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INTERNATIONALIZATION PLAN FOR RUSSIAN FRP PRODUCT

Bachelor's Thesis 2014

ABSTRACT

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Development through internationalization is one of the main tasks each company sets for itself. The presence of domestic products on foreign markets allows the company to increase its awareness and significantly increase the profit.

This thesis aims to compare different foreign operation modes and to choose the most perfect internationalization strategy for OJSC "Tolmachevsky plant ZHBiMK" to enter German market.

Action research was chosen for this thesis. It is consists of research of the FRP product's properties essential for German market, research on foreign operation modes, statistical analysis of German market and analyzing the competitors.

The research showed that the best choice for Tolmachevsky plant will be joint venture strategy with German company Schöck Bauteile GmbH.

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1 INTRODUCTION

1.1 Research & development challenge

At the beginning of the XXI century people are wondering about the future of building materials. A rapid development of science and technology makes it difficult to forecast: four decades ago, there was widespread use of polymeric building materials and about modern "true" composites were known only to a narrow circle of specialists. Nevertheless, it can be assumed that the basic construction materials will also be metal, concrete, reinforced concrete, ceramics, glass, wood and polymers. Construction materials will be created on basis of the same raw materials, but with new recipes of components and technological methods that give higher performance and hence durability and reliability. It will be maximum usage of various waste products, old products, local and household garbage. Construction materials will be selected on environmental criteria, and their production will be based on non-waste technology. Against this background, the creation of a new class of materials called composites - one of the most important achievements in the field of materials science in recent decades. The great interest in these materials is caused by the high level of their structural properties: strength, stiffness, heat resistance, fatigue strength, etc. One of the most important properties of the composite materials is their high resistance to crack propagation. This property allows in new designs significantly increase the reliability and efficiency of the weight, reduce material; furthermore, it is possible to obtain other advantages.

Any organization is located and operates in the environment. Action of all without exception organizations may only be if the environment allows its implementation.

The internal environment of the company is the source of its vitality. It contains the potential that allows us to function and, therefore, exist and survive in a certain period of time. However, it may also be the source of problems and even death of the company.

New challenges associated with a significant shift in the political and economic situation in the country were the arising of strong competition (in many industries primarily from foreign companies), changes in consumer behavior, etc. If at the end of the last century, the majority of domestic firms took steps of protective nature, allowing them to survive, now in recent years priorities have changed and to the forefront came the purpose of growth of companies, including access to international markets.

Foreign economic activity - an essential element of a modern economy. The expansion of international relations and integration between enterprises and countries today is an obligatory condition for recognition and occupation a worthy place in the world community. Therefore, for any company wishing to engage in international economic relations, the primary task is to ensure successful entry into a foreign market. Organizing activities in their company, its executives use certain strategies. Market entry strategy of a particular country with a certain product is one of the most common strategies of international marketing. Depending on the adopted strategy are formulated event marketing programs. They can be oriented, for maximum effect, regardless of the degree of risk; at a minimum of risk with no expectations of a large effect; for various combinations of these two approaches.

In the process promotion of the goods to the international market companies use different ways. Internationalization plan in this particular case is the plan for two companies – Tolmachevsky plant ZHBiMK and a German company named Schöck Bauteile. The main company whose aim is to internationalize its activities is the plant and the partner company is the German company.

1.1.1 OJSC “Tolmachevsky plant ZHBiMK”

OJSC "Tolmachevsky plant ZHBiMK (Ferroconcrete and Metal-Constructions, FC and MC)," founded in 1900 as a joint-stock company "St. Petersburg factory of sewer pipes and refractory bricks."

Due to the depletion of clay, the plant in 1961 was reoriented to the production of ferroconcrete and metal constructions in ground conditions. In the 70s the fabrication shop was built. In the early 80's began construction of production facilities for the manufacture of reinforced concrete structures (concrete missing plant, reinforcement, cement storage and other auxiliary shops and an office building with a medical station and dining room).

In recent years, the plant became one of the largest enterprises in construction industry, specializing in the production of ferroconcrete and metal constructions of high complexity for vehicle construction. The main requirement for the quality of products is a full conformity with technical standards (State Standard, Rus: GOST), standards of safety.

Production of OJSC "Tolmachevsky plant FC and MC" is in demand in almost all regions of Russia, CIS countries and is exported to other countries. The main customer of the production is the OJSC "Russian Railways".

OJSC "Tolmachevsky plant FC and MC" refers to the industry of the production of building materials and currently represents highly equipped, high-tech enterprise for the production of a wide range of concrete and metal products and structures. More than 80% of the total production and sales take concrete structures for railway electrification, urban and rural settlements, etc. (it is pillars and supports of the contact network and the auto-lock, the bases for them, lighting poles, etc.) (TZZHBMK, 2014)

The plant has won many prizes and has many awards. The most valuable are follows:

- Best Construction Company of Leningrad region in 2006.
- Award of Fund for International Development "Euro Asia" "Company of the Year 2007".

- Diploma of III degree of winner of the XIII All-Russian competition for the best enterprise of building materials and construction industry in 2009.
- Winner of the "Best construction company of Leningrad region in 2010." in the nomination "The company of the production and supply of building materials, structures and building automation, achieved the best results."
- Diploma of the winner of the VI International competition for the best construction and design organization, the enterprise of building materials and construction industry "For achieving high efficiency and competitiveness in the construction and building materials industry." (TZZHBMK, 2014)

1.1.2 Schöck Bauteile GMBH

Schöck Bauteile GmbH - a family company founded in 1962 in the city of Baden-Baden, Germany. Today, a group of companies Schöck - international manufacturer of innovative engineering solutions in the field of residential and non-residential construction, develops, manufacture and sale of the three categories of products:

- insulation,
- noise insulation,
- reinforcement technology.

Insulation is the flagship of the company, where offers a constructive solution Schöck Isokorb® for any pro circuit heat buildings of architectural elements, eliminating cold bridges and helping to improve the energy efficiency of buildings of various types and purposes: residential houses, public and industrial buildings and structures.

Over 50 years, the company is engaged in continuous research and development and the introduction of high-quality solutions for construction worldwide. The company staff exceeds 630 employees in 45 countries;

Schöck has 15 subsidiaries and operates in several countries through authorized partners.

The head office and largest factory company is located in Baden-Baden, which was the beginning of the success story of the company founder, a civil engineer, Eberhard Shëkka. His innovative inventions he has streamlined construction and set new standards. Numerous technical know-how, engagement, long-term experience in the construction industry, and close cooperation with customers today allow going from idea to finished solutions, promoting the development and implementation of solutions sought. (Schöck, 2014)

1.2 Aim, objective and research question

There are different methods to enter the markets of individual countries. Selection of a particular method depends primarily on the financial possibilities and goals of the company, the type and competitiveness, especially the economic, political, legal and cultural sphere of the market. Development of international sales policy is aimed at identifying the optimum ratio of areas and resources needed to ensure the maximum efficiency of the process of penetration of foreign markets.

On the personal meeting with the director of the plant FC and MC (2014) was discussed his preferences concerning my thesis in general and concerning his choice of foreign operation mode. It was said that I have to present the product and descry few modes, namely: management contracts, licensing, subcontracting, franchising, exporting and FDI; give a brief explanation to the first two and a more detailed explanation of the last four.

The aim of my thesis is to consider the various ways to reach the company to the foreign market, highlight their advantages and disadvantages, suggest the best option for cooperation and explain why.

The R&D question of this thesis is how OJSC Tolmachevsky plant ZHBiMK could start internationalizing of FRP product to Germany together with Schöck Bauteile GMBH?

The study would provide brief information about the companies involved in the process; then the composite material as an internationalization product will be introduced in detail. The foreign operation modes will be described with its advantages and disadvantages and relevant statistics. In the end the choice of one appropriate mode will be presented and justified why.

1.3 Methods

The methodology of the thesis is based on action research. According to the WebFinance, Inc. (2014) action research is a process of revealing solutions through active problem solving activities. The result is aimed to develop practices and address issues. It embraced investigation through activity rather than theoretical approach.

This definition is greatly complemented with McNiff (1988, 7) definition:

> *"It is not the random, ad hoc activity that characterizes everyday life, although it accommodates within its method those random, surprise elements of unpredictability and creation. The method itself of action research is elegant. It involves a self-reflecting spiral of acting, planning, observing, reflecting and re-planning."*

1.3.1 Data acquisition

The methodological bases for the writing of this thesis are normative and legislative documents, educational and scientific literature, materials, and periodicals.

1.3.2 Data analysis

The thesis is based on action research which consists here from few stages: First, the research about different foreign operation modes will be presented. Then the analysis of three competitors, who have their production on different foreign markets, will be described. Next step is, based on the different FOMs and competitor analysis the internationalization plan will be described according to the Product, Operation, Method model.

1.4 Structure

The structure of the thesis is as follows: Firstly, I will introduce the material, its history, definition, types and main characteristics. Secondly, I will describe 6 foreign operation modes with its benefits and drawbacks: management contracts, licensing, subcontracting, franchising, exporting and foreign direct investment. Then the competitor analysis based on three examples will be presented. After that the characteristics of the product needed for German market will be showed, the statistics of German market will be demonstrated according to different figures and my foreign operation mode proposal to Tolmachevsky plant will be performed. In conclusion I will summarize my work, evaluate myself and suggest ideas for further R&D process.

2 Composites

To give a better understanding what is FRP product in the chapter 2 will be described the main points concerning it.

