcher caused to focus on depth of the research rather than its breadth. So, case study was one of the best possible alternatives to be chosen. Consequently, the ability of the case is criticized for making generalization about the entire Iranian context of producers of polymer piping systems; and the conclusions of this research are criticized for their inability to draw a general picture of the entire industry; but this can be referred to the nature of the case study approach that makes in-depth understanding of particular case or cases. Another criticism is on the scope of the research is that the view of international suppliers on Iranian customers is not studied. Yet again, limitations of this

research were the drivers to consider only purchase side of international trade of Iranian producers of polymer piping systems.

In response to the above criticism, the research could have ended up with a large database and totally different results for making generalization if there would be no limitations.

Another important criticism is on the reliability of the responses of the participants to interview questions. It is arguable that the design of the interview questionnaire was so as it neither makes the respondents to refuse to response nor make them to give incorrect responses to the interviewer. Also, a theoretical way of treating people is to consider that they tell the truth until their honesty is rejected by strong arguments (Denscombe, 2010; Denzin & Lincoln, 2000). Moreover, the interviewer tried to make the interview atmosphere as friendly and open as possible in order to make respondents feel comfortable in bringing correct answers to the interview questions. Interview questions were also designed in a political way to prevent emotional responses instead of real logical ones.

Another critique can be on the anonymity of respondents and the companies. The entire firms and respondents accepted to participate in the research on the basis of anonymity; and all other attempts of the researcher failed to make deals with other Iranian companies on the basis of revealing their names and information. Consequently, the names of participating firms and respondents were not mentioned in the research. Many academic research papers of high levels of reliability and validity are also based on anonymous treatment of their participants and the data that have been collected by their authors; along many other arguments of validity and reliability, sincere of the researcher in presenting the research process is remarkable.

4 EMPIRICAL FINDINGS

This chapter is divided so as it first brings an overall summary of the firms and their markets; then an interview summary is written for each particular interview.

4.1 Two Firms: One Market

Firm 1 deals with a total number of 16 suppliers out of which 15 suppliers are international; and Firm 2 deals with a total number of 29 suppliers out of which 26 suppliers are international. Both of the firms are integrated, geographically-located, and operating in Iran. They do have neither sales agents nor subsidiaries outside of the country; and their foreign sales are placed through direct contacts with foreign customers. Statistical sales and purchase information of the two firms is illustrated in table 4.

	Firm 1	Firm 2
Annual Turnover	> 500 Billion IRR	> 600 Billion IRR
Export Share of Sales	10%	15%
Import Share of Purchases	40%	70%
Number of Supply Markets	16	29

Table 4 Statistical Description of the Firms in Fiscal Year 2012

4.2 Firm One

This section brings an account of the two interviews conducted with representatives of firm 1.

4.2.1 Purchasing Manager's Perspective

Composition of the firm's purchases in fiscal year of 2012:

91 % of the firm's total purchases go for raw or processed materials, mainly polymer products that are critical for the firm's production, and the firm is highly-dependent on such materials to continue production of polymer piping systems. These materials are mainly imported due to the lack of quality and insufficient quantity of domestic production.

7 % of the firm's total purchases go for equipment; and the main demand of the firm for equipment is high-tech production machinery that is imported. Year-to-year the share varies due to the firm's planning for expanding production possibilities. In 2012, the company did

not have big plans for expansion. Consequently, the purchase share of equipment is low for the mentioned fiscal year.

1 % of the firm's total purchases go for components and parts at the same fiscal year. The requirements of the firm for components and parts are purchased in large volumes in advance based on the plans of the firm's planning department. Only urgent demands for components that are not pre-planned and purchased in advance are purchased in small volumes. The reason for taking such strategy is that purchasing in small volumes is both time and budget consuming. Taking such strategy helps the company to save budget while the exchange rate of Iranian Rial for US\$ and other currencies is not following the world's financial market rates due to the sanctions.

1 % of the company's total purchases go for purchasing other products and services that are not related to production.

The firm's import share of purchased goods in 2009 was approximately more than 80 % of total purchases; but in 2012 the share is reduced to 40 % of total purchases. There are various reasons for the occurred change: first, domestic production has expanded, and the quality of domestic products has become acceptable by the company's quality control department. Second, the firm is faced various difficulties in handling international purchasing due to the imposing of more sanctions on Iranian economy in 2012. Third, even though in many cases quality of foreign-made products are higher than similar domestic ones, but the sanctions caused domestic products to be more profitable than foreign products. Forth, handling international purchasing has become more and more difficult because of the sanctions; it is not easy to find an international firm that is not afraid of doing business with Firm 1 because of the legal troubles that the selling firm would face after making a deal with Iranian firms. Sixth, the Iranian government does not protect domestic production by supplying reference currency to domestic producers in order to help them to handle international purchasing; this is also caused by sanctions where scarcity of foreign currencies is a result of the difficulties that the Iranian government has in generating liquidity from its exports of oil.

There is no specific basis of specialization in the firm's purchasing department. Purchasing manager of the firm clarifies that the limited range of the purchased good as well as the limited number of suppliers for the purchased goods led the department not to specialize on distinct categories. Instead, purchasing is handled by cooperation within personnel of the department as well as cooperation between purchase department and other departments, especially technical and engineering, production, and planning departments.

Raw and processed materials are mainly purchased from international suppliers located in Germany, China, South Korea, United Arab Emirates, and Saudi Arabia. These materials include materials that are directly used in the process of transforming raw materials and chemicals into polymer piping systems. Exchange rate of Iranian Rial, quality of materials, and their prices are determinant factors in selecting the suppliers. Quality of PERT that is a special polymer-based resin used in producing multi-layer pipes is critical for the quality of finalized products. For this special material, the company relies on one Korean producer because trade with other available producers is restricted due to the sanctions. Machinery and equipments include high-tech production systems of single-layer, multi-layer, and

twisting machines that are bought from Turkey and China. Purchased components include spare parts of the purchased machinery from Turkey and China. There are no other remarkable purchased products or services.

