

Challenges in exporting valves from India to European Union?

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| <p>Abstract</p> <p>Internationalization of business through exporting have seen tremendous growth in the industrial sector. In today's corporate level, every small, medium and large-scale company wants to take their products at international level but unfortunately, lot of SMEs could not fulfill their dream of going "Go Global". In India, number of valve manufacturing companies belonging to small, medium and large-scale business units initiated their interest for exporting their products to European Union but as a result some companies lost their interest, and some were still struggling.</p> <p>The main objective of the research was to identify the challenges faced by Indian SMEs in exporting valves from India to European Union along with possible solutions to overcome those challenges. Therefore, qualitative research method was selected and implemented for carrying out empirical study. For collection of data, three semi structured interviews were conducted. Secondary information was obtained from existing academic research. The selection of the participants chosen for carrying out interviews was from companies belonging to small and medium scale sector of valve industry having experience in doing exports from India to European Union. However, interview questions were made according to theoretical framework designed based on relevant topic of the research.</p> <p>According to the findings, Indian exports companies were facing challenges in complying EU's legislations and procedural regulations on safety requirements, acceptance criteria on design, quality and manufacturing requirements, challenges in availing government support, lack of information on market assess and its competition, packaging and labeling requirements, transportation and logistics requirements and negative image of quality of the products. However, solutions to overcome these challenges are hiring compatible work force or team of technical personnel, development of quality management system as per required standards, technological advancement, participation in international events for exposure of market assessment, can help Indian companies to overcome these challenges. Future researchers are recommended to do further research to study challenges at individual country level in the list of member states from European Union.</p> | | |
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1 Introduction

In modern era of corporate world, Internationalization of different types of businesses in industrial sectors have been attracting significant attentions from various International markets. Every small, medium and large-scale Industry dreams to make their business more and more international. As per Zohari (2012), plenty of SMEs take interest to expand its business at International level however they still struggle and cannot fulfill their desire to “go global” even if they are capable of exporting. Most of well-established SMEs which are successful in their domestic business, get failures in International market. The reason for these failures is poor understanding and planning on several aspects that are responsible for successful internationalization. (ibid. 2012)

There are significant opportunities for companies to take their products and services into the foreign market but chances of high risks are always involved. Due to high and ever increasing advancement of today’s technology, faster communication, developed transportation and ease of financial flows have made it easy to deal in International market without much trouble. Today, companies can exchange their products and services across the boundaries. However getting familiar with the key issues which come in a way of getting internationalized is difficult task. (Kotler & Keller 2012, 617)

Exporting is one of the primary mode for Internationalization of industrial firms. It is mainly of two types. For example, direct export and In-direct export. More detailed explanation on exporting shall be discussed in literature review chapter. For successful exporting, there is a need to create international business environment which can be created successful by addressing different factors based on political, economical and cultural issues. (Zohari 2012)

As per Katzman (2011, 14), there are certain parameters which can help to determine if the company is actually ready for exporting or not. First parameter is, management of the company make sure its commitment to fund the investments needed in export activities. Secondly, company understands about the ins and outs

of technical and commercial requirements of the product which could be demanded by international customer. Thirdly, company's expectation of profit return against investments is realistic. Lastly, if company is able to modify or re-design the products with the facility of after sales services and training if international customer ask them to do so. (ibid. 2011)

SMEs which are interested to take their business abroad should have clear understanding about the challenges or barriers which may restrict them to be a successful exporter. If they know about the challenges before they go into exporting, it is possible for them to plan corresponding solutions to overcome those challenges. In today's highly competitive business environment, it is very important for the companies or organizations to control these constraints if they want to get success in exporting. For controlling all these issues, SMEs need to work on designing and execution of international marketing plan. (ibid. 2012)

There is no doubt that SMEs play an important role in the economy of global world, however, how they tackle different types of opportunities and threats from competition world is another aspect to understand (Paul, Parthasarathy & Gupta 2017, 332). Therefore, SMEs needs to be proactively decisive about three major concepts before they take the initiatives for internationalization. First and foremost is "Are they ready to go global," secondly "Which market they want to enter in" and third is "How they can enter into the target market." (Zohari 2012)

Trade relationship between India and EU have been growing at low pace since 2010. India and EU both are emerging economies in this era of globalization but economic relations between both the nations are unsymmetrical. Due to this, no remarkable achievements can be witnessed in terms of results from trade stats. Reason behind this poor performance is, existence of complicated trade barriers between bilateral relationships of both countries. It still restrict the actual potential growth.

(Felbermayr, Mitra, Aichele, & Groshchl 2016, 93)

India is one of emerging economy among the list of developing countries. It is 7th largest economy with total of USD 2250 billion in 2016 as per the figures given in world economic stats (Felbermayr et al.2016, 10). If we compare the population figures between India and EU, India is higher than double but if we compare GDP

ratio, India's place is one eighth (Felbermayr et al.2016, 93). The major exports from India to Europe is contained of three main sectors i.e. Industry and Services, manufacturers and textile. Only 14% of India's export shared its contribution in European Union which is not remarkable (Chaudhary, Giedraitis, & Kapse 2012, 40).

EU is the largest trading partner of India making 85 billion euros trade of goods in 2017 whereas India is at the 9th position in the list of EU's largest trading partners making only 2.3% of total trade in goods from India to EU. In 2016, there was fall of INR 306.86 billions in January month from INR 347.52 billions in December month in export from India to EU whereas the average export from India to EU has been observed as INR 117 billion from 1991 to until 2017. (India Exports to EU 2019)

European Union had made its trade strategy called "Global EU Strategy" in 2006 for expanding its trade relationships with different nations of Global economic world. India has been important trade partner for EU but still there are some trade barriers or challenges due to which India and EU are not at the top when it comes to the trade relationship in exports of goods and services. Discussions on negotiating trade agreements were started in 2007 but it got stopped in 2013 due to some reasons on differences regarding level of ambitions between India and EU (European Commission 2018). Thereafter, both EU and India had again expressed their interest to revive the discussion on important issues or barriers or challenges that prevents the growth of both economies. Finally, the discussions on bilateral relationships have been resumed again in 2016 with agenda to find suitable solutions to sort out key points on possible negotiations on trade barriers (Felbermayr et al. 2016, 10).

1.1 Background

The role of Small and Medium sized Enterprises (SMEs) in global economy has been showing its significance in past decades. However their approach to handle opportunities and threats in international market was exceptionally different. (Paul, Parthasarathy, Gupta 2017, 333)

Kahiya & Dean (2016) explains that there are number of barriers or challenges exists in the path of exporting. SMEs need to plan proper solutions to tackle these export related barriers. As there are different stages in export growth, barriers also keeps

varying according to stage of exporting. Small and medium sized companies are more affected by these barriers as compare to larger firms which are well established. (Paul et al. 2017, 334)

“Valves” belonging to category of industrial products are used for various production processes where liquid is used. To control the flow of liquid in pipelines, the use of these industrial product is essential.



Figure 1. Industrial Valves (adapted from CSE WarthurFisher 2009)

There are different types of valves mainly categorized on the basis of Harmonized system codes. HS code category for valves is 8481. There are further subcategories and subsections.

Table 1. Type of valves and HS codes (adapted from CBI Ministry of Foreign Affairs)

| Type of Valves | CN code | Main HS category |
|--------------------------|----------|------------------|
| Check Valve | 848130 | 8481 |
| Safety Valves | 848140 | 8481 |
| Pressure Reducing Valves | 8481105 | 8481 |
| Gate Valves | 84818061 | 8481 |
| Globe Valves | 84818071 | 8481 |
| Diaphragm Valves | 84818087 | 8481 |
| Parts of Valves | 84819000 | 8481 |
| Other type of valves | 84818099 | 8481 |

From Figure 2 and Figure 3, India's export of valves to EU is fairly not enough according to the EU's actual import potential of valves. In year 2017, EU's total import of valves across the globe was 23.8 million euros whereas India's contribution was only 0.26 million euros (not even 1%). Similarly in 2016, EU imported valves worth of Euros 22.7 million whereas India exported valves worth of only 0.18 million euros.