2.1 History and definition of composites

Nowadays light, high-strength and low-cost construction materials are intensively developing. As a result, many materials have reached the limit of their properties and are not able to progress more. Therefore, scientists, whose task is to continually improve the properties of these materials, have to create entirely new materials, examples of which are composites. (Matthews & Rawlings 2004, 13)

However, composites cannot be called “brand new material”. The first “mention” of composites stretches back to the time when ancient Egyptians added straw for reinforcing mud bricks. (American Composites Manufacturers Association 2014)

In 1200 AD, Mongols invented the first composite bow. A combination of wood, bones, and “animal glue”, (what naturally is adhesive, made of animal bones with gelatin as a main component), bows were squeezed and wrapped with birch bark. The bows were the most powerful weapon until the time the humanity invented gunpowder. (About 2014)

There was a huge revolution in chemistry between 1870 and 1890; the first synthetic resins were developed which could be transformed from a liquid to a solid by polymerization. (American Composites Manufacturers Association 2014) After that in the beginning of 1900s, different types of plastics such as vinyl, polyester etc. were developed. They exceeded by their qualities resins which were retrieved from the nature.

However to provide more strength and rigidity just plastics was not enough and in 1935 Owens Corning presented the brand new glass – fiberglass. Fiberglass in combination with plastic polymer constitutes a unique structure, which is lightweight and incredibly strong at the same time. This was the beginning of the Fiber Reinforced Polymers (FRP) industry as it known nowadays. (About 2014)

During the World War II were made many developments and advancements in composites, e.g. engineers adapted fiberglass for use in sheltering electronic radar equipment because of transparence of fiberglass to radio frequencies.

After the World War II niche of composites industry started rapidly growing. Because of lower demand for military products, manufacturers of composites were searching for new markets and finally found the solution in boats, where composites perfectly fitted. In 1946 was introduced first commercial boat hull.

At this time a man, often referred to as the “grandfather of composites”, Brandt Goldsworthy, invented new manufacturing processes and goods, such as fiberglass surfboard; he invented a manufacturing process called pultrusion, from which nowadays lots of products are made – ladder rails, tool handles, pipes and so on.

1970s can be called the heyday of composites industry. New fibers and better plastics resins were invented. An aramid fiber and a carbon fiber were developed; aramid, now famous as Kevlar became the standard in armor because of its high tenacity and carbon has since been substituting metal as the new alternative. (About 2014)

Speaking globally, the term composite materials belongs to all solid materials composed of more than one component where those components are in separate phases. This definition contains a wide assortment of materials, such as: "*fiber reinforced plastics regular and steel reinforced concrete, particle filled plastics, rubber reinforced plastics, wood laminates, ceramic mixtures, and even some alloys."(*Strong 2008, 1) A single book cannot describe the breadth concept of composites. Nevertheless, Strong (2008) gave their definition to composites. "*Composite materials are those solid materials composed of a binder or matrix that surrounds and holds in place reinforcements."*

According to the Matthews & Rawlings (2004), composites are those that consist of two or more materials. However, in order that the material could be considered as a composite several conditions must be performed. Firstly, the proportion of each component shall be not less than 5 percent. Secondly, the properties of the components should be significantly different. Therefore, the properties of composites should differ greatly from the properties of source components. Only when these conditions are satisfied material could be considered as a composite. Example of non-composite material can be engineering plastics, which besides polymer include small shares of plasticizers, pigments and ultraviolet stabilizers, but do not meet conditions mentioned before. Thirdly, artificial composites are usually produced by mixing the various constituent components.

FRP composite is a two phased material, where each of them plays an important role. It is the combination of matrix and fiber, which are joined together as it shown on Figure 1.

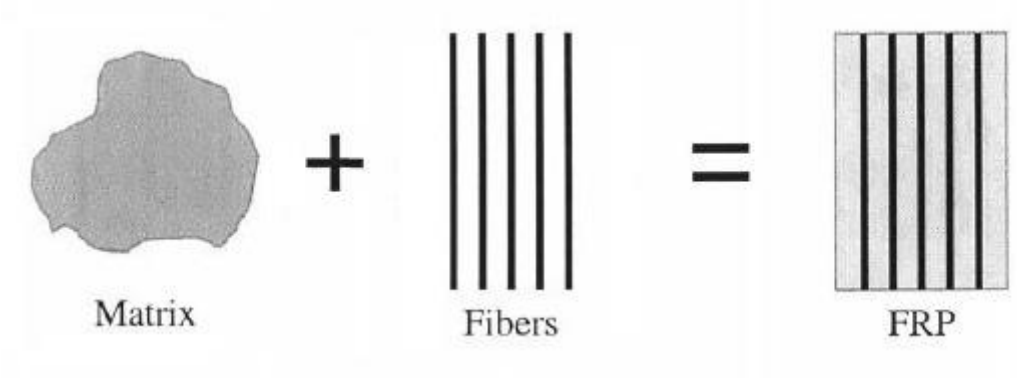

Figure 1. Formation of FRP Composite. (Tuakta 2005)

2.2 Matrix

One cannot use only single fiber in the construction. One can use high strength of fibers by their weaving and manufacturing of ropes. Unfortunately, the area of application of such fibers is extremely limited. Furthermore, damage to the fiber surface significantly reduces their strength. However, these disadvantages can be overcome by bonding fibers. At the same time protects the surface of the fibers and simplified manufacturing technology products. An adhesive material called a matrix. (Matthews & Rawlings 2004, 22-26)

Matrix is responsible in composite for binding the fibers together, saving them from environmental degradation and abrasion; it distributes the load equally over the entire surface. The polymer matrix used in FRP must match chemically and thermally with fibers for a long period. Last, but not least, matrix keeps composite in a certain shape. (Mukunda 2012).

There are different types of matrix materials as well, which can be used in civil engineering construction. Mainly two major types of polymers are thermoplastic and thermosetting polymers. Thermoset composite matrices include polyester, vinyl ester, epoxy, bismaleimide, cyanate ester, polyimide,

and phenolic. Here will be described the most popular and the most used matrices.

2.2.1 Thermosets

The most common matrix material for high-performance composite and adhesives are epoxies. They are easily combine strength, low shrinkage, adhesion and processing versatility. Commercial epoxy matrices and adhesives can be as simple as one epoxy and one curing agent; nevertheless, the majority comprises a major epoxy, several minor epoxies and one or two curing agents. The minor epoxies used for affording viscosity control, giving higher elevated temperature properties, improving toughness or providing lower moisture absorption. Two main major epoxies are used in the aerospace industry. The first one is called diglycidyl ether of Bisphenol A (DGEBA) and purposed for filament winding, pultrusion and some adhesives. The second one called tetraglycidyl methylene dianiline (TGMDA), which is the main epoxy purposed for a huge number of the commercial composite matrix systems. (Campbell 2010, 67)

Polyesters are limited for use in high performance composites but are very popular in commercial applications. They have lower price than epoxies; polyesters generally have lower temperature capability, lower mechanical properties and inferior weathering resistance, and they show more shrinkage during cure. The cure reaction of polyesters is happened where unsaturated carbon-carbon double bonds (C=C) are the locations where crosslinking occurs. Typical polyester based on at least three components: polyester; a crosslinking agent such as styrene; and an initiator, normally peroxide such as methyl ethyl ketone peroxide or benzoyl peroxide. Polyesters can be formulated to cure at either room or elevated temperature, allowing great versatility in their processing; it is one of its main advantages. (Campbell 2010, 65)

Vinyl ester resins have the same mechanism of formation of peroxide spatial relationships that polyester resins. Additional strength to this hybrid resin give epoxy molecules incorporated into their base. Shrinkage on cure is moderate. Increased strength of modified resin prevents the formation of micro cracks and the gum base itself serves to improve adhesion to the surface. Vinyl ester resins have a good water-resistant quality and some commercially available barrier coatings made of resin of this family. Vinyl ester resins have good adhesion to glass fibers and low adhesion to more exotic materials (Kevlar, carbon fibers) and wood. For curing polyester and vinyl ester resins on the exposed surface requires the insertion of special additives. Application of subsequent layers requires careful surface preparation to ensure adhesion. (Composite materials, 2014)

2.2.2 Thermoplastics

In the 1980's many of thermoplastic matrices and product forms were available to industry. Today the situation with these matrices available commercially is much more modest. The five most important materials are Polyetheretherketone (PEEK), polyetherketoneketone (PEKK), polyphenylene sulfide (PPS), and polypropylenes (PP) are semi crystalline thermoplastics, while polyetherimide (PEI) is an amorphous thermoplastic. While PEEK, PEKK, PPS, and PEI are normally used for continuous fiber-reinforced thermoplastic composites, PP represents a lower temperature resin that is used mainly in the automotive industry as a discontinuous glass fiber stamp able sheet product form called glass mat reinforced thermoplastic. (Campbell 2010, 82)

2.3 Fibers

Fiber in general is a long axis material that is much greater than its diameter. To describe short fiber lengths normally used the term aspect ratio, which

stands for fiber length divided by diameter (l/d). For fibers usual aspect ratios are greater than 100 (Campbell 2010, 48)

Fibers provide stiffness, strength and other mechanical properties to the composite. They must be stable during a long period as well. As the matrix is under pressure it is very important for fibers have high modulus of elasticity for an efficient utilization of reinforcement. Essential fact is that fibers have to save their strength during manufacturing and handling processes. (Mukunda 2012)

There are several types of fibers used as reinforcement, but in this work, an author will concentrate only on the main three: Glass, Aramid and Carbon.