The firm's purchasing manager defines PP, PERT, aluminum, fitting parts, and adhesive products as five of the most important products in terms of turnover and critical function in the process of production. Market for the mentioned products includes various international suppliers for all of them, and few domestic suppliers of aluminum, fittings, and adhesive products. Profitability of international purchase is the defined reason for buying from abroad where domestic suppliers exist; and scarce domestic market is defined as the reason for buying from abroad. Also, the firm's ability to approach various international suppliers is restricted due to the international sanctions.

Purchasing manager of the firm clarifies that due to the high precision of the staff in the purchasing unit, workmanship is quite high. However, the services offered by the unit hinges on a set of factors that result in decreasing the quality of output of the foreign purchase department. Untimely channeling funds by the firm result in procrastination in purchase process, and therefore goods will be delivered later. This brings devastating effects on the entire parts of the company. Another reason in decreasing the quality and quantity of the services is due to the standing rules and regulations. In other words, the imposed sanctions have made it impossible to open a Performa Invoice and payments are done via drafts that render in increasing the cost price of goods. This has made tradesmen to lose their interest in importing goods from overseas.

Regarding to internal relationships, the purchasing manager states that the internal relationships are determinant factors to the purchasing department. She states that pilot scheme of the annual purchase plan is designed in collaboration with the production plan department. The technical unit presents the specifications of the required products. Afterwards, the specifications of the products entered to the company are verified. Finally, the finance department is required to allocate sufficient budget for placing order.

30 % of the purchase volume of the purchasing department is constituted of products where the user specifies the supplier. The five most important countries for firm 1 in terms of volume of products purchased are South Korea, China, Turkey, United Arab Emirates, and Germany; and Korea is defined as a low-risk country while china is defined as high-risk country in terms of difficulties and risks involved in dealing with them. Foreign suppliers are usually contacted directly unless the supplying company requires the customer to place orders through its agent in Iran. Before and after 2009, firm 1 used to have purchase relationships with the 5 countries named above since the price and quality of their products are outstanding; and they created favorable conditions for the firm. Presently, due to the high prices offered by other suppliers and existence of better purchase conditions, purchase relationships of the firm have been limited to Korea and China, and sometimes Turkey.

Added to the questions asked from firm 1's purchasing manager, she mentioned that the economic situation of a country produces dramatic effects on the international trading for different companies. Poor current political and economical conditions of Iran caused high fluctuations in the rate of foreign exchange and made governors to prioritize import of

different goods. Allocation of foreign exchange for assorted groups throughout the year has changed. This fact coupled with unsteadiness of the rules of the country affect the international trading.

4.2.2 Purchasing Operative's Perspective

The interviewed purchasing operative of firm 1 is responsible for conducting international purchase activities for all of the goods that are to be purchased overseas. Her personal knowledge about availability of alternative domestic and international suppliers of raw or processed materials, components, machinery and equipments, and other goods and services is satisfactory for the purchasing department. She defines three main groups of suppliers in terms of size of the supplier: large, average and small which are selected by firm 1 upon different circumstances. She argues that some suppliers have agents in Iran; depending on qualifications of these agents, the purchasing process could be facilitated or it can face difficulties.

In terms of culture, she defines that given the cultural specifications, it is easy to do business with Korea because Koreans are responsible people; she finds it easier to do business with Korean suppliers because they really believe in the motto of *Customer is Always Right*; and they mostly have a good command of English. At the same time, she ranks Turkish suppliers at the lowest level because she finds them irresponsible throughout their long-duration holidays. However, she declares that as a purchasing operative, there were no serious problems with Turkish suppliers so far. Considering language, she states that most of the suppliers' representatives are able to speak English; but Turkish suppliers are approached using Turkish language due to the operative's proficiency in Turkish language. The interviewee is knowledgeable and fluent in English and Turkish as foreign languages; she can completely discuss, bargain, and explain technical issues to the suppliers. She can also read and write the mentioned languages at the same level as her mother tongue.

The interviewee's personal opinion about doing trade with foreign suppliers is that she prefers to place orders with domestic suppliers. She believes that placing orders with foreign suppliers is a lengthy process; and making a simple mistake can cause catastrophic calamities. Also, she claims that importing various products within different time periods has turned into a cumbersome system; and additional legal and political issues shall be considered after the sanctions are imposed. She finds placing orders domestically to be simpler and less risky.

Based on the reasons mentioned above, the interviewee prefers to place orders with domestic suppliers rather than foreign ones. In equal purchasing conditions and purchasing prices, she gives the priority to domestic suppliers.

The interviewee defines the best supplier to have fair dealing terms and business conditions including payment system, banking system, relationship with Iranian banks, precision in drawing up pro forma and other documentations as well as timely fulfillment of their commitments.

The firm's main current business relationships are performed through both direct contacts with the suppliers and through intermediaries; but the overall preference is to contact suppliers directly because in many cases, the middlemen procrastinate doing business. The interviewee's idea is that when one directly approaches suppliers and enters into negotiations, the purchase process will be accelerated.

Regarding to handling foreign purchases through intermediaries, the interviewee finds proficiency of the middlemen to be critical for handling a foreign purchase. She prefers not to do business through middle men if the firm is able to directly conduct international purchase. However, she declares that a potential agent can finalize and facilitate deals.

United Arab Emirates is defined as the most important country in which intermediaries are located. The interviewee's reasoning is that Emirate's banking system easily contacts Iranian banking system; and the current political situations of Iran have limited the choices of the firm for establishment of economic relationships with few countries. She declares that it has been quite helpful for getting out of what she states *this dead end situation*.

The interviewee's idea about direct foreign purchase is that it is faster and simpler. She claims that given the fact that a detailed list of suppliers can be accessed through the Internet which enables one to contact the intended ones straightforwardly through e-mail, telephone or even asking for sending a specimen through mail, it is better to contact suppliers directly.

The interviewee brings with these additional information that holding international exhibitions serves as a way to get to know new suppliers; international trading is heavily dependent to the political and social conditions; offering swift and better banking services contribute to facilitation of import; and existence of a steady economical condition and minute fluctuations in the rate of foreign currency play a pivotal role in booming the international trading.