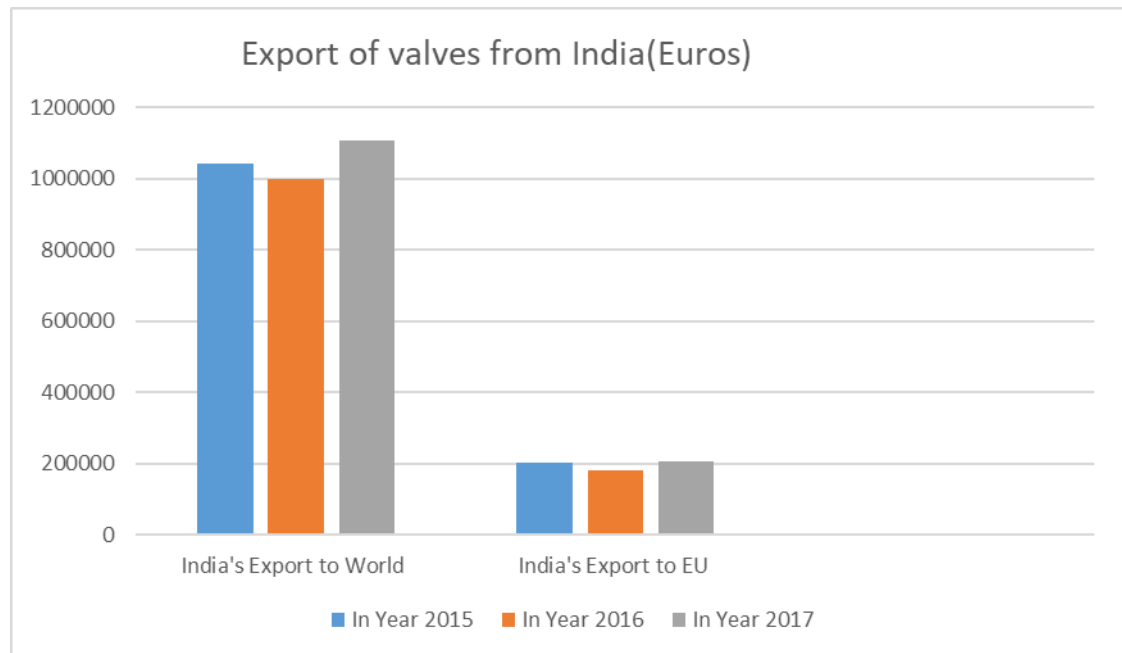


Figure 2. India's export of valves to EU and world (adapted from trademap 2017)

However India's total export of valves to world's different destination is quite high. In 2017, India Exported valves worth of 1.1 Million euros and in 2016, it was 1.07 million euros.

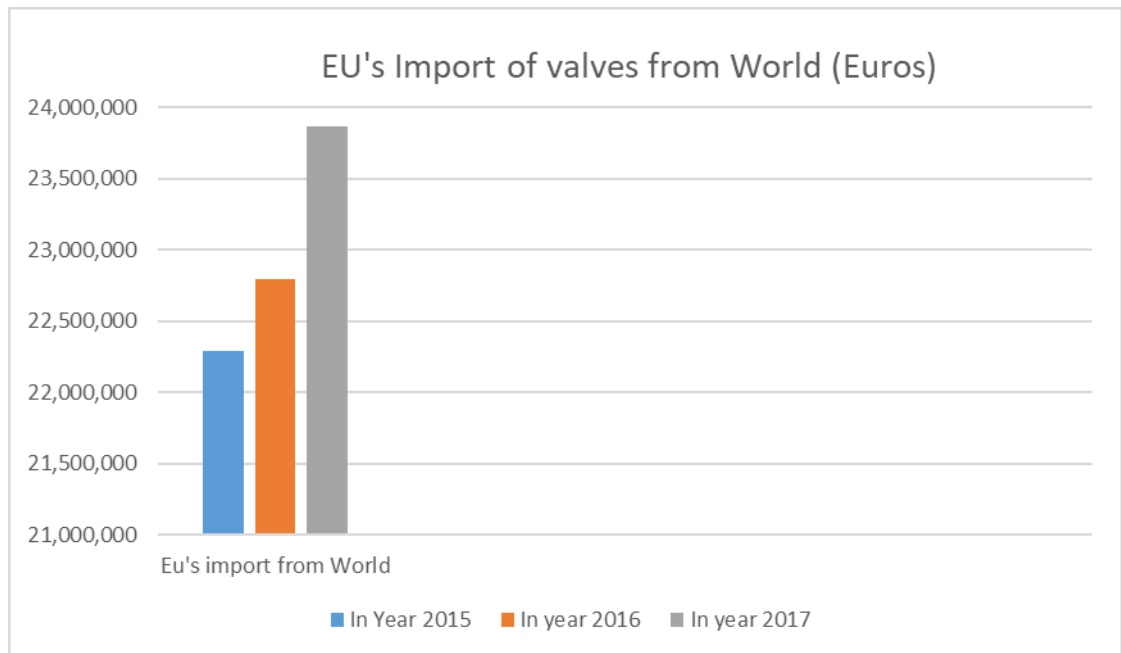


Figure 3. EU's Import of valves from World (adapted from trademap 2017)

Though size of EU's potential for importing valves is very big, but export share of valves from India to EU is quite low. The main reason behind this is, substantial trade barriers due to which SMEs are not able to capture EU market. Therefore, finding challenges or barriers in exporting from India to EU is the main problem and so is to find possible solutions to overcome these barriers.

1.2 Motivation for the research

Looking at the size of both India and EU's economy, there could be high gain through trade relationships between both Indian and EU market if complexity level of these trade barriers is eliminated or reduced. India is still lacking with some barriers and pitfalls that prevents India to become a significant destination for exporting its products and services to EU. If negotiation on these substantial trade barriers are revived in making better trade agreements, both parties can see increase in their GDP's which ultimately give benefits to both economic powers for shaping their social & economical phase of countries (Chaudhary et al. 2012, 38).

If trade and investment agreements are made with proper negotiations in the favor of both parties, there could be addition increase of annual Indian income by 1.30%

which will ultimately increase GDP by 24 billion USD whereas at EU side, it will also achieve increase of annual income with 0.14% with rise of GDP to 23 billions USD (Chaudhary et al. 2012, 38). Research on different types of trade barriers will help SMEs to understand different types of trade barriers in exporting from India to EU. Most of SMEs face failures due to poor understanding of trade barriers.

This research is very interesting to me to fulfill my personal ambition because I have worked for same industry in my past experience and at the moment, I am running my own company in India which is involved in the activities like in-direct exporting to various destinations like USA, UK, Malaysia, Kenya but not in EU market. Since EU is big market area with huge potential for importing valves, I want to obtain key information and knowledge on various challenges available in exporting valves from India to EU market. Moreover, I wish to assess the essential information on all the challenges and barriers which may prevent my company in future to become a successful exporter. If I am aware of all these trade barriers it will help me in future to make advance preparations to tackle all the export related challenges.

1.3 Research Question

The main idea or objective behind the research is to identify the main challenges and possible solutions in exporting industrial or engineering products like valves from India to European Union. To reach deep and thorough understanding about the obstacles faced by Indian SMEs, there is a need to take closer look on all possible challenges in the light of possible solutions. Therefore, following research questions were designed to do thorough research.

1. What are the main challenges or barriers in exporting valves from India to European Union?
2. How can companies overcome these challenges or barriers ?

To meet the main objective of thesis, qualitative approach was implemented. The focus for data collection was divided into two categories. Primary data was obtained through expert interviews from relevant field of industrial companies and one government official authority of ministry of exports from India. Secondary data was

collected from information available in previous literature, academic researches, official websites of Indian and European data sources.

1.4 Structure of the thesis

Further portion of the research after introduction chapter is structured with following chapters such as literature review, methodology, results and discussion. Literature review chapter consists of different key concepts on various theories of internationalization, foreign entry modes, types of exporting and challenges with addition of discussion on important role of transportation and logistics, packaging and labeling in exporting. It ultimately helped to design theoretical framework for carrying out empirical study. Theoretical framework of the study was designed in a template form having list of challenges in exporting along with possible solutions.

The methodology chapter gives information about research approach selected for empirical study, research context, method of data collection, techniques of data analysis and verification of findings. The results chapter shows significant outputs obtained from the analysis of collected data. Following to result chapter, there is discussion chapter in which key findings to answer research questions are explained. In addition of this, limitations of the research study and recommendation for future research is also explained.