2.3.1 Glass Fiber Reinforced Polymer (GFRP)

GFRP are plastic materials consisting of glass fiber filler (glass fiber, quartz fiber, etc.) and a binder (thermosetting and thermoplastic polymers). Fiberglass is a material with a low specific weight and predetermined properties; it has a very low thermal conductivity (approximately as a tree), biological stability, moisture resistance and weather resistance of polymers, without having limitations inherent thermoplastics. Glass fibers have high strength and at the same time very low price. (Shaitor 2014)

There are different types of glasses: E-glass, C-glass, S-glass, A-glass, D-glass, but the most used in the construction industry is E-glass because of its low electrical conductivity and lowest price. (Zhao & Guo 2014)

2.3.2 Aramid Fiber Reinforced Polymer (AFRP)

Aramid fibers are organic fibers with average stiffness and strength of glass and carbon. The most popular and famous fiber is DuPont's Kevlar. AFRP is made of highly crystalline, aligned polymer chains tailored into distinct zones or fibrils.

Use of aramid fibers is prevalent for ballistic protection because of their extreme toughness; they are much harder to cut as well and it creates some handling problems. Great advantage is their ability to absorb huge amounts of energy during fracturing, which appears from their high strain-to-failure values, their ability to undergo plastic deformation in compression, and their ability to defibrillate during tensile fracture. AFRP have small weight that allows them to combine good tensile strength and modulus and outstanding ballistic and impact resistance. On the other hand, they expose relatively poor transverse tension, longitudinal compression and interlaminar shear strengths because of low adhesion with the matrix. As carbon fibers, they expose a negative coefficient of thermal expansion. (Campbell 2010, 39-41)

2.3.3 Carbon Fiber Reinforced Polymer (CFRP)

CFRP - polymer composites of interwoven strands of carbon fibers arranged in a matrix of polymeric resin. Density - 1450 kg / m^3 to 2000 kg / m^3. Materials are characterized by high strength, stiffness and low weight, commonly stronger than steel but much lighter. Due to the high cost (for cost savings and no need to obtain the maximum performance), this material is normally used as a reinforcing addition to the base material of construction. (Shaitor 2014)

The main component of the carbon fiber - is a carbon filament. Such filaments are very thin (about 0.005-0.010 mm in diameter); they are very easy to break, but quite difficult to tear. From these strands are weaved fabric.

To make the even greater strength fabric of yarns of a carbon fibers are placed by layers, each time changing the angle of the direction of weaving. The layers were bonded using epoxy resins. The high cost of carbon fiber is caused, first of all, more sophisticated production technology and higher value-derived materials. For example, for gluing the layers use more expensive and high-quality resins than when working with fiber glass, and for the production of parts requires more expensive equipment. (Shaitor 2014)

2.4 Comparison of steel and FRP rebars

There are many different advantages of using FRP rebars. First plus of FRP is its lightweight. To compare with steel, 1 km of FRP with 8 mm in diameter is 65 kg when the same amount and same diameter of steel rebar is 400 kg.

Composite reinforcement refers to materials first group of chemical resistance. Thereby guaranteed durability and lack of cracking and fracture of reinforced concrete structures due to internal stresses arising in the process of corrosion and corrosion swelling, as occurs in cases with steel reinforcement. Next advantage is low thermal conductivity in comparison with metal. Thermal conductivity of composite materials based on glass fibers and basalt fibers lower than thermal conductivity of metal more than 10 times. Consequently, the composite construction reinforcement, unlike steel - is not a “cold bridge” in reinforced concrete construction.

One more positive fact that FRP is a dielectric. It does not conduct electric current. This characteristic prevents short-circuit wiring inside the concrete structures. Composite prevents small currents in the framework of reinforcement as well. As dielectrics and diamagnetics, composite materials do not create interference and magnetic disturbances. (Chermetkom Metalloprokat 2014)

Fiberglass rebar magnetically transparent and radio transparent. These properties allow using this reinforcement in structures where necessary to avoid screening of electromagnetic and radio waves - medical facilities and military airports, radar stations.

Composite rebar does not burn; the coefficient of thermal expansion is as the concrete has which eliminates reinforcement impulses and cracking in a layer of concrete under the influence of temperature changes.

Tensile strength in composite reinforcement is approximately two times higher than in steel. This means that the binding of reinforcing mesh may be used of smaller diameter or the size of cells may be increased.

Frost resistance: retention of properties down to -70 ° C; the last one is that it is relatively inexpensive cost of composite reinforcement as compared with a metal due to the possibility of using a smaller diameter at the same strength. (Shaitor 2014)

One must remember that the composite reinforcement has significant disadvantages. In composite reinforcement modulus of elasticity is much lower, i.e., it is highly flex. Metal flex is 4 times less. Perhaps for the construction of houses in a seismically active area composite rebar is the only right decision, but their applications for road closures require additional calculations. In case of fire, where it may be a temperature above 600 degrees, the element that holds the armature becomes soft and composite rebar is almost completely loses its elasticity. Therefore, one need to consider means allow increasing the material's resistance to fire; for these purposes, additional measures for thermal valve are used; furthermore, composite reinforcement, unlike steel, is impossible to weld by electric

welding. To do this, people have started to use binding wire or connection with a cable tie.

This reinforcement is not possible to give a bend at the construction site. Decision is making rebar of required shape straight on the factory according to the customer drawings. (Alien technologies Co.Ltd 2010)

Application of reinforcement has great prospects. Nowadays, it can be safely used in low-rise buildings, in the foundations of various types, road slabs and other similar structures. However, when it is applied in high-rise building, in the construction of bridges, etc. it is important to remember it is required to consider its physical and chemical properties at the stage of preparation of the design.

3 Foreign operations methods

"Foreign operation methods can be defined as the institutional/organizational arrangements that are used in order to conduct an international business activity, such as the manufacturing of goods, servicing customers, sourcing various inputs – in fact, undertaking any business function". (Welch et al. 2007, 18) There are many different types of foreign operations methods/modes, but the most popular and the most usable can be seen on the figure 2.

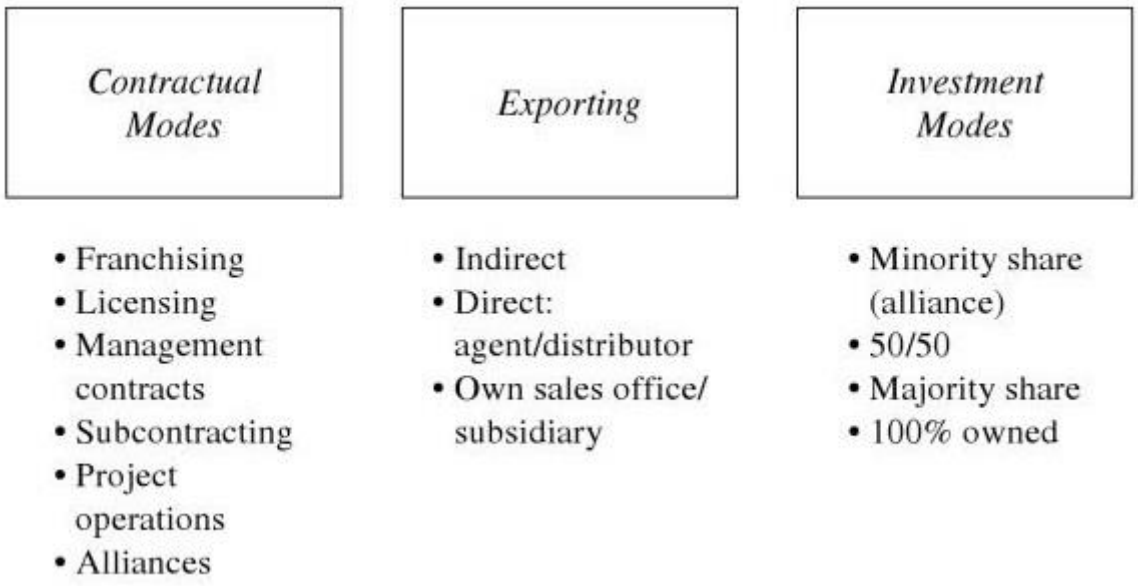

Figure 2. Major foreign operation method options. (Welch et. al. 2007)

As can be observed from this table, there are three main categories of foreign operation modes and in this thesis all of their advantages and disadvantages will be analyzed, discussed and weighed in order to select the best option for “Tolmachevsky plant FC and MC” to enter the European market.

3.1 Management contracts

If all foreign operation modes are taken into consideration, management contracts are probably the least popular method. According to the Welch et. al. (2007), management contracts is

> “*An arrangement under which operational control of an enterprise (or one phase of an enterprise) which would otherwise be exercised by the board of directors or managers elected or appointed by its owners is vested by contract in a separate enterprise which performs the necessary managerial function in return for a fee*”.

In other words, it is a written agreement between the business owner and any management company. The contract includes the details of the

agreement, such as the amount of control given to the management company, the payment terms and conditions under which the contract may be terminated. (Ray 2014)

There are sets of advantages and disadvantages in use of management contracts. In the situation where one has several businesses the benefit of hiring a contract management company would be seem in the time left for concentration on the big picture and let this company to manage routine details of one's business. Responsibilities such as hiring, recruiting and training personnel could be transferred to the management team; terminations refer there as well.

Contracts signed with vendors always become unhidden to the managers for a number of issues, varying from the ordering to inventory control. Worker records, covering pay, some part of personal information become part of the management team's responsibility. The financial information becomes revealed incurring on one's different sort of troubles such as fraud etc. (Ray 2014)

While in business could be staff turnover that does not allow concentrating fully on business operations, a management contract firm can afford it without any consequences because there are specific terms in the contract that stress how the business should operate. The contractor shall maintain a level of accuracy and efficiency, as prescribed in the agreement, which is usually supported by an experienced home office.