4.3 Firm Two

This section brings an account of the two interviews conducted with representatives of firm 2.

4.3.1 Purchasing Manager's Perspective

Compositions of the firm's purchases in fiscal year of 2012:

71 % of the firm's total purchases go for raw or processed material, mainly polymer products that are critical for the firm's production; the company is highly-dependent on such materials to run its production. These materials are mainly imported because of the lack of quality and insufficient quantity of domestic production.

25 % of the firm's total purchases go for equipment; the main demand of the firm for equipment is high-tech production machinery that is imported. Purchased machinery is

commonly used to boost production; during the fiscal year of 2012, a complete set of machinery was purchased from abroad.

4 % of the firm's total purchases go for components and parts at the same fiscal year. To reduce shipping costs, spare parts are bought from the manufacturer with the initial purchase.

The firm's import share of purchased goods in 2009 was approximately 92 % of total purchases; for the fiscal year of 2012, the share equals to 70 % of the firm's total purchases. The reason is that the firm's foreign purchasing is conducted due to the absence of domestic suppliers. Gradually, in the past two years, some domestic manufacturers were able to supply some products with reasonably high qualities; and the company added them to its suppliers' list. During 2012, due to easier payment methods and bargaining conditions as well as unstable rising foreign exchange rates, most of the parts such as threaded connections and Copley were purchased locally at reasonable prices. However, there are no domestic suppliers of machinery and polyethylene materials; these products shall be purchased from abroad. International sanctions and changing regulations in the past one year created problems that saw a reduction in the import of raw materials because no foreign exchange was allocated to the firm by the Iranian government. Due to the problems mentioned above, all imports have been stopped for the past few months. Even though the situation has improved considerably, due to rising foreign exchange rates, import is not yet economical.

Regarding to the basis of specialization in the firm's purchasing department, the staff is comprised of commerce graduates working in teams. Due to the limited number of supplier countries with the right conditions, each of the personnel is able to undertake one full procurement process at a time. Generally, any foreign company deals with one of the purchasing personnel by phone or through internet until the process reaches to an end.

Raw and processed materials including PERT, aluminum, and fittings are mainly purchased from South Korea, United Arab Emirates, China, and Turkey. During the last year, the company replaced 80 % of its foreign purchases of fittings with purchasing from domestic suppliers due to the reasons explained previously. Machinery and equipment demands of the firm include production systems of single-layer and multi-layer piping systems as well as twisting machines. For machinery and equipment, the firm relies mainly on Taiwan and China. Purchased components are mainly spare parts of machinery and equipment that are bought from one Chinese supplier. Other purchased goods include accessories and press joints that are bought from nine different suppliers located in China and Turkey.

PP, PERT, aluminum, threaded joints and Copley, and joints are five of the most important products in terms of turnover and critical function in the process of production for the firm. For PP, there is only one Iranian supplier as well as numerous international suppliers. For PERT, there is no abundant domestic and international supply; regarding to price and quality, only Korean supplied items can be used. For aluminum, there is abundant domestic and international supply; regarding to price and quality, Chinese-supplied items can be used by the firm. For threaded joints and Copley, there is abundant international and limited domestic supply; due to the recent changes in the prices of the mentioned products, about 70 % of the purchase is conducted domestically. Joints have abundant domestic and

international suppliers but due to a certain formula that is accepted by the firm's quality control department, joints are purchased from two Korean companies only.

In the past one year, there has been an overall decrease in foreign purchases compared to 3 years ago. Given that many essential ingredients with the necessary quality have no domestic suppliers, it had a negative impact on production and sales of the firm. Due to increasing exchange rates and currency allocation for various categories of goods in the past one year, the import process experienced delays which caused a decline of service in that sector. Boycott of Iranian banks has forced domestic companies to seek the services of intermediary banks and companies in other countries, therefore, an increase in service charges in this sector.

Regarding to inter-firm and intra-firm relationships of the purchasing department, after identifying the required foreign goods, coordinating with the production and planning department, the purchasing department compiles its annual plan. Purchases of certain items that are entirely imported from china are based on sales forecasts and coordination of the sales unit. Firm's technical department assists with delivery of drawings or technical specifications of the demanded parts and material; quality control department assists by controlling and verification of imported products; and purchasing department contributes by providing trade services.

25 % of the purchase volume of the purchasing department is constituted of products where the user specifies the supplier. The five most important countries for firm 2 in terms of volume of products purchased are South Korea, China, Turkey, United Arab Emirates, and Taiwan. Korea is defined as a low-risk country while china is defined as high-risk country in terms of difficulties and risks involved in dealing with them. Contacts with foreign suppliers are usually direct unless the supplier acts through agents. Also, due to the sanctions, the company was not able to buy directly from some producers during 2012. Therefore, an intermediary company in the United Arab Emirates was used. Firm 2 was previously in connection with Korea, China, Turkey, Taiwan and Germany; but due to the present situation of the banking system and due to the sanctions on the technical parts, the firm's connections with Germany has been completely cut off and is limited in case of Taiwan. Consequently, the firm approached an intermediary that is located in United Arab Emirates.

Added to the questions asked from firm 2's purchasing manager, she mentioned that in relation to foreign trade, social and political relations, and the geographical location of a country are very influential in selection of international suppliers. Special laws and regulations, and geographical distances of certain countries, as in case of Japan, exclude them from the Iranian supply markets.

4.3.2 *Purchasing Operative's Perspective*

The interviewed purchasing operative of firm 2 has the ability to purchase everything, but she is mostly responsible for the purchase of raw materials. Her personal knowledge about availability of alternative domestic and international suppliers of raw or processed materials, components, machinery and equipments, and other goods and services is satisfactory for the

purchasing department of firm 2. There are mostly large or medium-sized suppliers to the firm. There are also some small suppliers; but they are selected considering the benefits they bring to the firm. Some suppliers are more law abiding; and everything from paper work till delivery is done in a timely manner; but in some cases, as in China, the suppliers generally carry out their duties with delays. Presence of the suppliers in Iran depends on the ability of their agents; these agents can either abridge or postpone the buying process.