2 Literature review

2.1 Key Concepts

2.1.1 MSMEs in India and EU

Definition in India

Referring to Indian MSMED Act 2006, definitions of micro, small and medium enterprises were categorized in two classes. They were manufacturing class enterprises and service class enterprises. In manufacturing class, the basic criteria of selecting micro, small and medium enterprises is based on value of investments in plant and machinery used for producing products or goods. Therefore if firm's

investment on its plant and machinery is below INR 25 Lakhs (USD 62500) then the firm is called micro enterprise, however firms having investment between INR 25 Lakh (USD 62500) and INR 5 crores (USD 1.25 Million) are named as small firms and medium firms are those firms which have investment value above INR 5 Crores (USD 1.25) but up to 10 Crores (USD 2.5 Million). (Bhardwaj 2018)

Whereas in case of service class firms, benchmark set by the government is investment value in equipment's used to give services to clients. Micro firms are those firms which own investment value of up to INR 10 lakh (USD 25000). Small service firms have investment between INR 10 lakh (USD 25000) & INR 2 crores (USD 0.5 Million) and for medium class service firms, Investment value should be INR 2 crores (USD 0.5 Million) & INR 5 Crores (USD 1.25 Million). (Bhardwaj 2018)

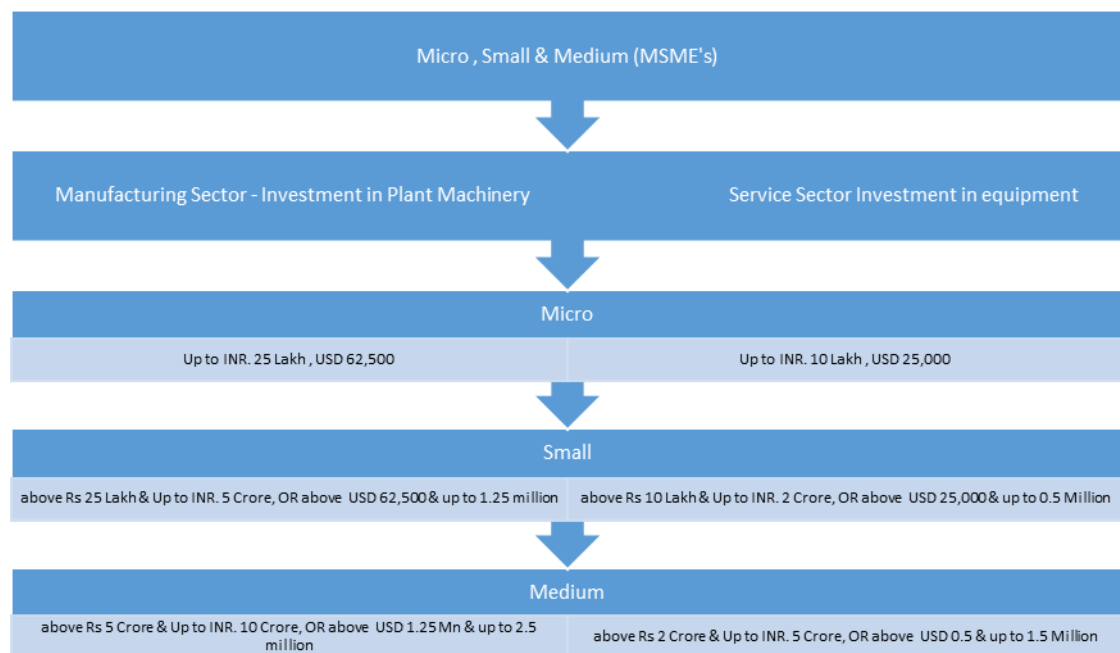


Figure 4. Definition of SMEs in India

Though there have been tremendous proposals to change the definition of MSMEs in India based on firm's sales turnover instead of Investment capital (ibid. 2018), Indian government still follow the same principle for defining companies of industrial sector.

According to EU law recommendation 2003/361, EU commission has defined SMEs based on staff headcount and firm's turnover or balance sheet total. Firms having employee strength less than 10 with turnover up 2 million euros is called Micro level firm, and small firms are those which have total number of employees less than 50 and their turn over is up to 10 Million euros. Medium level firms are firms that possess employee strength less than 250 with total turnover of 50 Million euros.

Table 2. Definition of SMEs in EU (adapted from EU commission 2018)

| Company Category | Staff Headcount/employee strength | Turnover | OR | Balance sheet total |
|-------------------------|--|------------------------|-----------|----------------------------|
| Micro | Less than 10 | Up to 2 Million euros | | Up to 2 Million euros |
| Small | Less than 50 | Up to 10 Million euros | | Up to 10 Million euros |
| Medium | Less than 250 | Up to 50 Million euros | | Up to 43 Million euros |

2.1.2 Internationalization of firms

Any business firm when serves its products and services to other business firms across the national borders through its organized activities is called internationalization of firms. International business or internationalization can be categorized as international trading and International investment. Exporting of products and services is international trade. However, when business activities are carried out by transferring resources of the firms is known as International Investment. (Harrison, Dalkiran, Elsey 2000, 5)

Daniels & Radebaugh (2001, 17) posit that, Internationalization of business among the companies is considered as more riskier as compare to domestic market. The reason behind is fear of dealing unfamiliar customer base and their environment from foreign country. Due to the issue of fear, they are very reluctant in beginning of these international activities for their firms but looking at the key benefits of internationalization, they start going for internationalization with slow pace keeping risk level very low. Once they start getting familiar with foreign operations along with

successful results in return, they expand themselves with their resources with less risk level. (ibid. 17)

Companies are drawn towards internationalization for various factors such as firms avail opportunities where it is possible to achieve better profits as compare to profits from domestic market. To increase economical scale of the company, there could possible gain of larger customer base. It expands company's in-dependency for not relying on one market. Moreover, trend of going abroad and acquiring international products and services have been increasing at high pace. (Kotler & Keller 2012, 619)

Different theories or models have been explained which make it possible to understand how firms gets internationalized and what are the possible benchmarks to be considered for analyzing firm's internationalization process (Paul et al. 2017, 329). Those theories are named as "Uppsala theory of Internationalization," "Product Life Cycle," "Network Approach theory of Internationalization" and "Inv's and Born Global theory".

Uppsala model theory of Internationalization, Swedish researchers Johnson & Vahlne (1977) introduced a model which has been widely used to understand the concept of Internationalization of companies or firms (Forsgren 2016). In this model theory, companies basically starts with the launch of their products or services in nearby market because the companies want to deepen their market knowledge with proper understanding and control of resources. After gain of market knowledge and experience from closest domestic market with better gain and control of resources, companies try their efforts to step into more distant market for expansion of their business at international level. This model works on a principle of psychic distance platform. By psychic distance means, It covers the factors which have influence due to difference of culture, language, Geographic area. Though it was very useful model for Internationalization of firms, there were some limitations found by lots of researchers and scholars on this model looking at modern business environment. Hence reformation of this model took place by Johnson & Vahlne in 2009 to cover new challenges highlighted by different people (Zohari 2012).

Products' Life Cycle theory of internationalization, Vernon (1966) explains that all products have life cycle which begins and ends. They enter into the market, gets its

development for further growth and then they disappear after some time. Some products come for days, some for months and some lasts for several years or decades but every product has its own time limit. In this theory of internationalization, product is firstly introduced into the national market and then information and feedback is collected about the products. when there is good response from market then product is introduced in International market to gain competitive advantage in terms of more return on sales price. This is how the firm gets internationalization with the help of PLC theory (Mulder 2012). LaMarco (2018), explained that International Product life cycle goes through three stages and those stages are “New Product Introduction,” “Product maturity,” and “Product Standardization”.

There were some limitations of Products’ Life Cycle theory of internationalization. By reaching at one stage of high usage, opportunities of exporting the products gets reduced. It is exceptional in case the product has some innovative features and it needs technical labor for take product to its next level. (Daniels & Radebaugh 2001, 177)

The Network Model theory of Internationalization, according to Mrozek (2012,30-34), Johanson & Mattson (1988), network plays a pivotal role in growth of any organization and in executing its objectives. It has been noted that it is a process of internationalization in which business firms concentrates to establish, maintain and develop their relationships with network participants from foreign market. More the level of networks, more would be the proportion about the strength of relationships between business entities in global market (Forsgren 1989; Johanson & Mattson 1988,287; Turnbull & valla 1986). Network model theory of internationalization is bridging mechanism of networks for the firms internationalized (Paul et al. 2017, 330).