To look in the future and see how many conflicts could happen with an outside contractor is very difficult. For example, one is hiring a management company to control the business and it automatically means the management of one of the suppliers. Forecasts, discounts and price changes could be compromised. If the company manages clients or competitors of one's business conflicts can occur. (Ray 2014)

3.2 Licensing

Licensing is a foreign operation mode that embraces lots of activities, users and different roles. The significance of users is varied from individual inventors to large multinationals. Like in franchising both parties, licensees and licensors have made a great contribution in the development of a vibrant international market for licensing deals. Licensing is an important means of penetrating foreign markets; small firms use it as the sole means for early international forays. (Welch et al. 2007, 94)

According to the International Licensing Industry Merchandisers Association (2014), the term licensing is defined as the process of leasing of intellectual property rights for use in conjunction with a product, service or promotion. There are many types of intellectual property that could be included in licensing arrangements, such as patent, trademark, design, mask work, copyright, trade secrets, know-how etc. and it is important to point out that licensing is not aiming to sell the property rights but the right to its use. (Welch et al. 2007, 97)

A contractual agreement between the owner or agent of the property (licensor and the renter of the rights) and the prospective licensee is on what commonly based the licensing. This agreement usually covers:

- The licensing package components – a description of the rights to be transferred;
- Duties of both entities in the arrangement, e.g. actions for successful transferring the technologies;
- Payment terms;
- Restrictions;
- IPR obligations;
- Duration of agreement
- Territory rights

- Grant-back rights to technology developed by the licensee in the course of using the original, transferred technology
- Dispute settling arrangements, including the national law or arbitration body to apply. (Welch et al. 2007, 129)

3.3 Subcontracting

Subcontracting (subcontracting) - one of the forms of production (industrial) outsourcing industry used for the optimization of production processes. It means that one industrial company (contractor) puts in another enterprise (the subcontractor) order for the development or manufacture of certain products, or the performance of technological processes in accordance with customer requirements, allowing companies contractor to build a more efficient and effective organization of production.

Application of a subcontracting (subcontracting) allows parent company (contractor) to get rid of the overhead of maintaining not fully loaded production capacity and focus on the most important task - retooling, updating the range of products. Subcontractor (usually SMEs), performing work on subcontracts, achieve a high level of equipment load and high performance. The use of subcontracting mechanism to optimize the production process and significantly improve the competitiveness, both at the enterprise level and at the regional level.

Benefits of subcontracting, according to the Welch et al (2007, 179) could be considered following points: for individual companies not only cost differences play an important role; firms have the opportunity to use people who are simply better educated than companies' workers. As a consequence the quality of the work is improving, customer satisfaction rate and greater precision are going up as well; Another important benefit was revealed in the availability of higher quality goods and access to product technology; even the survey which was made between of US purchasing

professionals showed that they would choose better quality, not the lowest price, as the most important factor in choosing the supplier.

"*International sourcing's greatest benefit is that it provides access to lower priced products*." (Welch et al 2007, 179)

Far lower cost and less effort are applying to make a foreign production base as a means of servicing global markets. Next advantage is greater flexibility; these two words mean the company can establish a relationship with as many suppliers as it wants, and more suppliers are ensuring greater flexibility; it can make a company better prepared in changing of government policy, political risks and volatility in business climate in various countries. Last, but not least, international subcontracting affords companies to expand already established product range. (Welch et al 2007, 179)

When a company use international subcontracting may occur following disadvantages: as it was said above the quality of work is increased; at the same time the sufficiently high risk of losses due to the low quality of services is occurring. In addition, the subcontractor, as any other business can be ruined, and therefore, the contracting authority will be obliged to use the services of a new subcontractor, and additional moral and material costs are needed. The presence of a small amount of exposure control levers, which in its turn can affect the decrease in the efficiency of processes and an increase in maintenance costs; the transfer of certain functions in subcontracting impractical for large organizations because it can lead to loss of privacy, a decrease of efficiency in providing the necessary information for the management of the organization. Leakage of confidential information is, in its turn, can lead to loss of competitiveness of the firm (IT companiya Global Soft, 2014); here the psychological factor takes place: not every company will entrust inside information outside the organization. Lack of motivation of employees of subcontracting. Providing services prescribed in the contract, such employees are not interested in the business

development of the customer, because their incomes are not connected with the success of the service organization. Efficient operation of its own IT-employees is stimulated by higher wages, career development, manage their own projects. (Crown, 2012) The last disadvantage is that by using subcontracting one's business does not develop or learn internal skills; (IT companiya Global Soft, 2014)

3.4 Franchising

Franchising, the kind of relationship between market actors, when one party (the franchisor) transfers the other party (franchisee) for a fee (royalty) right to a certain type of business, after training, using the developed business model of reference. This is advanced form of licensing, in which one party (the franchisor) grants to the other party (the franchisee) the right to gratuitous act on its behalf, using the trademarks and / or brand franchisor. The world-known example of franchising is McDonald's, which has 9 months training. (Welch et al. 2007, 51-52)

In a general sense, franchising - is a "rent" of a trademark or commercial name. Using the franchise agreement between the franchisor regulated (the one who provides the franchise) and the franchisee (the one who receives it). The content of the agreement may be varied, from the simple to the very complex, containing the fine details of the use of the trademark. As a rule, the contract is governed by the amount of royalties for the use of the franchise (it can be fixed, one-time, for a certain period, a percentage of the sales). Requirement contributions may be absent, but in this case, the franchisee undertakes to buy from the franchisor a certain quantity of goods / works / services.

A separate item of contracts may serve the terms of use of trademark / brand. These requirements can be a very simple (for example, the franchisee has the right to use the brand in a particular sector) and rigid (for

example, the franchisee agrees to use the equipment in the shop in strict accordance with the requirements of the franchisor - on the size and color of the shelves to the staff uniforms).

3.4.1 Advantages

For the franchisor priority benefit of franchising is that he gets a small, but stable, guaranteed sales volume of their products, as franchisees are obliged to buy from him certain consignment contract, supplies or other products / services. If the income is stable, then it can be successfully planned for the future, and thus develop new areas. With all that the franchisor is not burdened by difficulties associated with a number of costs that have casual players - training and selection of personnel, quality control etc. Moreover, the development of franchise is a great advertisement of the brand, which does not require special investments.

For the franchisee, there are some benefits as well: having a franchise gives to franchisees some level of independence where they can manage their business; it gives the opportunity to be in business without significant efforts.

A franchise provides already a wide known product, which possess a famous brand name. From here, the customer awareness is gotten which usually would take several years to gain. As it wide known, the chances of business success rise because of association with proven products and methods.

Some pre-opening support could be offered by franchises, such as: site selection, design and construction, financing, training, grand-opening program. In addition to pre-opening support, permanent support is available as well: training, national and regional advertising, operating procedures and

operational assistance, ongoing supervision and management support. (IFA Educational Foundation, 2001)

3.4.2 Disadvantages

- Franchisees are forced to follow the rules and regulations established by the franchisor, even if they do not bring the maximum benefit to business.

- Franchisees may be set stringent constraints on the output of the business, including a ban on the opening of competing organizations for a specified period or for a certain territory.

- Franchisee can rarely have an impact on issues of centralized marketing and advertising, but it may be forced to pay for a centralized marketing and advertising campaigns. Thus, their tools can be used not in their best interests. (IFA Educational Foundation, 2001)

3.4.3 Legal part of franchising

Good relationship between the franchisor and the franchisee is essential for the success of both parties. As franchising establishes a business relationship for many years, the foundation must be thoroughly constructed, having a clear idea of the franchise program. Unfortunately, the legal language of franchising is usually complex and to avoid costly mistakes and understand legal issues it is advised for franchisees to seek an experienced lawyer. Federal and state laws that force franchisors to provide prospective franchisees with information describing the franchisor-franchisee relationship regulate franchising. (International Franchise Association, 2014)

There are two main franchise documents that have to be considered. First is *the disclosure document* (also known as the FDD). The aim of that document is to familiarize prospective franchisees with information about the franchisor, franchise system and agreements they have to sign. This FDD document has a 14 cooling-off period during which potential franchisees have the time to weight their decision before signing the franchise agreement.

Typical FDD document includes: the franchisor; the company's key staff; legal and financial history and aspects of franchising; ongoing fees; territory rights; responsibilities of both parties; management's experience in franchise management; other franchisees in the system with contact information. (International Franchise Association, 2014)

Second is the FRANCHISE AGREEMENT. In this document more detailed understanding of relationship between franchisor and franchisee is presented. It includes: territory; franchise system, e.g. use of trademarks and products; duration of the franchise; payments; training, assistance, advertising; rights and obligations of both parties.

This document is the legal, written document which regulates the relationships and stipulates the conditions of franchise acquisition. Potential franchise should attentively descry the agreement and consult with a professional lawyer or an accountant before signing any paper. (International Franchise Association, 2014)

3.5 Exporting

The concept of "export" is derived from the Latin exporto, which literally means the export of goods and services from the port of the country. Buyer of such goods and services usually called the country - "importer", while

outside vendor is country - "exporter". Currently, the import of any goods or services, carried out a legal way from one country to another, is one of the most popular activities in the area of trade. That is why, along with exports, imports form the basis of international economic relations.

Exporting usually is considered as the most popular mode in the early stages of internationalization of company, especially for manufacturers, and those in the agricultural and mining sectors. It would not be new that exporting is often chosen as the starting way to international involvement if comparing the three main groups of foreign operation mode options. It seems to be relatively simple, low-cost way to begin, especially in cases where foreign customers initiate the exchange, which is normal for both service and manufacturing sectors. (Welch et. al. 2007, 239-40)

There are two main forms of exporting – direct and indirect. Many companies use both methods to export its products.