Cultural factors have had little effect on the interviewee's buying process. In her opinion, culture can only be said that in some countries, due to long vacations and their culture on these occasions, no Internet communications or telephone calls are responded that may slow down foreign business transactions. However, in Korea and Taiwan the entire correspondences are responded even on holidays. The interviewee is able to communicate in English language as a second language; her proficiency of English is at a high level as she can completely discuss, bargain, and explain technical issues to the suppliers; she can read and write English at the same level as her mother tongue.

Comparing domestic and international purchasing, the interviewee believes that the presence of a domestic supplier, because of its ease of access, will bring about a larger volume of domestic trade if the quality, and payment conditions and transaction are the same as international suppliers. At the same time, the interviewee's opinion is not to rely purely on domestic suppliers where international suppliers, with uniform offerings, are available for similar products. A group of suppliers, the interviewee believes, simultaneously present in the database of the purchase department for making regular comparing of the prices and conditions of the suppliers.

Overall opinion of the interviewee about doing international purchasing is that with regards to the sanctions imposed on the country, domestic suppliers should be preferred in case any are available; but in cases of sensitive materials such as PERT or polyethylene and adhesive compounds, the firm's priority should be based on quality. Therefore, she prefers to buy from foreign sources that for many years have supplied the company with raw materials.

The best supplier is defined as a punctual one that performs all tasks and commitments at the specified time; carefully regulates and adjusts contract papers; delivers products according to the ordered quality at the specified location; and able to communicate in written and spoken English.

At the time of this research, due to sanctions, firm 2 is forced to purchase some of its demands from an intermediary company in United Arab Emirates that conducts purchases from original suppliers. Otherwise, it is preferred to have direct contacts with suppliers; buying through brokers and intermediary companies, despite extra hardship, cost extra time and money for the firm; and the firm is inclined to direct purchase.

The mentioned intermediary above is a trading company. Its similarities with firm 2 are in the intermediary's international trading method. Because of international sanctions and their conditions, there is no other solution except purchase of goods from intermediaries; this has been of a great use to firm 2 in these situations.

Regarding to handling of direct foreign purchase, interviewee's personal experience has shown that a direct purchase from a foreign company is easier than buying through dealers or intermediaries; unless a mother company stresses on selling through its dealers, or unless laws and regulations of Iranian trade policy forces the firm to do so, it would always be preferred to conduct direct purchase as it saves the firm time and money.

Adding to the information that the interviewee brought through the interview, she brought up that the major factors that encourage firm 2 to import goods rather than buying domestically are advantages and profitability that can be gained in all sectors. These advantages are methods of payment, conditions of transaction, quality, price, location, and conditions of delivery. In all, presence of better conditions encourages foreign trade.

5 DISCUSSION AND CONCLUSION

In terms of annual turnover, the two firms may not be comparable with other international market actors in the field of producing polymer piping systems, but both of them are categorized as large-turnover companies within the Iranian context.

Even though the two firms run similar businesses, the extent to which they are involved in foreign markets varies between them. As table 4 illustrates, firm 1 deals with 16 supply markets whereas firm 2 deals with 29 supply markets. At the same time, 10 % of the total sales of firm 1 are generated by exports whereas 15 % of total sales of firm 2 are generated by exports. In terms of purchases, 40 % of firm 1's total purchases are bought from abroad whereas 70 % of firm 2's total purchases are bought from abroad. Comparing the two firms' annual turnovers while considering the mentioned differences, it is obvious that firm 2 is much more involved in international trade than firm 1; but they both are internationally-oriented firms in terms of import share of purchases and number of supply markets.

Importance of the firms to the Iranian economy, as a whole, is not considerable at all; but as defined in previously, the firms are important and dominant market actors in the field of producing polymer piping systems in terms of the sets of technology they use to produce, and their market position both domestically and as Iranian exporters of polymer piping systems.

The studied markets can be seen as purchasing networks, or supply markets, of the two studied firms. The purchasing networks include domestic and international supplying firms offering potential solutions to the demands of the purchasing firms for raw/processed materials, machinery and equipments, components, equipments, and other types of requirements.

As table 5 below illustrates, there are 26 markets for raw or processed materials, 7 markets for components, 3 markets for capital equipments, and 9 markets for other materials. Domestic and international markets are distinguished to show presence of Iranian and/or international suppliers in each market.

5.1 Market Conditions

As it is illustrated in the table 5, there are huge differences between export shares of sales and import shares of purchases for both firms. The variation between the proportions of imports and exports in total purchases and total sales reflect *Market Conditions* as well as the different levels of domestic demands and foreign demands for the companies' productions. Mentioned differential factors, all together, influence the degree of international orientation of the firms in terms of sales.

Interviewees identified a total number of 45 suppliers that belong to 8 supply markets; 4 suppliers are domestic and the other 41 suppliers are international. Table 5 illustrates composition of international and domestic suppliers of the two firms.

As the table illustrates, in many cases, the absence of domestic suppliers left no other choices for the studied firms to purchase domestically. This can be seen as a strong force to buy from abroad. For machinery and equipments, there are no domestic suppliers identified by the respondents; the condition holds for other purchased goods as well. For components, there is only 1 domestic supplier out of 7 identified suppliers; and for raw and processed materials, there are only 3 domestic suppliers out of 26 identified suppliers.

	Supplier	Purchaser	Product Category				
			Material	Component	Equipment	Other	Total
Number of Suppliers	Domestic	Firm 1	1	0	0	0	1
		Firm 2	2	1	0	0	3
	International	Firm 1	10	3	2	0	15
		Firm 2	13	3	1	9	26

Table 5 Structure of Supply Markets

The structure of the market is formed by different suppliers of similar products and/or services; these alternative suppliers are not distributed homogeneously between different countries. For example, there are few suppliers of PERT in the world, mostly located in Germany, out of which the two studied Iranian firms were able to trade only with one Korean supplier by the time of this research. For some other products, like aluminum and glue, different suppliers compete with each others in terms of quality, price, and ease if trade etcetera. Moreover, lack or absence of domestic suppliers in all different product categories, inability of domestic producers to fulfill quality and quantity requirements of the two firms, and profitability of purchasing from abroad are the factors that influence market conditions.