Inv’s and Born Global theory of Internationalization, some firms gets internationalized right from the establishment based on their innovativeness in their products or services. Those firm or organizations are called born Global or INV’s (International New Ventures) . These firms establish their niche at international level in a very short time. It is because of their strong skills like technological

advancements, skills and capabilities of their human resources, International business relationships. (Paul et al. 2017, 330)

2.1.3 Entry modes into foreign Market

According to Kotler & Keller (2012, 624), there are five modes for entering into the International market which are mainly named as “Exporting,” “Licensing,” “Franchising,” “Joint ventures” and “Foreign Direct Investing (FDI)”

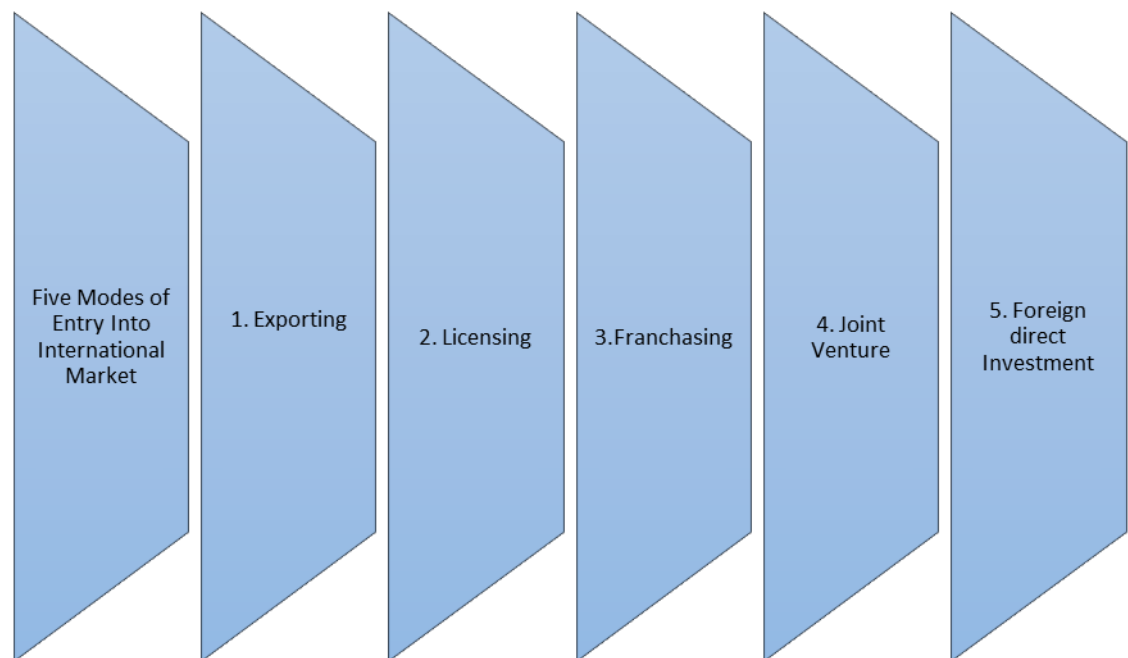


Figure 5. Five Entry Modes of Foreign Market

Exporting

According to Amadeo (2018), exports can be defined as the process in which goods or services are produced in one country and then getting sold to another country. In other words, selling of goods or services from one country to another is called exports. Exporting is one of the major components of international trade in which a firm produce its products or services in one country and sells to foreign country for future growth of the company. There are different ways in which export plays vital

role in effecting economy of any country. In majority, exporting is being done in following two modes

Indirect exports

Direct Exports

Kotler & Keller (2012) posit that when companies sell their products or services to foreign market through some intermediates, it is typically called indirect exports. However, when companies manufacture and sells its products or services directly to the customer in foreign country, It is called direct exports. In Indirect exports, there are intermediates like merchant exporters, exporters, traders who purchase products directly from manufacturer and then they sell it to foreign market. Most of the time, companies prefer indirect exporting because it is less risky. For example, if they sell their products to local inter-mediator, they will not need to do investments for establishing export department in their own company to manage export related activities. (ibid 2012, 625)

Moreover, they don't have to spend so much on negotiating on different aspects of the deals through their sales force whereas in case of direct exports, it may be eventually riskier at some extent, but it gives the more exposure to the companies in terms of profitability. There is comparatively high sales return as compare to sales return in indirect exports. There are different ways in which direct exporting works.

Most of the companies prefers to organize their own exports department with in the company. Having own export department with in the company is beneficial because they can independently take care of all export related activities to generate more profit within the company rather than sharing profits outside in outsourcing operations. It is called domestic based export department division.

Secondly, some companies prefers its own sales office or branch or subsidiaries in foreign country to make smooth export business. Company's foreign sales office or subsidiary takes care of activities related to sales distribution, warehousing, promotions and displays, customer services in overseas.

Thirdly, some companies initiate their direct exports by sending their sales team members like sales managers, export managers to overseas countries to find export business or clients. Fourthly, some firms do make exclusive agreements with some

distributors or agents who gets official rights to represent company's products or services in foreign countries in addition to high potential return, companies get more knowledge on market potential, market size, market area if companies take interest in direct exporting. (ibid. 2012 ,625-626)

Licensing

According to Pollinger (2013), in this type of entry mode, parent company as licensor give authorities or exclusive rights in the form of licensee to a company in foreign country for using its manufacturing process, brand name, business secrets and valuable items. In return, licensor gets its share in the form of royalty benefits. This is both side beneficial deal because licensor will get entry in foreign market at low risks whereas licensee will receive experience and learning about manufacturing advantage under well-established brand names (Kotler & Keller 2012, 626).

Franchising

This entry mode acts quite similar in a way with licensing entry mode with full proof adoption. In this entry mode, a well-established chain of companies offer exclusive rights or secrets about important secrets such as "How they operate," and "What are their key services for its customer" which makes them preferred source among its customer. There is a contract agreement which is signed between Franchiser and franchisee where franchisee agrees to follow franchiser's brand concept and working model. Franchisee does all kind of investment plus pay fee to franchiser (ibid 2012, 626).

Joint Venture

Kenton (2018) defines "Joint venture as an agreement of business in which two or more companies or firms or parties or organizations agrees to use their resources to meet some mutually agreed objectives". Most of firms have been found dominated for opting Joint venture entry mode to step into foreign market. In Joint Venture, owners of different companies agrees and hold responsibility to bear loss, profit, investments equally or as agreed on basis of percentage share.

Most of the firms find it very useful as it can help gaining market knowledge and key techniques which probably makes risk ratio less as compare to other entry modes.

Developing countries like china and India gets more offers on joint venture agreements due to its highly competitive advantage of being emergent markets (Kotler & Keller 2012, 627).

Foreign Direct Investment (FDI)

Foreign Direct investment is an entry mode in which company does partial or full investment to take part in manufacturing of products or its services in foreign market. It is quite risky as compare to Joint venture, but it is exposed to high benefits as well. with FDI, firm creates its high brand image as it also creates jobs opportunities in foreign country (ibid 2012, 627).

2.1.4 International Marketing and Importing

International Marketing

Albaum & Duerr (2008) posit that importance of International marketing has been attracting huge attentions from all sizes of companies for understanding international business. All size companies like small, medium and even large multinational or well-established groups are exploring their foreign markets looking at instantaneous growth and market potential from last decades. There is no doubt that today's technologies have made things quite easy for moving goods and services from one company to other company or to buyer across the geographical borders. (1-2). B2B is business in which business to business transaction happens. When one company sells its product to another company not to individuals or consumers. That is called B2B transaction business.

Importing

Bringing products or services from foreign country to domestic market of other country is called importing. The main advantage of importing is that importers have chances to explore the opportunities for getting low cost product from other foreign markets by analyzing their local domestic market. Some companies takes their business to high growth by expanding their business relationship as distributors, official representatives in home country. Buyers from one country visit various business platforms of foreign countries where they realize and see which product has

potential in their home country along with analysis on local market competition.

(Guide to Export Import Basics 2003, 13)

2.1.5 Role of logistic and Transportation, Packaging and Labeling

Logistic & Transportation,

Logistic and transportation plays pivotal role in exporting. If a firm has good control on its logistic and transportation activities, it makes a big difference to avail competitive advantage. Both transportation and logistics have its significant meaning in exports. logistics is systematic approach for management activities in which goods moving goods from its place of production to place of consumption including storage of good , managing warehouse activities, inventory etc (Gourdin 2006,17-18).