3.5.1 Direct export

Direct export is the main way of export, based on the level of economy in production, which is concentrated in the country of the manufacturer and ensuring better control over distribution. Direct Export works best if the volumes are small.

Using a type of export goods, exports can be divided into three categories: Distribution of export (exports merchandising) - refers to the export of physical goods, for example readymade garments, engineering goods, furniture, works of art; exports of services - refers to the export of goods that do not exist in physical form, i.e., vocational, technical or general services; project export - refers to the establishment of the project company in another

country. This is seen as scientifically developing work plan designed to achieve a specific goal within a certain period of time. (Exportea, 2014)

There are two main types of direct export: Sales representatives and distributors of import. Sales representatives are those who represent foreign suppliers/manufacturers in their local markets to create a commission on sales. Provide support services to the local manufacturer for advertising, presentations of local sales, customs formalities and legal requirements. Distributors of Import are those who buy products to its ownership and resell it to their local markets to wholesalers and retailers, or both. (Exportea, 2014)

Advantages of direct export could be defined as follows:

1. Increase of economic efficiency of export since reduced technical costs (at least in the amount of payments intermediaries)
2. Ensuring a permanent presence of the exporter on the foreign and the local market, allowing reacting promptly to changes in market conditions.
3. The possibility of creating a positive image of the exporting company
4. Reduction of risks from possible unscrupulous intermediaries.
5. Better two-way relationships between the customers and business owner's, better understanding each other. (About, 2014)
6. Control over the choice of foreign markets and foreign companies representative selection
7. Potentially large volume of sales than with indirect export.
8. Higher level of safety for business' trademarks, patents, copyrights, prestige of the company and other intangible assets. (Exportea, 2014)

At the same time there are also disadvantages of direct exports, which may negate the advantages (which is true for the other forms under the direct method of international trade), and not only lead to lower economic efficiency, but also to the direct losses: distraction of staff and financial resources for the organization of private export business; lack of business skills and trading experience in international trade, which could lead to the fact that the export costs did not decrease, but increase significantly; exporting company assumes all risks arising from any changes and cross-cultural differences; significant expansion of routine and previously unknown works (selection of target markets, the identification and selection of foreign intermediaries, as well as the execution of the following international logistics functions - preparing export documentation, braking and cargo insurance, export packing, chartering of freight forwarders and shipping); (Economyst, 2014) higher initial costs and higher risks in contrast to the indirect export; more time preparing to enter the market, as opposed to indirect exports. (Exportea 2014)

3.5.2 Indirect export

The main characteristic of indirect export is the use of experienced intermediaries in the organization of export / import operations. These intermediaries have full range of services of international marketing, as well as assume all risks and perform routine tasks associated with international trade. The most important intangible assets contributed by intermediaries in international transactions are their experience with technology of international trade, as well as knowledge of the characteristics of markets of the host countries. (Economyst 2014)

According to Welch et al (2007, 255-57), there are two main forms of intermediaries – agents and distributors. The difference between them is that an agent is an intermediary, acting as a representative or assistant of another principal in relation to him person (the principal). Typically, agents are legal persons. The agent enters into transactions on behalf of and at the

expense of the principal. Distributors are wholesale and retail intermediaries, leading the operation on behalf of the manufacturer, and at their own expense. Typically, the manufacturer provides the right to distributor to sell his products at a certain area and for a certain time. Thus, the distributor does not own products. Under the contract, they acquired the right to sell products. At the same time distributor may act on its own behalf. In this case, in the framework of the contract which granting the right to sell the contract of delivery is signed.

Widespread practice of recourse to indirect exports in international trade, as well as the variety of types of international resellers, caused the advantages that it (as well as other forms of international trade under the indirect method) provides to producers or sellers of export goods:

Immediate delivery of benefits for the exporting producer due to the use of international marketing experience and business contacts, which an intermediary company has in foreign markets; the possibility of transforming mediators in the source of valuable market information (including required to compare the quality and competitiveness of products by manufacturer-exporter); exemption from routine and initially caused serious difficulties work related to the execution of the export document flow; ensuring market penetration unavailable to direct contacts; increase the capital turnover of manufacturer-exporter; (Economyst 2014); use of already existing intermediary's warehouses, transport; low risk for those companies that treat their domestic market to be more significant and for those companies that are still developing their R & D, marketing and sales strategy; minimal or no financial obligation. Export partners usually cover most of the costs associated with international sales; and management department is not distracted. (Exportea 2014)

The disadvantages of indirect export (and other forms of international trade in the framework of indirect method) generally include the following:

1. Manufacturer-exporter loses direct contact with the foreign market (a major drawback of the indirect method of international trade);
2. Manufacturer-exporter receives no control over the market and therefore does not accumulate the marketing experience that distinguishes international marketing as marketing intelligent or self-learning;
3. Manufacturer-exporter is not accumulating the positive image in the foreign markets, therefore, in case of rupture of relations with its international intermediary becomes nearly on the starting position in the organization of export its goods to the previously served market;
4. Intermediaries (in the absence of hard exclusive agreements, and in the US, for example, those prohibited) rarely limit himself in work with one contractor, and this can sometimes cause a lack of attention to the work with the products of manufacturer-exporter, and therefore, decrease in its exports volume; (Economyst 2014)
5. Wrong choice of the market and the distributor can lead to lack of feedback from the market, which affects the international success of the company;
6. Potentially lower level of sales, compared to direct exports, due to the wrong choice of the market and the distributors selected by export partners. (Exportea 2014)

Taking into account all the above mentioned points concerning export it follows that especially those firms that are aimed at achieving a global or transnational strategy favorable to carry out all its production in those countries where a combination of factors and conditions of production optimal in terms of value creation, and then export the product offer within a global expansion. (Hill et al 1990)

3.6 Foreign direct investment

The most powerful method of foreign market entry is considered foreign direct investment (next FDI), the most significant way in which a company can become engaged in a foreign market, but usually demanding a heavy on-the-ground obligation of different types of resources: for instance technology, finance and people. The characteristics of FDI also point on the fact that this method is seen in a recipients markets as the most intimidating, frightening, confronting form of international activity, especially when undertaken via full takeover of local companies, more particularly when they are considered as local idols. (Welch et. al. 2007, 317)

The broad definition of FDI is very clearly described by Financial Times (2014): it is an "*investment from one country into another (normally by companies rather than governments) that involves establishing operations or acquiring tangible assets, including stakes in other businesses. The purchase or establishment of income-generating assets in a foreign country that entails the control of the operation or organization*." (The Financial Times LTD, 2014)

There are some differences between investments; they are categorized on wholly owned (or nearly so) foreign subsidiaries and joint ventures with majority, 50/50 (which is the priority method as it was said at an internal meeting with the head of the plant FC and MC Dmitry Shaitor) (2014) or minority (large to small) equity levels. (Welch et. al. 2007, 321)

There are two main ways of activating the investment activity, first is through cross-border acquisitions or mergers of an equity stake, part/full, in the interested country; second is foundation of plants/factories/companies from scratch; so called "greenfield" strategy/investment. (Investopedia 2014)

The difference in legal aspects between these two strategies is between subsidiary arrangements and branch. A branch foundation abroad stays legally bonded to and liability of the parent firm. In comparison, a subsidiary is legally founded inside the foreign market and legally divided from the parent company, and legal responsibility within the local context usually used only to the assets and operations of the local subsidiary. (Welch et. al. 2007, 321)

Both methods tend to help to achieve this goal - expanding the company's operations to a new foreign market. However, before to decide what to choose, what kind of strategy, it is necessary to look at the positive and negative aspects of both strategies. (Phung, 2014)

3.6.1 Importance of FDI

Some positive moments about FDI that companies have to consider before going global are: skipping foreign government pressure for local production; circumventing trade barriers, hidden and otherwise; rise from domestic export sales to a locally-based national sales office; possibilities to increase total production capacity; capabilities for co-production, joint ventures with local partners, joint marketing arrangements, licensing; (JPG Consulting, 2004) closeness to customers; usage of assets such as technology, know-how, and brands; bandwagon effect; reducing costs; access to unique local assets; import security. (Welch et. al. 2007, p. 325-26)

3.6.2 M & A vs Greenfield/Brownfield

When companies decide to grow and want to transfer their activities to another country, one of the major challenges that they may face is a decision of what will be most profitable - to create a fresh company in a foreign country from scratch via a green field investment, or simply purchase an existing companies in other countries through the acquisition.