As mentioned above, a total number of 8 supply markets were identified by interviewees. Market structure including demanded products, suppliers of those products, and alternative suppliers were all defined by the respondents. Results of the interviews, as explained in chapter 4, show that for some products, such as PERT, there are not many potential suppliers available in the world whereas there are no existing domestic suppliers for such products. Also, the market for components include few/or no domestic suppliers and limited available international suppliers. Moreover, for machinery and equipments, there are no domestic suppliers while the number of international suppliers for machinery and equipment is highly limited. Consequently, the market for such products can be identified as scarce market.

It is arguable that alternative suppliers shall fulfill product and service requirements of the purchasing firms to be listed as their alternative suppliers to current ones. Alternative suppliers are further delimited by existence of the sanctions as well. Also, as it can be seen in table 5, in many cases there are no domestic suppliers. The situation holds for both studied firms; and they shall rely on international purchasing to very large extents.

As explained in 4.2.1 and 4.3.1, because of some partial developments in domestic production of a limited number of raw or processed materials between 2009 and 2012, some restricted changes took place in the conditions of the market. The results of the study show that the

structure of the market for those products that are critical to the studied firms have not changed at all. Consequently, ignoring the negative influences of the sanctions on the market conditions, it can be argued that the occurred changes in domestic market conditions have not made considerable changes in overall market conditions.

Comparing the two firms, it is arguable that firm 2 deals with a larger network of suppliers both domestically and internationally. As motivated in the previous section, and based on the above arguments, it is obvious that market conditions have forced the two firms to be demanding for getting involved in international purchasing. At the same time, it must be considered that the degree to which firm 2 is involved in international trade is much higher than firm 1; but the two firms are both highly-dependent to foreign purchasing do to the conditions and structure of the markets.

As a result, it is crucial for both firms to get involved in international purchasing in order to continue their businesses.

5.2 Attitudes towards Buying from Abroad

In-line with theoretical framework and conceptual framework, this study considers attitudes towards buying from abroad based on the firms' specific characteristics rather than on general national attitudes.

Referring to 4.2.2 and 4.3.2, along with Iranian suppliers, 7 other countries of origin were identified by the respondents out of which United Arab Emirates is the only country hosting intermediaries that the two firms deal with them. The other 6 countries are origins of the producing suppliers. Both of the firms utterly prefer to contact directly with the suppliers because they find it easier, less risky, more profitable, and less time-consuming to make direct contact with suppliers. The entire interviewees declare that under circumstances of sanctions they have no choice to change their attitudes and change the directions of their purchasing activities to intermediaries whenever they have no other possible choices.

Referring to 4.2.1 and 4.3.1, it is arguable that both of the firms seek for sufficient dealing terms, easy business conditions, appropriate payment systems, fast banking systems and punctuality from their suppliers as well as acceptable, in some cases premium, quality and desired quantity for the supplied goods regardless to the origin of their suppliers. The entire respondents defined quality as a determinant factor in addressing the direction of international trade by both firms, especially for essential requirements of production.

Referring to 4.2.2 and 4.3.2, wherever a domestic supplier and an international supplier have homogeneous trading terms and dealing conditions, both of the firms have the preference to deal with the domestic supplier because of the ease of trade and communication with the domestic supplier. In such cases, firm 1 completely prefers domestic suppliers while firm 2 selects a purchasing bundle of both domestic and foreign suppliers giving an advance to domestic share of purchase. In some other cases, offerings of domestic suppliers were more profitable than offerings of international suppliers that led both of the firms to rely on

domestic suppliers. In many other cases, domestic suppliers' offerings were more profitable than international suppliers' offerings; but domestic products could not match required qualities and defined standards of the two firms, such as in case of adhesive products. In such cases, both of the firms preferred international suppliers rather than domestic suppliers. At the same time, results of the interviews with purchasing operatives of the two firms show that none of them consider *being domestic* as a determinant factor in addressing the direction of trade with a supplier.

To compare preferences of the two firms' purchasing operatives to deal with different foreign suppliers, referring to 4.2.2 and 4.3.2, purchasing operatives of the two firms prefer to have trade relationships with Korean suppliers while they complain about Turkish and Chinese suppliers because of the mentioned suppliers' specific company characteristics like their personnel's irresponsibility during holidays.

As a result, general and specific firm characteristics as well as general and specific demand characteristics of the studied firms are determinant factors characterizing the firms' attitudes towards buying from abroad. According to the above arguments that are based on empirical data, under current market conditions, both of the studied firms want to purchase from abroad.

5.3 Competence

According to the three-factor theory that shapes conceptual framework of this research, *market knowledge*, *ability to cope with cultural differences when purchasing abroad*, and *proficiency in the techniques of trade* are three fields of competence for individuals and organizations.

According to empirical findings presented in 4.2.2 and 4.3.2, tight inter-firm relationships between different operational departments of the two firms led them both to completely realize their needs. Both of the firms forecast their markets in advance, and they plan their annual productions. Accordingly, purchasing departments of both firms have a list of demanding materials, capital equipments, and components prior to the start of the actual production. In order to have the defined demands supplied, well-experienced purchasing operatives then seek for the best suppliers according to their list of available potential alternatives.

The respondents in 4.2.2 and 4.3.2 argue that they have *satisfactory knowledge of different international and domestic markets*. In response, the studied firms are able to conduct purchases both internationally and domestically. See sections 4.1 and 4.2 for more information.

Table 6 below is designed based on the responses of the interviewees to question 7 of the interview questionnaire. The table illustrates an overall view on competence of the firms in terms of their information about all known suppliers and the number of suppliers that they actually use. As the table shows, both firms are informed about their suppliers and available

alternative suppliers while they declare that they are not able to trade with many international suppliers in due to the sanctions.