Transportation is part of logistic that is responsible for movement of goods from one point to another point.

Transportation the materials and goods takes place through different modes like road transportation mode, railway transportation mode, water transportation mode, air transportation mode and pipeline transportation mode. Each mode has its pros and cons on the basis of several factors like feasibility for door to door delivery, price competitiveness for users among different transportation modes, speed in service, reliability of each mode, requirement on packaging level for each mode, impact of environment. (ibid. 2006, 88-96)

Packaging & Labeling

In exporting, every country has set standard level for packaging and labeling of goods when material or goods gets transported from its place of production to its place of consumption, it requires packaging as per defined specifications according to product group or categories. However as far as labeling in exporting requirements are concerned, they also vary according to product category.

2.2 Challenges / Barriers in exporting

In exports, challenges and barriers are differentiated in five parts. a) Macro and Micro problems in Exporting. b) External and Internal Export Problems. c) Human

Resource Management Challenges. d) Challenges in Export Marketing. e) In-adequate social capital resources (Paul et al. 2017, 332-334).

Indian firm faces plenty of challenges in doing exports from India to EU. There are different types of barriers in exporting. Those are external barriers as well as internal barriers. It is also said that impact of external barriers is much more as compare to impact of internal barriers due to strict measure set by EU commission for exporters from other Non-EU countries. (Chaudhary et al. 2012 ,39)

In external challenges, the main types of challenges are complying regulations according to country's law, requirements mentioned under various applicable standards, understanding on procedural requirements and different type of official formalities at administrative level whereas most of the companies mentioned in internal barriers like expenses in arranging transportation, managing infrastructural needs are not so much cumbersome. Study also reveals that external challenges put more impact on smaller exporters however, larger exporters who do much exports face difficulties from internal barriers. (Chaudhary et al. 2012 ,40)

According to Albaum & Duerr (2008), there are different obstacles faced by the companies when they do exports from their home country to destination countries. Number of Small and medium size companies face a great deal of difficulties to overcome these obstacles in exports. In resultant, their interest in exporting gets decreased. In actual, these barriers are considered to be in existence or sometimes it is perceived that they may exist. So, this kind of phobia stops exporters to let them explore their business in International market (26-27). They are as follows

| | |
|--------------------------------------|--|
| Barriers in exporting | (1) Trade Barriers (tariffs and quotas) |
| | (2) Shortage of export knowledge or training (language skills and experience) |
| | (3) shortage of market information , |
| | (4) controlling international activities |
| | (5)Documentation requirements |
| | (6) Foreign Government Attitudes |
| | (7) Foreign public attitudes |
| | (8) Communication with overseas unit |
| | (9) Arranging transportation , packaging etc |
| | (10) Providing services |
| | (11) Higher than domestic risks |
| | (12) Financial Sales |
| | (13) No assistance from home Government |

Figure 6.Types of obstacles in exporting (adapted from Albaum G & Duerr 2008,26-27)

Trade Barriers (Tariffs , Non Tariffs and quotas), In order to protect country’s own local industrial business, almost each country impose various kind of barriers for outside exporters. From word “barriers,” it shows its image in a negative way but basically it helps different countries to manage and save their own domestic industry. There are different types of trade barriers such as tariffs, non-tariffs and Importing quotas.

In tariffs, Government imposes some import taxes on the products or services so that the sale value of imported goods or services become high in local market. In this way, goods imported from other countries gets tough competition from local market. It is very difficult to pass EU quality control due to high tariffs imposed by EU Government. For different industries, there are various tariff slabs set which ultimately affects the exports from India to EU. Due to high tariffs of approximately 9%, it is difficult to lift the export ratio between India and EU. Moreover, multiple type of certifications and regulations makes it more cumbersome for firms that are interested in exporting goods from India to EU. For example, if we take example of

chemical products industry, Indian companies have to pass different kind of environmental, health and labor related certifications and same way if it is agricultural products then there are difficult levels for passing testing and sampling to EU criteria (Chaudhary et al. 2012, 41) .

However in Non-tariffs, Government of different nations introduces their own defined laws, regulations, technical parameters or requirements to meet the quality standard of the country where the goods or services face various challenges. These types of challenges makes importing more difficult or expensive for the buyers in destination country. Quotas are typically beneficial for domestic industry. There is benchmark set by the government for importing goods or services in terms of set volume limit. So, these type of barriers restricts importers not to exceed their import volume limit.

India being developing country faces restrict measures on its goods from EU. There are three striking points which affects Indian exports as part of non tariff barriers. First and foremost is “Sizable Share of Indian exports ” in most developed countries like US, EU and Japan as compare to other countries. Secondly, types of non tariffs barriers that keeps varying particularly when it comes to the selection of countries and product category and thirdly, it becomes more difficult when Indian exporters thinks of bearing additional cost for complying other non tariffs barriers like “Regulations of Standards,” “Certification,” and “Testing and Labeling”. (Mehta 2006)

In sizable export share from India, 25% of India’s import into EU experience different type of non tariff barriers whereas it is 12 % when India export to other countries. Most of goods which are affected by these non tariffs barriers are of woven apparel, fruits & Foods, textile, steel & iron products and vehicles. In Japan, 45.6 % of India’s Import face various non tariffs barriers whereas other countries face 39.5% challenges of non tariffs measures. This type of discrimination on Indian goods oppose the fact of combined policy made by UNCTAD for social and preferential treatment for developing countries (ibid. 2006, 16-17).

In addition to this, developed countries like United States of America impose 26 types of non tariff measures when it comes to importing from other countries, EU impose 23 types of non tariffs measures and Japan offers 36 types of non-tariff

measures. There are number of non tariffs barriers which affects major portion of Japanese import on products like mineral fuel, pharmaceutical products, wooden products, duplicate furs and artificial skins, organic chemicals. All of these commodity groups of different products faces different non tariff barriers in Japanese imports. (ibid 2006, 17)

During the detailed study on barriers faced by indian companies while exporting , There was another issue of no transaction period came into picture when the whole consignment was rejected by EU importing authorities because material of consignment did not pass minimum required performance limit (MRPL). After all this trouble to Indian exporting company in this consignment, EC directives were formed by EU's MRPL institution body. (ibid 2006, 17)

These type of non tariffs barriers especially unique level of standards, testing, labeling and packaging put considerable effects on sizable share of India's export to most developed countries like EU, USA and Japan. Moreover, these type of barriers makes it difficult for Indian exporters as the cost of exporting become highly expensive due to these factors and if cost on exporting was getting high, it ultimately loses its competitiveness in the market (ibid 2006, 17).

Shortage of export knowledge or training (language skills and experience), to run any business, it is very much essential to have good knowledge through trainings on business activities. If a company lacks with these types of skills, it would hard to survive in the market. Most of the companies are not successful due to poor knowledge of exporting.

Most of SMEs face failures due to the lack of management of HRM issues. It was noted that most of the time, SMEs does not give much attention on HR issues which are mainly responsible for planning employee training and development programmes, Indemnification control, performance control, employee counseling. It is very important aspect of SMEs growth and Internationalization. Lacking of above mentioned key factors on HR issues was big challenge from exports point of view because creating knowledge based working environment is very important in today's corporate world (Paul et al. 2017, 333-334).

Indian companies have lot of constraints like lacking of infrastuctural facilities, transportation facilities for taking goods from one point to another point (i.e. manufacturing plants to shipping ports), less market knowledge, information on prices from competitive market, bad impression on quality of the products, complex procedures at administration level, problems in taking application approvals, different type of fees for processing of export related trade activities, complications in meeting eligibility criteria for availing government supports for export related consignments. (Acharya 2006, 5)

Shortage of market information, it is also important to have key information about market potential. There are various companies which are not able to start exporting because of bad knowledge of market knowledge. So, it is really important to study market area and its potential. Otherwise it is difficult to have competitive advantage. If we do not do detailed analysis of market, then there are chances that firm's export business will not be successful.

Paul et al. (2017) says that identifying market area by doing analyzation on various aspects like intensity of pricing information from competition market, quality requirements are highly challenging. SMEs can have competitive advantage if these type of challenges are properly sorted out.