Both methods tend to help to achieve this goal - expanding the company's operations to a new foreign market. However, before to decide what to choose, what kind of strategy, it is necessary to look at the positive and negative aspects of both strategies. (Phung, 2014)

3.6.2.1 Mergers & Acquisition

Joint venture - one of the forms of international industrial and technological cooperation. When one creates a joint venture, partner companies combine their capital, create joint ownership, which they jointly manage and share the revenue generated in proportion to their equity capital. Joint venture is registered in the territory of one of the participating companies. (Robins & Tallman 2002)

There are few arguments in favor of M&A. First is speed of market entry or expansion. Everybody knows that time is important. Companies/firms realize, in some cases by their own experience how long it will take to establish everything from the ground - arrange all the operations, reconcile all the political and legal aspects in a foreign country, make a consolidated client base, build customer loyalty, gain a significant (or at least any) market share, make the products to be known and achieve the positive reputation of a brand. In that case as an option appears an acquisition, which speed up all this processes and gives to the owner other valuable local assets. Through acquiring a foreign enterprise that is in divestment situation may even more quicken the process. In rivalry market, time factor is usually a crucial factor; the ability to respond quickly on volatility, on competitors' actions or on other factors will be decisive because of time pressure. (Welch et al. 2007, 334-35)

Second is risk avoidance in natural resources sector. An investigation, which was made on mining companies, showed that the advantages for these

companies when using acquisition is not only in quicker speed when local mines are involved but in the outcomes are more predicted as well. (Welch et al. 2007, 335)

Third is complementary, diversification and rationalization. Complementarity can apply at both horizontal and vertical levels. To enter in a foreign market companies might choose to move into via takeover rather than trying to get a market share at high price. Diversification in term of acquisition means to expand company's business to new niches and offer a broader range of products/services. (Welch et al. 2007, 336)

Assets of acquire is the next one. When a company acquire a foreign firm, it means that in its' possession passes some unique assets which are mainly local but could be expanded to a regional and then global. These assets could play a major role for smaller firms and help them to make a considerable breakthrough in term of international activity.

Interests to the company could present market share, which is the most important because it may be expanded through purchasing a well-known brand name. The technologies, unique design and personnel skills are also powerful investments to the acquirer's global operations. One should not forget the local knowledge and networks that support the move to local operations. (Welch et al. 2007, 336-37)

Any merger - whether they are caused by the desire to reduce costs or to achieve growth - associated with significant changes. Regardless of external factors changes always involve risk, so they must be carefully prepared. Management should anticipate possible changes to be ready to meet them head on.

High failure rate is the number one in this list. Although M & A are aimed to create benefits, in practice they are often fail even to preserve the advantages achieved by companies before the merger. A global study conducted in 1998-1999 by Kearney based on 115 deals showed that 58% M&A were unable to achieve their goals. More than half, instead of taking the company to a new level, partners of the transaction disappointed their customers, lost in the competition and lost existing benefits. (Kuzmina, n.d.)

Next is increasing of fluctuations of employees. One of the main problems in the merger / acquisition is a sharp increase in the fluctuations of the employees. This is especially true of acquired businesses. The fact is that many mergers / acquisitions associated with a significant reduction of staff in the course of the elimination of overlapping functions and centralization. However, in the course of the fluctuations leave especially to the most qualified employees and top managers, which is not difficult to find a better offer on the labor market. Together with the staff, the company loses not only the know-how, but also part of the customer associated with the employees leaving the company by long-term friendly relations (especially the sales department). (Welch et al. 2007, 338-39)

Integration difficulties. The first point, high failure rate, raised the question why it happened. The integration fact always will be a problem because Merge & Acquisition means that two companies are bonding together and there are differences in informal processes, in companies' philosophies, languages used in routine office (between personnel) and business lives, in technologies used to achieve the goals etc. (Welch et al. 2007, 338-39)

When one company is clearly influential, its employees do not feel much concern: they do not think that in their company will be significant changes. If the approximately equal partners make the transaction, the changes apply to both companies. Gradually, the attitude of staff to deal is changing. In rare cases, both companies continue to do the same as before the conclusion of

the transaction, but even in this situation, they feel less confident. (Kuzmina, n.d.)

The slowness of decision-making and fuzzy competence can make a great effect.

Because of the blurred boundaries of competence and responsibilities, obligations under the transaction can be transferred in case of failure from one department to another. The presence of a significant number of hierarchical levels between operational staff and Commission delaying the transaction process and negatively effects on the general mood. Presentation of information and proposals to the Board of Control occurs with a frequency of a month or less, which is not enough, and the Commission decides not only fundamental, but also more operational issues. The slowness of decision-making, especially in such a dynamic area as mergers / acquisitions, sometimes turns not only significantly delaying the process, but also by the loss of opportunities. (Savchuk, 2003)

"*The M&A process can take a very long time. 3 to 9 months has been the typical range in our deals. So plan accordingly*." (Harroch, 2013)

The last one is insufficient qualification of managers. Projects on mergers / acquisitions are quite different from carrying out the ordinary, even very complex transaction that requires certain qualities from the management. A sufficiently large number of failures observed in cases where the managers with no experience of mergers / acquisitions, and relying only on their own, taking control in their hands. The problem of optimizing of existing processes is very different from the problem of their formation. Management methods and ways of thinking itself tested and given positive results in the stabilization of the situation existing business, are not optimal, and sometimes just not applicable. The project manager gets into a situation with a tremendous increase in the number of variables compared to the usual

situation. Realizing the complexity of the problem and their inability to delegate subtasks correctly, keeping a general overview, the managers are not hurrying to admit their incompetence and only made matters worse. (Savchuk, 2003)

3.6.2.2 Greenfield

Acquisition problems created a significant bridgehead to think about its alternative – Greenfield investment. For investors, the most important argument for is that in this case the company has an opportunity to get that type of a subsidiary in such format that it needs. If a company feels that in a particular target region will be much easier to create a new organizational structure than to modify the old one, then the best option for it is to make a subsidiary company from scratch. It is also much easier to develop organizational procedures in a new subsidiary company, rather than change them in an acquired existing company.

For the company it is much easier to organize its business from scratch in another country, if it is already comfortable working in some other states in the international arena. If the company already generated the experience of foreign operations, it is much easier to calculate the potential risks, develop a set of operating procedures for the new subsidiary. Moreover, the establishment of their own businesses, though fraught with risks, involves less potential for adverse surprises, which can be expected in the case of buying an existing firm.

However, the weak point of creating its own subsidiary in another country may be that competitors may penetrate into the market due to acquisitions, thus ensure themselves a powerful penetration and presence in the market, which can greatly narrow the market potential for companies based from scratch. (Caves 1989; Christofferson & McNish 2004)

It can be concluded that, of course, the choice between creating their own business from the ground up and the acquisition of existing extremely difficult. Both methods of penetration into international markets have both significant advantages and disadvantages. The strategy of each firm is unique and the choice will depend on many factors in favor of one or another method of entering foreign markets.

In a situation if a firm wants to enter the market, where there are a number of strong competitors, each of which is also seeking to secure a strong position, it optimally carry out their activities through the acquisition of existing companies. Here a new enterprise will not give the ultimate goal of establishing a significant presence in the market because the creation of the enterprise from scratch is not a quick way to market penetration. (Caves 1989; Christofferson & McNish 2004)

3.7 Comparison of different FOMs from FRP product point of view

For better understanding the difference between 4 operation modes from the FRP product point of view and to make a right choice the small table of comparison will be made.

Franchising	Subcontracting	Exporting	FDI
Foreign company is needed to sell production by the rights and trademark of parent company. As the brand now is not known, it is not a good idea	Foreign company is needed to perform business activities/to make testing/to make FRP products.	no need of the company at all, only an intermediary in case of indirect export – problem will occur with finding the clients for FRP on the new market	Joint efforts with partner company will increase the quality and performance of FRP

Table 1. Comparison of different FOMs from FRP product point of view

4 Presentation of competitors

The evaluation of the competitors should be done according to the three important questions:

- How they present their product?
- In what markets they are present?
- What foreign operation methods they use in their activities?

4.1 First competitor

According to the Galen's website, (2014) Russian manufacturer of composite materials Ltd. "Galen" and ARMS Group signed an agreement to establish a joint venture for the production of basalt and fiberglass construction materials in Dubai, United Arab Emirates. Ltd. "Galen" will supply all the necessary technology and equipment. The company will receive a 20% stake in the project, as well as $ 2 million as payment for the delivered product line. It is important that the equipment of the plant can be used to manufacture a large range of products from composites - on the eve of the World Expo 2020 in the UAE is expected to increase regional demand for innovative building materials. Moreover, the company's specialists have been able to improve the processes of the enterprise, increasing the production capacity of the equipment and changing the composition of the components used. This will produce a composite larger diameter valve - from 36 to 42 mm.

Some traditional solutions in this project cannot be used - metal reinforcement rather quickly destroyed due to groundwater, while her analogues on the basis of basalt and glass-fiber composites do not corrode and have comparable strength with less weight and moderate cost.

“Galen” Company is a Russian producer of advanced composite materials for construction, electricity and road sectors. Pioneers of basalt technologies, the leader of the Russian market of composite building materials. The company was founded in 2001, since 2011 - the project company RUSNANO. The Company owns more than 20 patents and know-how. Since 2009, the production is carried out with the use of nanotechnology.

“ARMS” is a highly diversified group of companies headquartered in Dubai, United Arab Emirates. The Group includes companies from fields such as IT-solutions for business, auction organization, travel and tourism, real estate, food processing, service solutions and financial trading. For 75 years - since its inception - the company remained in private ownership. (Galen OOO 2014)

4.2 Second competitor

Second company is Dextra Group. Based on the information which can be gained through its website (2014) the analysis could be done in this way: it was established in 1983 by French entrepreneurs with over 900 employees worldwide by now and is taking the leading positions in manufacturing of steel and fiber reinforced products for different industries such as civil, building and power. The three main activities are *“manufacturing, trading and project forwarding, all within the construction and industrial sectors.”*

It is produces its product in three factories, which located in Bangkok (Thailand) since 1989, in Hong Kong since 1996 and in Guangzhou (China) it was opened relatively recently in 2012. The foreign operation modes used by Dextra Group are *“network of direct subsidiaries and long term partners”.* The main countries of operations of Dextra Group are Thailand, Vietnam, Hong Kong, China, India, U.A.E., France, Panama, U.S.A. and Brazil. (Dextra Group 2014)

4.3 Third competitor

Third case is very specific and different from the previous two. The name of the company is Hubei Yulong Group Jinli New Materials Co.Ltd, which is subsidiary company of Yulong Group, located in Yichang City, Hubei, China. It was established in 2011 and its main specialization is FRP products such as rebars, channels, beams and tubes.