Type of the Purchased Good	Information about All Known Suppliers				Number of Used Suppliers			
	Firm 1		Firm 2		Firm 1		Firm 2	
	Domestic	International	Domestic	International	Domestic	International	Domestic	International
Raw or Processed Material	5	10	2	8	1	8	2	6
Components	0	0	0	1	0	0	0	5
Equipments	0	3	1	6	0	3	1	4
Other Materials	1	20	4	6	1	20	4	4
Total	6	33	7	21	2	31	7	19

Table 6 Information about All Known Suppliers & Number of Used Suppliers

As table 6 shows, the level to which the firms are competent to handle international marketing varies between them.

It shall be considered that the level of competence in handling international purchasing is highly restricted due to the fact that the international suppliers are mostly located in countries that the studied firms are not allowed to conduct direct trade activities with them due to the imposed sanctions. On domestic level whereas there is no influence of sanctions, the two firms can benefit equally from the available suppliers; and the data in table 6 show that both of the firms have almost equal market knowledge.

In order to make further comparison between the firms' levels of competence, some fractions are made on the presented data of table 6. The calculations are presented in table 7.

According to table 7, firm 2 has higher levels of knowledge about international suppliers that supply raw or processed materials, components, and capital equipments that are considered as *crucial* for the process of production. Firm 1 is more knowledgeable about domestic suppliers of other materials that could be considered as *trivial* for the process of production. Consequently, it can be argued that firm 2 is much higher competent than firm 1 in terms of market knowledge.

Regarding to the number of used suppliers, according to table 7, it can be directly observed that firm 2 is much more competent in handling foreign purchasing of raw or processed materials, components, and capital equipment. For other materials, at first glance, firm 1 can be seen as more competent than firm 2 in handling international purchasing. Referring back to 4.3.2 where firm 2's purchasing operative stated that, wherever applicable, the firm's strategy is to make a purchasing bundle of domestic and international goods in order to keep firm's bargaining power over both international and domestic suppliers, the difference between the ratios for firm 1 and firm 2 cannot easily be considered as one of them is less competent on this particular area. Consequently, both of the firms are knowledgeable about

the market; and they are competent to handle international purchasing while firm 2 is much more competent and knowledgeable than firm 1.

	Ratios in %							
	Information about All Known Suppliers				Number of Used Suppliers			
	Firm 1		Firm 2		Firm 1		Firm 2	
	Do / To	Int. / To	Do / To	Int. / To	Do / To	Int. / To	Do / To	Int. / To
Raw or Processed Material	33.3	66.7	20	80	33.3	66.7	25	75
Components	0	0	0	100	0	0	0	100
Equipments	100	0	14	86	100	0	20	80
Other Materials	4.8	95.2	40	60	4.8	95.2	50	50
Do: Domestic Int.: International To: Total number of suppliers for each firm; The numbers are set based on the information gathered from interviews.								

Table 7 Ratios of Information about All Known Suppliers & Number of Used Suppliers

In response to 4.2 and 4.3, it is clear that on both organizational and operational levels of the two firms, direct contact is the preferred way of handling international purchasing wherever applicable; and the two firms prefer not to use intermediaries for handling such purchases. Both of the firms have recruited professional purchasing operatives who are able to handle international purchasing either through direct relationship with suppliers, or through intermediaries. By establishment of inter-personnel relationships in their purchasing departments, both of the firms facilitated flow of their supply markets' information in between their purchasing operatives. Employing internet and information technology, the two firms frequently update their information on both international and domestic level.

On an individual level, the entire interviewees on both operational and management level consider themselves so as they are completely able to discuss, bargain, and negotiate in English. Firm 1's purchasing operative has also the same proficiency of Turkish language. Both of the interviewed purchasing operatives showed that they are knowledgeable of the firms' needs and the market environment.

Based on the above arguments, it is arguable that the firms both have the competence to handle purchasing activities both domestically and internationally. In comparison, firm 2 is much more competent than firm 1.

5.4 Regulations

The interview questionnaire was designed to diplomatically approach the respondents about the issue of sanctions; but the entire respondents freely explained hardships and problems that they have faced on the way handling international purchasing because of the sanctions. During the interviews, the interviewees used the word *sanction* 15 times; they also referred indirectly to sanctions in 9 different occasions.

Generally, responses of the interviewees to the interview questions, presented in chapter 4, revealed that the sanctions caused reduction in purchasing from abroad; the sanctions caused financial problems for the firms in case of banking, money transfer, and generating foreign currencies; they caused reductions in the quality of services that purchasing departments of the two firms bring for the firms; the sanctions caused the firms to shift from well-reputed international suppliers to Chinese suppliers that in many cases fail to completely satisfy the purchasing firms; the sanctions caused the firms to shift their direct-contact with suppliers to indirect-contacts through intermediaries that caused financial losses to the purchasing firms; and sanctions have indirectly caused bargaining power of the firms to be reduced in response to political situation of Iran after the sanctions.

As the fourth factor that was added to the three-factor model in order to formulate the conceptual framework, regulations seem to be influencing all other factors both directly and indirectly. In the upcoming paragraphs the influence of sanctions on the other three factors will be explained.

Market conditions are highly-influenced by the imposed sanctions on Iranian economy. Even though the need of the two studied Iranian firm to purchase from abroad has not changed because of the sanctions, but referring to 5.1 it is clear that there are limited numbers of potential suppliers for products and materials that are *crucial* for the process of production for both firms; and in a scarce market in which the availability of potential suppliers is highly limited and geographical distribution of the potential suppliers is mainly within a few countries, impose of the sanctions have further limited access of the two studied Iranian firms to the market that is naturally scarce. Even though markets for some other products cannot be considered as scarce markets, but those products shall meet internationally-defined standards in order to be used in the process of producing polymer piping systems. Still, there is limited availability of suppliers who are able to produce standardized products; and access to such producers is highly restricted by the sanctions; more information can be found in chapter 4. In response to above arguments, it is arguable that the sanctions have influenced market conditions for both firms; and the firms' limited networks of suppliers have become further limited due to the sanctions.