Plenty of issues have been explained that are acting as weaknesses in industrial marketing. One of the key reason is giving less attentions to focus the market and its customer's need as per their requirements. Secondly, lack of full understanding requirements of target market. Thirdly, poor monitoring on available competition from company's competitors. Fourthly, bad in managing relationship with company's stakeholders. Fifth, shortage of skills in finding good oppurtunity. Sixth, deficiency in process of marketing planning. Seventh, improvements in product and service policies. Seventh, poor planning in doing effective and efficient marketing. Lastly, less upgraded technology. (Kotler & Keller 2012, 669)

Most of the time, companies do not focus to choose market segments. They try to catch the market without any prioritization on the market segments. Company's management or stakeholders think that there is no need of expertise or managers for obtaining results from that particular segment of the market. Companies do not feel

requirement for conducting training sessions and seminars to create customer culture. Moreover, companies do not show their interest to give incentives which could be utilized for customer well. (ibid. 2012)

Furthermore, companies put less effort to understand in-depth requirements of target customers with less attention on competition around them. Companies just think that making product normally as they were already making could run for a long time. It is wrong perception of companies because customer always look for betterment in the products. So relying on old design and keeping eye close from the present competition will definitely give chance to other competitors for entering to their target customer area. Keeping a granted opinion that customer is satisfied will not do much for getting success in marketing. Therefore, companies have to keep them updated to remain in good competition and they should always be aware about consumer needs. (ibid. 2012)

China is fastest growing economy in the recent time. As a country, products from china have been ruling almost every industrial sector in the world at global level from many years. Their products are very competitive in terms of pricing as compare to products manufactured in other nations across the globe. Similarly in valve sector, china is giving very tough competition to Indian valve industry. Valves made in china are much cheaper as compare valves manufactured in India. Most of the companies across the world prefer to open their subsidiary plants or manufacturing in china to get competitive advantages on pricing. Government of China offers various benefits to overseas companies coming to open their subsidiary units or manufacturing plants in China. Overseas companies save lot of funding by taking competitive advantage when China offer them usage of land at subsidized rates, local labour which is very cheap as compare to labour costs of company's own nation.

Sometimes, company's marketing plan never achieve much success due to which they keep doing struggle to find better opportunities. This is because, they lack in understanding concepts required for making better policies. Companies try to target many products and services which deviates their focus. It is always good if company develop its system to find out about the product performance. They should track which products are doing good and which products are weak in the market. (ibid. 2012). Therefore, it is very important to make effective and efficient marketing plans

with help of latest technology to gain competitive advantage over other competitors.

Documentation requirements, each country has its own requirements for exporting and importing. Firm from host country cannot export their goods or services without compliance to the requirement of destination country. There are various documentations which are responsible to set the parameters or check points to ensure the meeting criteria of legal certifications and quality parameters. This documentation requirement is set at both domestic and international level. When firm plans to do its export, it has to first qualify some domestic level documentations and then when material reaches its destination country, it has to clear some documentation formalities set by buyer's country.

Foreign Government Attitudes & Foreign public attitudes, Increase of exports turnover really depends upon how the foreign Government set out its importing laws and standards. There are countries that makes some benchmarks for outside exporters because these countries wants to safe their own industrial production as well.

Communication with overseas unit, some companies are frightened from the communication modes in overseas market. Due to the lack of knowledge, they think that communication is one of the major problem for them. Managers of the companies mostly do not want to consider exporting due to issues like communication differences. As per Katzman (2011, 7), exporters assume that their company will not be successful in exporting due to the reason that they and their managers cannot speak native language of target customer area. It is also said that it has become necessary for companies to hire interpreters and translators in their export departments or divisions.

Transportation, labeling , packaging, logistic is another challenge for exporters. Each country has its own packaging requirements. For export consignment, there is always a need of special export packaging. But firms find it difficult to understand the packaging requirements that keeps varying as per set standard of different countries. As far as transportation is concerned, it has been a big issue for exporters in host country as well as in destination country. Some customer want FOB, some need CIF,

some need C&F. So it varies according to client requirement. Number of exporters do not understand where and how they can find all this guidance and understanding related to logistics.

In EU, there are stringent requirement for labeling and packaging of goods. Indian companies find it difficult to understand EU procedures on packaging and labeling which are highly restrictive in nature. Hence, compliance to this issue is also one of the major point (Chaudhary et al. 2012, 45).

Providing services, some companies hesitates to take part in exporting because they think that it very difficult to give after sales services in overseas countries. After exporting the goods, if customer need some services, it is quite expensive for providing their services or to replace the products.

Higher than domestic risks, SMEs even believe that exporting is highly risky as compare to risks involved in domestic market. Kotler & Keller (2012, 619), number of companies do not prefer to take their business at international level via exporting because they are afraid of various uncertainties in foreign market. Those uncertainties as big challenge such as facing differences in customer requirements in terms of acceptance on product design, currency fluctuations, political and legal issues, cultural issues. Basically, if domestic market of the company has huge potential and consumption for their products, they do not want to go to overseas market. It gives them a feel of safe and easy business from domestic market rather than trying in international market. (ibid. 2012)

Financial Sales, For exporting, firms need funding but SMEs find it as big challenge. In global business, there are various assumption related to financial issues in exporting. For example, some small size companies assume that they are small size companies and they cannot go global through exporting. Moreover, insecurity on getting paid from foreign customers is another cumbersome issue that hold companies to take initiatives towards exporting. Hence, companies find it risky to go abroad due to insecurities and lack of understanding in availing support to increase their company size. (Katzman 2011, 7)

Firms which are interested in exporting always gets involved in multiple issues when it comes to arrange their funds in export activities like making decision on

percentage of amount to be spent on export production, various costs involved in operations of export department, planing on allocation of costs in the beginning of exports, planning on new developments which could compete export in better way. (ibid. 2011, 17)

No assistance from home Government, most of the companies says that Government does not support or assist its industrial sectors. There is lack of assistance to firms from government departments.

It has been said that most of small and medium sized companies did not pay much attention to these barriers but later these obstacles were considered as major threats. Moreover, firm faces some more problems related to custom clearance even though, the procedures are easy to understand. However, there is no transparency in India.

2.3 Possible solution to overcome challenges in exporting

Since quick and unplanned decision taken by the company for taking step towards exporting its products or services to international market can be a risky move, companies are advised to work on some key issues that could be proved as critical decisions at later stage. Companies should weigh some factors such as what are the customer preferences in target foreign market to analyze if they could offer competitive product as per expectation of foreign customers. Second important aspect is if company can understand business culture of foreign country. Thirdly, various issues like foreign country's regulations and their buying costs which will have to be incurred by exporting company. Moreover, lack of international experience and shortage of knowledge among company's personnel in understanding commercial laws, effect of currency devaluations and political revolutions. (Kotler & Keller 2012, 619)

From different researchers and scholars, it has been noted that all challenges and barriers related to exporting can be handled with possible solutions under proper control. In addition to this, Ministry of external affairs and different certifying bodies tries to help their business segments so that they can easily tackle different level of barriers involved in exporting.

There are five propositions explained to be a successful exporters. First is, formation of suitable strategies is required to be made by SMEs so that level of micro and macro barriers can be reduced. Micro Level barriers are challenges in finding or managing human resources, knowledge and experience, capability on technological advancement, experience in exporting and international market, Logistics, Skills, Finances, products whereas macro level barriers are meeting regulations and procedural requirement, entry barriers in particular industry, different level supports from governmental institutions. (Paul et al. 2017)

Secondly, SMEs that makes effective strategies by proactively using advantages from network relationship approach, get more success in exports because they imply high entrepreneurial orientation. Thirdly, there are high chances of success in exporting if firms utilize its capability to avail export benefits from official Institutional support like government incentives and duties. So, firms should take participation for availing these type of governmental and ministerial support. Fourth solutions is, improving innovation capabilities of SMEs. Technological advancement in present generation is growing at very high pace. If firms concentrates on its innovation capabilities, it ensure the sustainability in successful exporting. Fifth is, if firm makes good use of its network relationship, the chances of success in exporting is relatively high. (Paul et al. 2017, 335)

Mehta R (2006) posit that there are some policies which are required to overcome these export related barriers. There is a need of simplifying various aspects of policies which are responsible for successful exporting. These aspects are domestic policies & import policies for exponential coordinations between different departments that makes criteria for various level of standards and quality check for importing goods. Multi-pronged approach can simply help in improving discrimination level between developing and developed countries by exerting pressure on developed countries by implepenting multilateral trade forum and bilateral regional free trade agreements under policy of foreign trade agreements. Hence it may help eliminating these tariffs and non tariff barriers that makes it easy for exporting.