According to its website this company positions itself as manufacturer, exporter and trading company so the main foreign operation mode is exporting. The main markets of Yulong group are North and South America, Western and Eastern Europe, Eastern and Southeast Asia, Middle East, Africa and Oceania. Exporting in percentages is approximately 10-20 percent. The company's website does not provide any information about how they export the production and the only way to purchase FRP from them is to contact the company directly by straight call or by making an inquiry from the website. (ylfrp.net 2014)

5 Proposal to OJSC "Tolmachevsky plant ZHBiMK"

5.1 Characteristics important to German market

To understand what features are important for German market the author will use the International Standard ISO 10406-1:2008, *Fibre-reinforced polymer (FRP) reinforcement of concrete -- Test methods -- Part 1: FRP bars and grids* (International Standards Office 2008).

Before entering the composites market, the manufacturer/trader has to insure that the production of the company complies with the requirement and

standards of desirable market. To be appropriate for European, and, in particular, for German market, FRP product has to be subjected, according to the ISO 10406-1 (2008), to eleven tests – test method for cross-sectional properties; test method for tensile properties; test method for bong strength by pull-out testing; test method for performance of anchorages and couplers; test method for long-term relaxation; test method for tensile fatigue; test method for alkali resistance; test method for creep failure; test method for transverse shear strength; test method for flexural tensile properties; test method for the coefficient of longitudinal thermal expansion by thermo-mechanical analysis. While performing these tests the manufacturer has to strictly follow the instructions described in the Standard.

5.2 International mode proposal

The most complete form of the companies involved in the activities of the foreign market based on the research conducted above is to organize there a joint venture. The Statistics of FDI in Germany is really impressive; Germany is in top 5 which mean high trust level of investors. The advantages of creating joint venture are very valuable – the companies will have a competitive advantage on the German market of composite reinforcement by few reasons – German company will provide already existing base of clients and by collaborative efforts the quality of FRP product will only increase. Comparing with the greenfield strategy joint venture will take less time for establishment and needs less assets to invest in it such as money and time, even though in joint venture will not be possible to set all the rules Tolmachevsky plant wants to set.

The practical steps for internationalizing are:

- To analyze the perspective foreign composite markets;
- To choose the appropriate mode for internationalizing among the presented;

- To contact the Schöck Bauteile GmbH representative (the negotiation process is already started);

First steps are already done by author and Tolmachevsky plant joint efforts. Next steps, after receiving the preliminary agreement will be: how the joint venture will be divided, on what terms and conditions; then the companies has to plan the marketing strategy and develop tactical action program in the target market; decisions on different functions such as: who will be responsible for transportation, how the storage will be used and who will manage the sales. After discussing all these issues the companies can sign the official contract.

5.3 Justification of German market

According to the Economy Ranking presented by World Bank Group (2014) Germany is located on the 14th place in the World and on the 7th place in Europe by doing business; that is a fairly high rate.

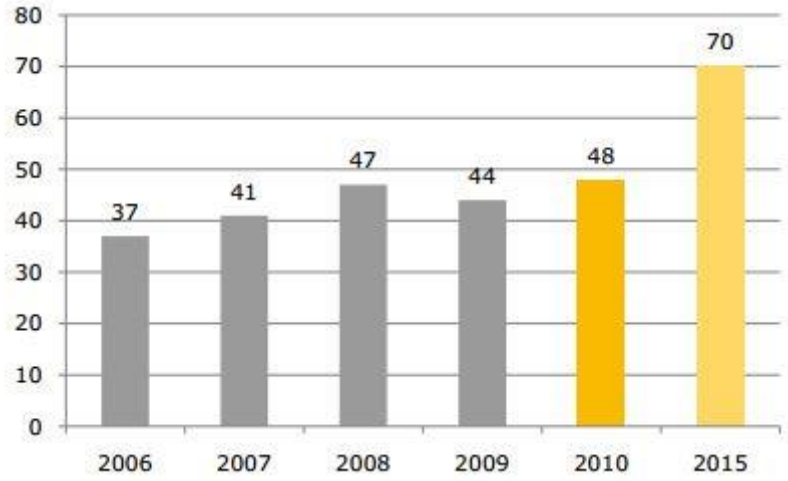

Figure 3. Sales of the German franchise industry (in EUR billion). (Germany trade & Invest 2011)

As it can be observed from figure, 3 the sales of German franchise industry are forecasted to be 70 billion to 2015. *"Within the last ten years, the sector*

managed to double its sales from EUR 22 billion to EUR 48 billion in 2010". (Germany trade & Invest 2011)

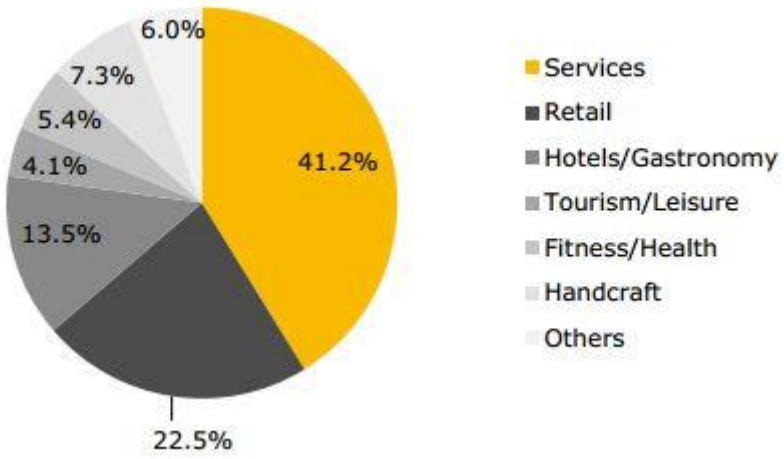

Figure 4. Distribution of franchising by sector (in %, 2009). (Germany trade & Invest 2011)

Composite reinforcement refers to "others" group and took only 6 percent of franchising in Germany; plus, 6 percent take not only FRP products but other product as well so this figure is quite small. From this the assumption is born that the potential for development is very high. (Germany trade & Invest 2011)

Figure 5. Germany imports 2012-2014 years. (Trading economics 2014)

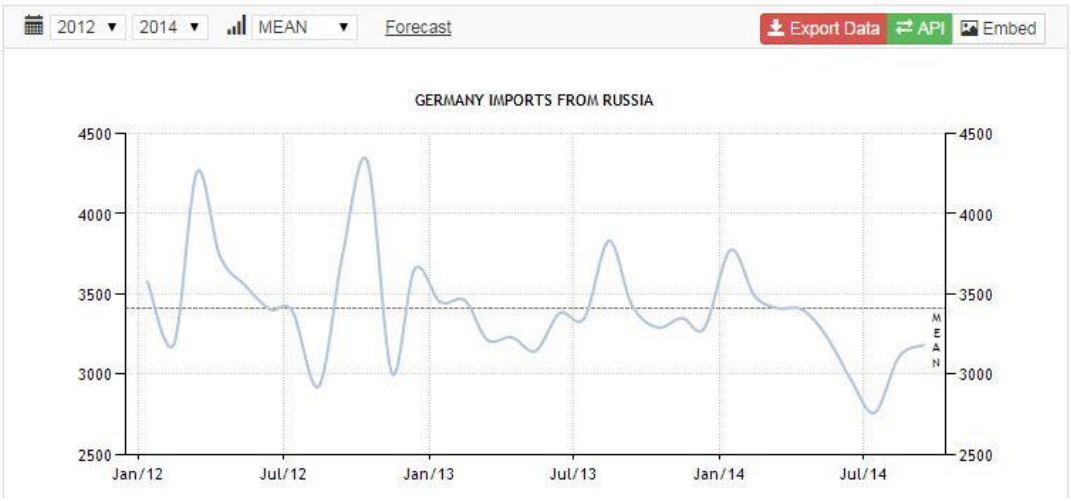

Figure 6. Germany imports from Russia. (Trading economics 2014)

According to both figures 5 and 6 it can be noticed that Germany imports numbers from Russia with comparison on the whole German imports number is very low; and if take into the consideration the fact that main import products from Russia to Germany in the 2013 were:

- Oil - 29.1%
- Petroleum products - 18.3%
- Services - 11.8%
- Natural gas - 11.3%
- Metal products - 6.8%
- Chemical products - 5.2%
- Engineering products - 4.8%
- Food products - 2.7%
- Wood and pulp and paper products - 1.8%
- Other products - 8.3%, (Ministerstvo ekonomicheskogo razvitiya Rossiyskoi Federacii 2014)

Thus it is even more difficult to imagine how low the percentage of FRP products exported from Russia to Germany is. Another side of the coin is that the much lower export figure, the more hidden potential in it.