Attitudes of the two firms towards buying from abroad, as motivated in 5.2, can be described as the two firms' willingness is to directly purchase from international suppliers that offer solutions to their demands. As explained in chapter 4, both of the firms' attitudes are formed according to their organizational strategies; and the firms both want to purchase from abroad. The role of sanctions here is that the sanctions have forced both of the studied firms to alter direct international purchasing to purchasing through intermediaries wherever there are no other alternatives left to them; and this change is directly made as a reflection to the sanctions. Consequently, sanctions have forced both of the studied firms to change their attitudes towards buying from abroad unlike their normal attitudes.

Regarding to *competence* of handling international purchase and referring to chapter 4, the imposed sanctions on Iranian economy have made both firms to face unmoral difficulties on the way handling international purchasing. As it is motivated in 5.3, both of the firms have satisfactory market knowledge about international potential suppliers of the solutions that

they demand for; but sanctions have highly restricted the studied firms' ability to finalize deals with many international suppliers. Consequently, it shall be considered that the level of competence in handling international purchasing is highly restricted because the studied firms are not allowed to conduct direct trade activities with many potential suppliers due to the imposed sanctions.

It can be concluded that under current Iranian economical and political circumstances, the role of the sanctions, as the main driver of unmoral restricting regulations, shall not be underestimated. Consequently, the fourth factor that was added to the conceptual framework is fitting with it while the mentioned factor is perfectly applicable to the studied cases under current market conditions.

5.5 Conclusions

During the entire chapter 5, conclusions were made section-by-section. This particular section brings an overall account of previously-illustrated conclusions.

In general, of the international purchasing relationships of the two studied Iranian producers of polymer piping systems, only one indirect purchase relationship in each firm was observed. In spite of heavy sanctions that have highly limited the choices of international suppliers, both of the firms develop direct relationships with their international suppliers. To both firms, there are not large numbers of international suppliers; and for many products there are not even domestic suppliers. Still, the product itself is a determinant factor in selection of the supplier; and to chose between domestic and international supplier if applicable. Regardless to the availability of domestic suppliers, international suppliers are mostly considered by both firms due to the necessity of purchasing from abroad. Through direct contact with international suppliers, both firms build their own business networks to facilitate the exchange of goods, information, and finance. Both of the firms are unable to purchase directly from some of their desired international suppliers due to the sanctions.

Under similar market conditions and availability of both domestic and international suppliers, firm 1 relies completely on domestic suppliers and firm 2 selects a composition of both domestic and international suppliers to keep its bargaining power over both suppliers. No negative attitudes towards buying from abroad were observed in different hierarchical levels of the two studied firms. Both of the firms have realized long-run benefits of direct supplier relationships; and that is why they try to keep their direct relationships even at the time of sanctions. Even though discussions about competence are hard to be motivated because personal competence is not easy to be approved, but the two studied firms, at different levels, are competent for handling foreign purchase. Negative influences of the international sanctions on Iranian economy and Iranian firms are inevitable; and the two firms' abilities to benefit from the natural experience of international trade are highly restricted because of the sanctions.

Based on previous discussions that were based on the presented empirical data, the conclusion is that internal factors including *attitudes* and *competence* along with external

factors including *market conditions* and *regulations* influence international purchasing activities of both of the studied firms. Both of the firms want to purchase from abroad while firm 1 is slanted more towards domestic suppliers if applicable. Both of the firms are competent to handle international purchasing while firm 2 is much more competent than firm 1. Market conditions are almost similar for both firms due to the homogeneous nature of the studied firms' businesses while firm 2 benefits from a larger network of international suppliers. Finally, the imposed sanctions similarly influence the entire drivers of international purchasing in both firms.

Consequently, it is arguable that the two studied firms need to get involve in international purchasing activities because they would not be able to continue their businesses if they decide to isolate themselves from international trade. The two firms want to involve in international trade according to the observed attitudes of their purchasing managers and purchasing operatives; and the two firms are able to perform international purchasing activities because of their competences while each particular firm's competence to purchase from abroad depends on its strategy to employ talented personnel and to use firm's previous experiences of international purchasing. Regarding to the forth factor of the conceptual framework, it is clear that *regulations* are temporarily caused by imposed sanctions on Iranian economy; therefore, the mentioned factor cannot be considered as a permanent driver of international purchasing as other three factors are. Indeed, the forth factor is a temporary factor that predicts and specifies the occurred shifts in the direction of the firms' international trade.

As a result of the above statements, Hallén's three-factor model of international purchasing is applicable to the case of two Iranian producers of polymer piping systems; and the forth factor that was included in the conceptual framework of this research is applicable to this case.

Now that the results of the research have approved applicability of the conceptual framework to the selected firms in the Iranian context, and the ways in what the studied firms handle their international purchasing activities are compared using the factors of conceptual framework, it can be concluded that the research meets its final point that is responding to the research question through a reliable academic way.

6 FUTURE RESERACH

Generalization from this research paper is limited because of the existence of some delimitating factors that are previously discussed and motivated under the section named delimitations. In response, future researchers that may be interested to contribute to the same field of study could reduce delimitations of this research in order to increase breadth and depth of their studies. Followings are some suggestions for future researches.

This research was conducted in an Iranian context within the polymer piping industry using a case study of two high-tech producers of polymer piping systems. Consequently, the entire context of the research, the industry itself, type of the studied firms, and the research method could be reconsidered as basis of improvements for future researches. Future researchers that may study in the same context could expand their studies in order to cover the entire Iranian industrial firms rather than one particular industry. Even in the same industry, future studies may be conducted considering the entire spectrum of the producers of polymer piping systems rather than its high-tech end. Moreover, breadth and depth of future studies may be increased if other types of research methods be designed and employed.

The main consideration of this study was on the purchasing side of marketing activities of the selected companies rather than their entire marketing activities. Future researchers may apply their studies to the entire purchase and supply sides of marketing activities in order to make more complete view on the situation by including and considering suppliers' points of view when drawing conclusions.