Acharya (2006) briefs that Government should work on some promotional measures which can encourage Indian exports. There are some key areas which can make export better. Those possible measures are mentioned in below Table 3.

Table 3. Possible Solutions against exporting challenges (adapted from Acharya 2006)

| |
|---|
| Improving export related infrastructure |
| Reduction in Transaction cost , Marketing Cost and Network Cost |
| Improvements for in-house R&D for uplifting quality of export goods |
| Encouraging manufacturers to fulfill ISO 9000 export quality certifications |
| Export quality improvement for removing tag of poor quality in foreign market |

Indian companies have number of constraints like lacking of infrastructural facilities, transportation facilities for taking material from one point to another point such as manufacturing plant to shipping port, less market knowledge, information on prices from competitive market, bad impression on quality of the products, complex procedures at administration level , problems in taking application approvals, different type of fees for processing of export related trade activities, complications in meeting eligibility criteria for availing government supports for export related consignments.

2.4 Theoretical Framework

According to CBI Ministry of External affairs (2017), the compliance requirements to enter in EU market as exporter are of very high standard. For exporting valves to EU, the defined acceptance criteria is very restricted and unique. It varies in two situations. First is If exporter is exporting valves as fully assembled finished products and second situation is when supplier export parts of valves as components. Supplying complete valve as fully assembled finished product is bit complicated as compare to supplying valve in parts as components of valves.

Table 4. Entry barriers, external and internal challenges and solution for exporting
(adapted from CBI Ministry of affairs 2017)

| Challenges | Solutions |
|--|---|
| Strict Legislation and Regulation & Essential Safety Requirements a) Pressure Equipment Directive 97/23/EC b) ATEX Directive 2014/34/EU c) CE marking | <ul style="list-style-type: none"> • Follow and implement guidelines and procedural requirements as per quality system ISO 9001. |
| Compliance requirement in designing and manufacturing of valves Low Emissions , Safety , Simply Maintenance , Long and reliable Service Life & Easy operation and Installation . | |
| Perception of bad quality of products according to EU acceptance criteria | |
| Economical Challenges , Legal & Political Challenges a) Lack of incentives and Protection from Government b) Legal and Political Problems on tariff and non-tariffs issues c) Lack of proper trade institutions. d) Lack of capital and insufficient resources | <ul style="list-style-type: none"> • SMEs chamber of industry or commerce offers their guidance in different manners |
| Product and Pricing Challenges a) Adaption Problem in Market entry b) Inability to achieve competitive advantage in foreign market in terms of pricing | <ul style="list-style-type: none"> • Visit events. • Partnerships with EU manufacturers |
| Human resource & knowledge based Challenges a) Inability to access market information and lack of negotiating power a) Poor skills in organizing export department & Short international experience, Inability to find reliable resources . | |
| Packaging, Labeling, Delivery & advertising a) Transportation, Logistic, Packaging & Labeling. | <ul style="list-style-type: none"> • Choose suitable and experienced logistic partner • Review on EU requirement and packaging standard carefully |

3 Methodology

In order to achieve valid answers to any research question, evaluation methodology is very important which is further based on research methodology (Kumar 2011, 326). This chapter explains about five sections. First section describes the type of research approach used for empirical study followed by second section on research

context. Third section tells about data collection and its tools or instruments for collecting primary as well as secondary data. Fourth section shows how the collected data got evaluated or analysed followed by fifth section that tells finally about verification of results.

3.1 Research Approach

In the research study, qualitative approach has been adopted to do the empirical study. According to Kumar (2019,59), better understanding or awareness of problems and pitfalls in any research topic makes it easy to select suitable approach which can provide valid answers to research questions. Therefore, main reason for choosing qualitative approach over other methods is the nature of research questions.

Since the nature of the research demand in-depth information and detailed answers, interpretations from the participants, it was essential to choose qualitative research. According to Hennink, Hutter, & Bailey (2011), the term “qualitative research” can be defined as an approach in which practical experiences of people are examined with particular types of research methods like in-depth interviews, group discussions, content analysis, visual methods, life histories and biographies. Qualitative research is conducted when there is requirement of in-depth understanding on research issues because it helps in analyzing complex issues by exploring different aspects of research topic. It helps to uncover how people handle & examine different type of situations in different processes. (Hennink et al. 2011, 8-10)

According to Cresswell (2016 , 6-8), the beauty of qualitative research approach is that it is exploratory research. It presents central phenomenon of the topic along with the possibilities of giving several other relevant elements that comes out to be useful information. It explores the detailed observatory understanding on the research questions rather than giving inputs in specific order to make generalized output.

The main advantage in qualitative approach, it gives an opportunity to cover various key factors in making valid results on research topic. For example, it makes research more informative by covering multiple perspectives of research study. It also contrast

different opinions from different people or organizations on sensitive research issues. Qualitative approach helps research to become more observatory from different angle by considering different aspects of industrial segment like participant's own voice or inputs based on their own biases and practical experiences, understanding of unfolding the processes step by step which keeps changing time to time, valuable feedback from limited number of people on the issues, gives an opportunity to explore the topic rather than handling rigid and fixed questions to make general conclusion. Similarly, it makes research more elaborated in the light of complex understanding of the issue. (ibid 6-8)

Quantitative approach was not suitable in this research because quantitative research approach deals with statistical analysis whereas present research questions in this study demands interpretive analysis. Moreover, quantitative research is more useful to quantify the numerical data whereas this research requires detailed understanding through in-depth interviews and group discussion by taking textual data from participants or interviewees (Hennink et al. 2011,16).

3.2 Research Context

In 2017, India was ranked 9th largest trading partner in the list of EU's exports of goods to the world whereas it ranked 10th place for importing goods from India to EU. In the list of EU 28 member states. United kingdom was largest trading member for importing goods worth of 8 billion euros from India and Germany was largest trading member from EU for exporting its goods worth of 10.7 billion euros to India. It was also noted that exports share of manufacturing goods was 89% from EU to India and 83% of manufacturing goods was import share from India to EU . (Eurostat 2018)

EU-28 imports of goods from India by Member State, 2018

| | EUR million | % of India in extra-EU-28 imports |
|----------------|-------------|--------------------------------------|
| United Kingdom | 8 013 | 3.0 |
| Germany | 7 071 | 1.9 |
| Italy | 5 538 | 3.2 |
| Belgium | 4 908 | 3.6 |
| France | 4 887 | 2.8 |
| Netherlands | 4 248 | 1.4 |
| Spain | 3 758 | 2.8 |
| Poland | 1 288 | 1.9 |
| Denmark | 687 | 2.6 |
| Portugal | 668 | 3.7 |
| Sweden | 665 | 1.5 |
| Austria | 590 | 1.6 |
| Ireland | 457 | 1.4 |
| Czech Republic | 428 | 1.2 |
| Romania | 399 | 1.9 |
| Greece | 396 | 1.5 |
| Hungary | 394 | 1.5 |
| Slovenia | 289 | 2.5 |
| Finland | 225 | 1.1 |
| Bulgaria | 195 | 2.2 |
| Malta | 142 | 9.5 |
| Slovakia | 139 | 0.9 |
| Croatia | 126 | 2.4 |
| Latvia | 71 | 1.7 |
| Cyprus | 58 | 1.5 |
| Lithuania | 47 | 0.5 |
| Estonia | 37 | 1.0 |
| Luxembourg | 7 | 0.3 |

Source: Eurostat (online data code: DS-018995)



Figure 7. Imports of goods from India by member states (adapted from Eurostat statistic explained 2018)

Indian valve market and its future

Valve is a mechanical device which is used to handle pressure in various types of pipeline processes. The main purpose of valve is to control and reduce the flow of liquids, oil, gases, fluidised solids or slurries & vapors in pipeline processes. The demand of valves are very common in most of manufacturing and technological companies because these components are widely used in almost all kind of industrial, commercial and even residential sectors. (Patel 2018)

Valves are mainly used in oil and gas Industry, chemical industry, processing Industry, water and wastewater projects, construction projects. It is also important to mentioned that selection for valve material is based according to the application in which valve has to be installed. There are different types of material in valves like

cast iron, bronze, stainless steel and high alloys, many more and all have their own importance according to mechanical and chemical properties. (CBI Ministry of Foreign Affairs 2017)

Looking at booming economy of the country, Indian market of industrial valves is expected to experience high projection in its growth level as there are lots of expansions expected on various sectors such as oil and gas pipelines projects, energy segments, power plants, pharmaceutical projects, water and wastewater projects, construction projects. By the year 2023, the demand of industrial valves is expected to touch value of US \$ 2.2 billion from US \$ 1.7 billion in 2017 whereas the global industrial valve market is hoped to touch demand figure of US \$ 88.4 billion by 2021 (The economics times 2018; Techsci Research 2018).