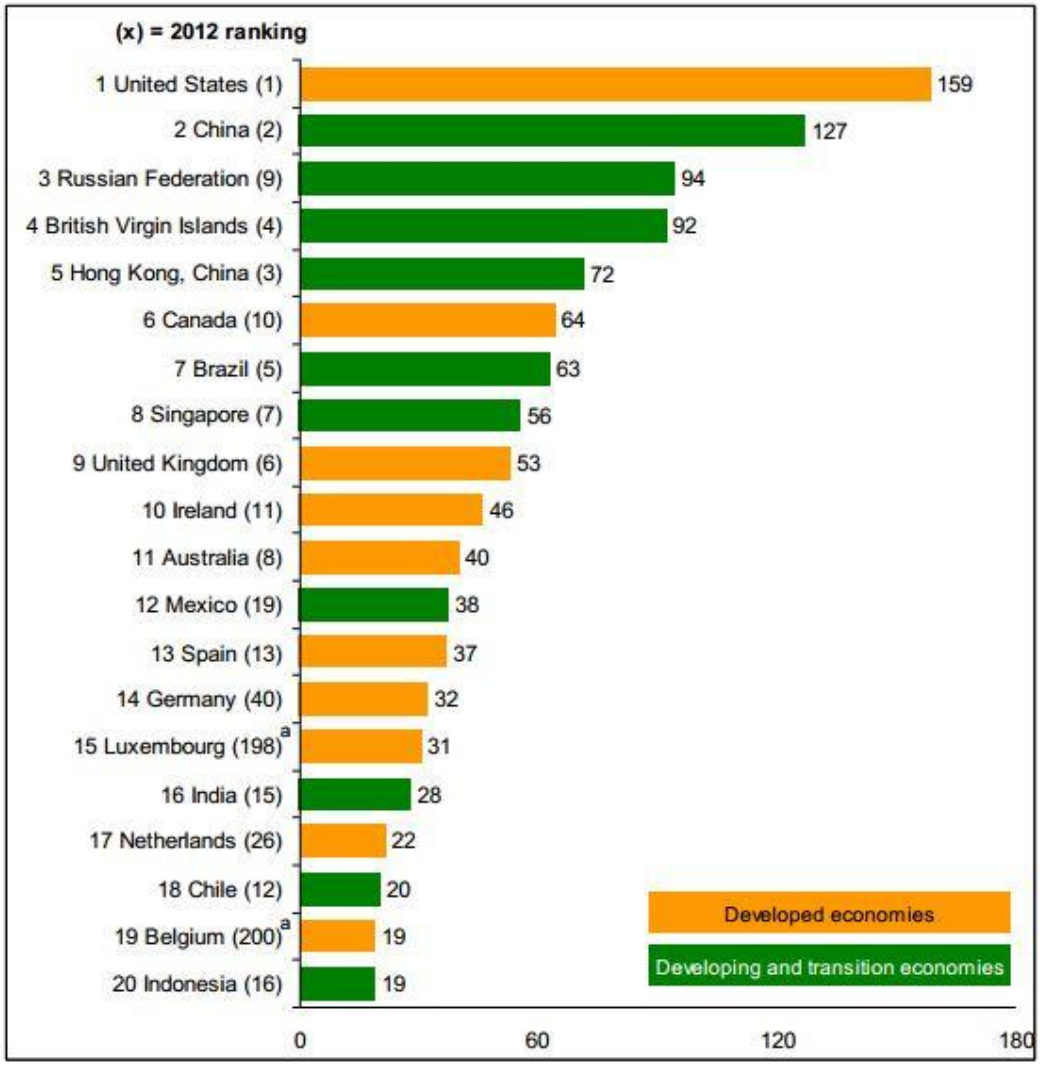

Figure 7. FDI inflows: top 20 host economies, 2013 (Billions of US dollars) (UNCTAD 2014)

As it can be seen from the figure 7 the most “popular” country by FDI in the world is United States with 159 billion dollars; Germany is located on the 14th place in the world, but in Europe it is in top 5 countries by FDI. One important fact when assessing Germany can be noticed that it’s jumped from 40th place to 14th for only one year, almost 5 times increased FDI inflows can be considered as the perfect result. (UNCTAD 2014) This means that investors assess Germany as a reliable and profitable place for investment.

For investors, Germany’s relatively high marginal tax rates and complicated tax laws (“*The corporate tax rate in Germany stands at 29.60 percent”*

(Trading economics 2014)) *may constitute an obstacle, although deductions, allowances and write-offs help to move effective tax rates to internationally competitive levels.* (U.S. Commercial service 2012)

According to the Germany Trade & Invest (2014) more than 55,000 foreign companies are already operating on the territory of Germany, providing jobs for nearly three million people. This irrefutable proof attractiveness of Germany as a country of international business. The German market is open to investors in nearly all sectors of industry and commercial activities free from any rules governing the conduct of daily affairs. German law does not distinguish between German and foreign entrepreneurs in matters of investment or the establishment of new companies. Regulatory framework for FDI in Germany is based on the principle of freedom of foreign trade and payments.

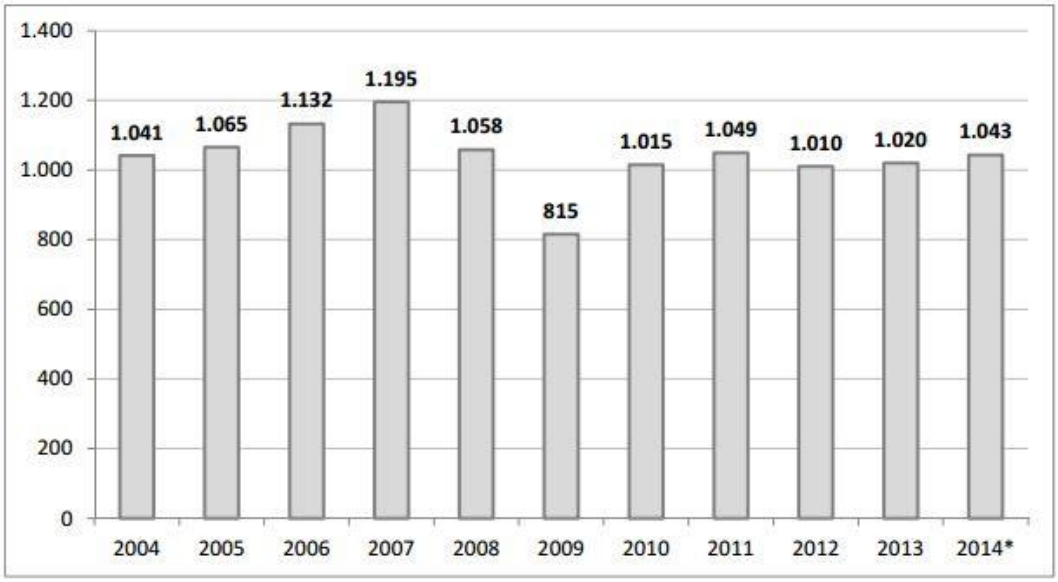

Figure 8. GRP production by volume in Europe since 2004 (in '000 tons) (2014* = estimate). (Composites Germany 2014)

To give overall idea about the composites market few list of figures are presented. As it can be observed from the figure 8, total GRP (Glass Reinforced polymer, also stands for GFRP) during 2004-2013 years remains almost the same and predictions for 2014 are not decreasing or increasing significantly. To understand why the author chose Germany among other

European countries figure 9 is presented. The German composites market is the biggest market in Europe; that was the biggest reason of choosing exactly this country

	2014* Kt	2013 Kt	2012 Kt	2011 Kt	2010 Kt
UK / Ireland	146	140	134	126	130
Belgium / Netherlands / Lux-embourg	43	42	43	42	40
Finland / Norway / Sweden / Denmark	42	44	44	52	50
Spain / Portugal	154	152	160	200	217
Italy	148	146	152	165	154
France	108	112	117	122	116
Germany	200	192	182	172	161
Austria / Switzerland	18	17	17	17	16
Eastern Europe**	184	175	161	153	131
Sum:	**1.043**	**1.020**	**1.010**	**1.049**	**1.015**
Turkey	225	214	195	180	

Figure 9. GRP production volumes in Europe – and Turkey – itemized by country/group of countries (Kt = kilotons / 2014* = estimated / Eastern Europe** = Poland, Czech Republic, Hungary, Romania, Serbia, Croatia, Macedonia, Latvia, Lithuania, Slovakia and Slovenia) (Composites Germany 2014)

6 Conclusion

6.1 Summary

The objective of the thesis was to consider the various ways to reach the company to the foreign market, highlight their advantages and disadvantages, analyze different competitors, and suggest the best option for cooperation based on all the analysis. After the discussion with the director of Tolmachevsky plant FC and MC it was decided that the most appropriate mode would be joint venture. It has several reasons which came up after taking into the account all the information mentioned above in the whole thesis.

It was decided that subcontracting cannot be seen the foreign operation method at all for Tolmachevsky plant because of its significant disadvantage which prevailed over all of its advantages. The secret form of armature could be disclosed in case of using this method and this is must not be allowed.

Franchising looks very attractive, but from the point of view of the first international activity ever of Tolmachevsky plant it would not be very appropriate mode to start with, although the statistics of using franchising in Germany is very good and successful number of franchises are increasing.

Many companies use exporting in the beginning of their international activities. Without intermediary it will take much time to analyze the market, to analyze the competitors and to find the customers comparing with the joint venture.

6.2 Suggestions for Further Research and Development Based on the Evaluation of the Own Study

Further R&D ideas based on the evaluation of my study, for which I did not have time and which were not discussed with my director I can suggest:

1. How to penetrate to another European market and other markets in the world; it should be inevitably done and here exporting as a foreign operation mode may be used because if the company has already represented in European market and especially in such strong economically developed country as Germany it would be easier to enter to any other EU market than trying to enter there from Russia again. The manufacturer will have more knowledge about the customer's behavior, different taxes, processes and pitfalls which may occur.

2. How to find investors for supporting the project; important to remember that if the companies want to find a third-party, in this case investor, it means that the shares will be divided in different way, not as in clear two companies joint venture.

3. How to improve the quality of composite reinforcement by collaborative cooperation?

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