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APPENDIX

Semi-Structured Interview Questionnaire

Questionnaire id:

Mälardalen University, Västerås, Sweden
 School of Business, Society, and Engineering
 Master Thesis in Business Administration, Spring 2013, Interview Questionnaire



MÄLARDALENS HÖGSKOLA
 ESKILSTUNA VÄSTERÅS

The purpose of the research is to find out how international industrial purchasing is handled by Iranian industrial firms. There are a number of different factors that influence the extent to what a firm participates in international trade. These factors can be referred to market conditions, attitudes towards buying from abroad, competence, and regulations. This questionnaire aims to get an understanding of the mentioned factors in this particular firm.

Questionnaire I, Purchasing Managers **Private & Confidential**

Following our previous contacts, I would like to make you sure that this questionnaire is treated as private and confidential. Neither your name nor the company name will be released under any conditions.

Firm Code: 1 2

Position of the respondent: _____

1. Financial Information of the Company:

- a. How much is the annual turnover of the company? _____
- b. How much is the annual volume of purchases? _____
- c. How much is the export share of sales? _____
- d. How much is the import share of purchases? _____

2. Purchase Status of the Company:

	Share of Total%
a. What is the composition of your firm's total purchases? Equipment (please roughly explain) _____	

Components or Parts _____	

Raw or Processed Material _____	

Others _____	

b. What was the company's import share of purchased goods?

In 2009: _____%

In 2012: _____%

c. What are the reasons for the occurred changes during the last three years? In what ways and how they influenced the company's import share of the purchases? (please roughly explain) _____

3. Purchase Department:

a. What is the basis of specialization in the department? (i.e. geographic specialization, technical specialization, product use, etc) _____

b. What are the main products bought in terms of value and suppliers used? (*this question differs from question 2.a. that sees the purchasing department as representative of the entire firm*)

Product: Please Specify the Name and Function of the Product	Number of Suppliers Used			How many suppliers have been changed within the last 3 years?
	Domestic	Foreign	Country of Origin	
Raw or Processed Materials				
Components				
Equipment				
Other Products or Services				

- c. Please specify five of the most important products in terms of turnover and critical function in the production process. What is the nature of the market of these products in terms of scarce or plentiful supply; degree of change over time?

Product	Description of the Market

- d. Have the quality of the services that your department provides for the company changed over the last five years? In what ways and how? (please roughly explain) _____

4. Inter-Firm & Intra-Firm Relationships of the purchase department:

- a. Is there any internal coordination of any type between purchasing department and other departments? (please roughly explain) _____

- b. How large a part of the volume purchased is constituted of products where the user specifies the supplier? _____%

- c. Please specify the five most important countries in terms of volume of products that your company purchases from them.

1) _____ 2) _____ 3) _____ 4) _____ 5) _____

- d. How do you rank the countries that you have ongoing purchase relationships with in terms of the risks and difficulties involved in dealing with them? (rank the countries in a high-to-low scale in terms of risks and difficulties; make additional alternatives if there are more alternatives)

1) _____ 2) _____ 3) _____ 4) _____ 5) _____

- e. How do you generally contact with your suppliers from different countries i.e. agent, subsidiary, middlemen, direct contact, etc. (please roughly specify)

- f. With which countries did you have purchase relationships before 2009? Why and how have you decided not to continue business relationships with them? (please roughly explain) _____

5. Is there any piece of information that you think we forgot to ask you regarding to the subject of the interview? (please kindly explain)

Thank you again for your participation in this study.

Questionnaire id:

Questionnaire II, Purchasing Operatives

Private & Confidential

Following our previous contacts, I would like to make you sure that this questionnaire is treated as private and confidential. Neither your name nor the company name will be released under any conditions.

Firm Code: 1 2

Position of the respondent: _____

6. Introduction: (After presenting the products specified by the purchasing manager in 3.a and 3.b the respondent is asked to answer the question)

a. In the presented list of products, what products do you buy for the company?

7. Information of the Suppliers & Personal Status:

a. Regardless of whether other supply alternatives are practically available at present, how many international or domestic alternative suppliers do you know of: (please fill in the table)

	Number of known domestic suppliers	Number of known international suppliers	With how many of them do you trade now?	
			Domestic	International
Raw Material				
Components				
Equipment				
Other Products				

b. How do you evaluate your overall information about international individual suppliers of the products that you buy for the company? (please roughly explain)

Availability of the suppliers: _____

Size of the suppliers: _____

Main tasks of the suppliers: _____

Representativeness of the suppliers in Iran: _____

c. How does the culture of the countries influence the ways you trade with them? Purchasing from what countries is more facilitated in terms of culture? (please roughly explain) _____

d. How do you evaluate your knowledge of foreign languages? (please roughly explain if you are able to discuss and negotiate, if you are able discuss technical matters, or if you have some knowledge either written or spoken)

Language	Proficiency

8. Domestic Purchase Vs. Foreign Purchase

a. What is your personal opinion about buying from abroad when domestic suppliers exist? (please roughly explain and motivate your idea) _____

b. How do you evaluate the overall willingness of your company to buy from abroad? (please roughly explain) _____

c. How do you evaluate the best supplier that is desired for conducting business with it? (please roughly explain) _____

d. How would you describe the company's main current business relationships with foreign suppliers? Are the relationships directly with the suppliers or through intermediaries? (please roughly explain) _____

e. How do you find it to handle purchasing from abroad through intermediaries?
(please roughly explain) _____

f. Please specify country of origin for the intermediaries that are highly important
to your company. How do you evaluate similarities in business practices of
your company and the mentioned intermediaries? (please roughly explain) ____

g. How do you find it to handle direct purchase from international companies? Is
it difficult, or easy to be handled? In what ways? And why? (please roughly
explain) _____

9. Is there any piece of information that you think we forgot to ask you regarding
to the subject of the interview? (please kindly explain) _____

Thank you again for you participation in this study.



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