The major valves manufacturing companies of India are L&T Valves Ltd, VIP Valves Ltd, Hyper Valves Ltd, Amco Valves Ltd, Kirloskar Valves Ltd, Racer Valves Ltd, Hawa Valves Ltd, Amtech Valves Ltd, Steel Strong Valves Ltd, Proline Valves and many more. Each of this company has its own specialization in making valves with some special features and hold on some uniqueness.

L&T valves limited, is an multinational company of India having presence in various parts of the world across the globe including Europe. It is also known as Larsen & Toubro Group. This group has been dealing into various industrial sector. However its valve manufacturing unit is global leader in flow control solutions. They are specialized in serving critical service applications like oil & gas, petrochemicals, pharmaceuticals, power sectors. For making high quality valves, L&T manufacturing plants have equipped with high tech features like 3D art design simulation and analysis softwares, finite elements analysis, computational fluid dynamics for fine tuning the valve performances. website of the company is <http://www.lntvalves.com/>. (Patel 2018)

VIP valves limited, is the second among the list of top valve manufacturing companies in India. This is the company with specialization in special purpose valves like knife edge gate valves, jacketed valves, flush bottom valves, electrical and pneumatic actuated valves. It is local in west coast of India in Mumbai city. More information can be obtained from <http://www.vipvalves.com/>. (ibid 2018)

Hyper valves limited is a third company in the list which located in Gujrat. They are expert in making various type of automatic control valves, safety valves, nozel check valves and pressure reducing valves. More information can be checked on <https://www.hypervalves.com/>. (ibid 2018).

AMCO valves limited is fourth manufacturing company of valves in the list. They deal in different type of ball valves for high pressure and temperatures pipeline projects. They are expert in handling valves which are made high alloys material valves for critical applications. They also make diaphragm valves, butterfly valves, pulp valves. Information can checked on <https://amcovalves.com/>. (ibid 2018)

Kirloskar valves Limited is also in the list of valve manufacturing companies of India. It is a sister concerned company under Kirloskar Group that makes pumps also. It is a company having specialization in kinetic air release valves, non-return valves, sluice valves, suction diffuser and triple duty valve, pumps, hydro turbines, mobile pump controller. It is highly experienced company established in 1880 and incorporated in 1920. The whole companies group name is Kirloskar Brothers Limited. For more information, official website of the company is <http://www.kirloskarpumps.com/valves.aspx> . (ibid 2018)

Racer valves Limited is 30 years old manufacturing company having strong network through out India. They are expert in making stainless steel bar stock valves for chemical industry. They make valves with both electrical and pneumatic operations. Detailed Information about the company is available on their official website <http://www.racervalves.com/>. (ibid 2018)

HAWA Valves limited is ISO 9001:2008 certified valve manufacturing company having various international approvals like PED/CE, ATEX, ISO 14001:2004, OHSAS 14001:2007 which ensure the compliance of these standards to produce high quality valves. This company has high reputation at international level including EU market. They make valves for almost all kind of critical application such as chemical, cryogenic, power, oil and gas, marine industry. They are also certified to make API (American Petroleum Institute) monogrammed valves. For more detail, company's official website is <http://www.hawavalves.com/>. (ibid 2018)

Amtech Valves limited is Gujarat based valve manufacturing company having different range of valves which caters requirement in various industrial applications like pharmaceutical, thermal and nuclear industry, food, beverages and dairy industry with many more. <http://www.amtechvalves.com/> can be reached for more detail. (ibid 2018)

Steelstrong valves limited is also a large valve company having production plant in Mumbai as well as in Gujarat. They are having rich experience in making cryogenic valves. Other type of Gate, globe, check valves are also in manufacturing scope. They also make special purpose valves in material such as monel, duplex stainless steel, alloy steel for industries like naval marine, ship building, mining. For more information, <http://www.steelstrong.com/>. (ibid 2018)

Proline valves limited is also known as one of the largest valve manufacturing company in with specialization in making control type automation valves in electrical and pneumatic operation. They make manual operated valves also. For more information, please check their official website <http://prolinevalves.com/>. It has been supplying its quality products to renowned clients like TATA group, Ultratech Cement, Jaypee Group and many more. (ibid 2018)

Market Potential in EU import of valves

As per CBI Ministry of Foreign Affairs (2017), the import of industrial valves in EU has seen moderate growth in last five years accounting 3.8% per year. However it grew more in case of importing of valves from developing countries with 6.2% per annum making 2.4 million euros in 2015. Since the demand of food and chemical processing industry is increasing more and more in EU market, it is expected to see increase in demand for imports of valves at medium pace from developing country.

EU is huge market for import of valves and its parts. From data collected for last five years from 2014 to 2018 shown in Figure 7, Germany is found as biggest market for valves. It is EU's largest importing country for importing valves worth of €2.58 billion euros followed by United kingdom (€1.39 billion), France (€1.32 billion), Italy (€6.8 million), Netherland (€5.3 million), Spain (€4.8 million) and Belgium (€4.1 million).

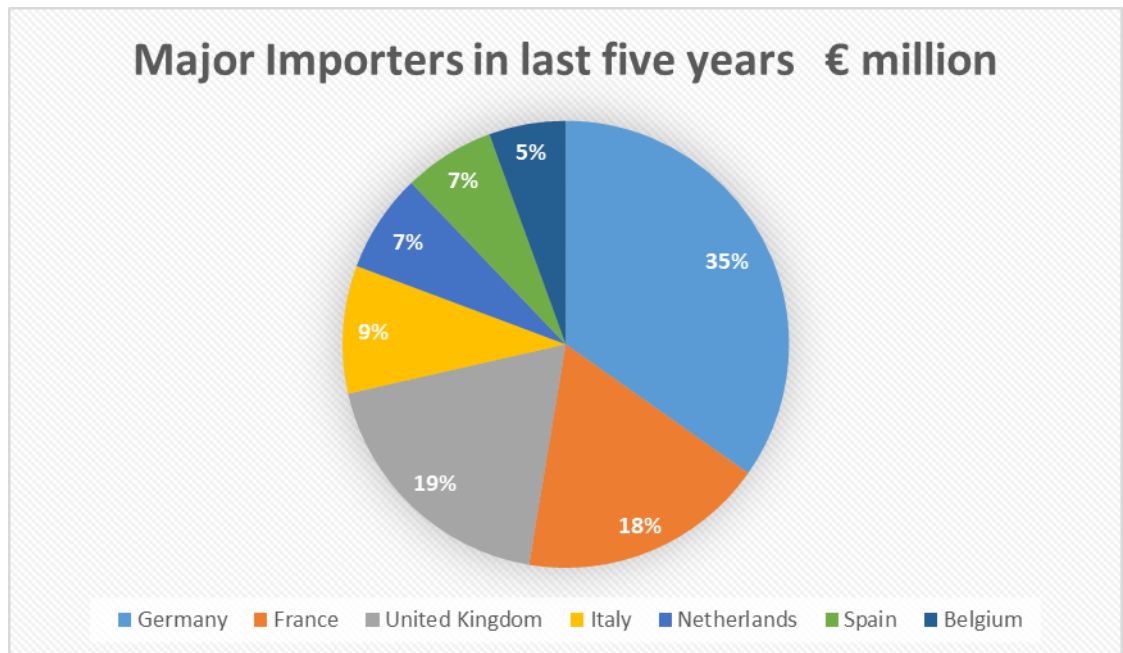


Figure 8. Major EU importers of Valves in last 5 years (adapted from Trademap 2019)

Therefore, all these challenges are to be addressed for making empirical study more reliable. It is also important to know from the exporting companies that how they are handling these challenges.

3.3 Data Collection

As per Kumar (2011, 213), in qualitative data collection, data is collected based on researcher's judgement as to who can give appropriate answers or information that fits best to his research questions. For example, collecting data through interviews from relevant people of the cluster or industry in which research is being conducted. So, author has organised the data collection in such a way so that the roots of the required information can be reached.

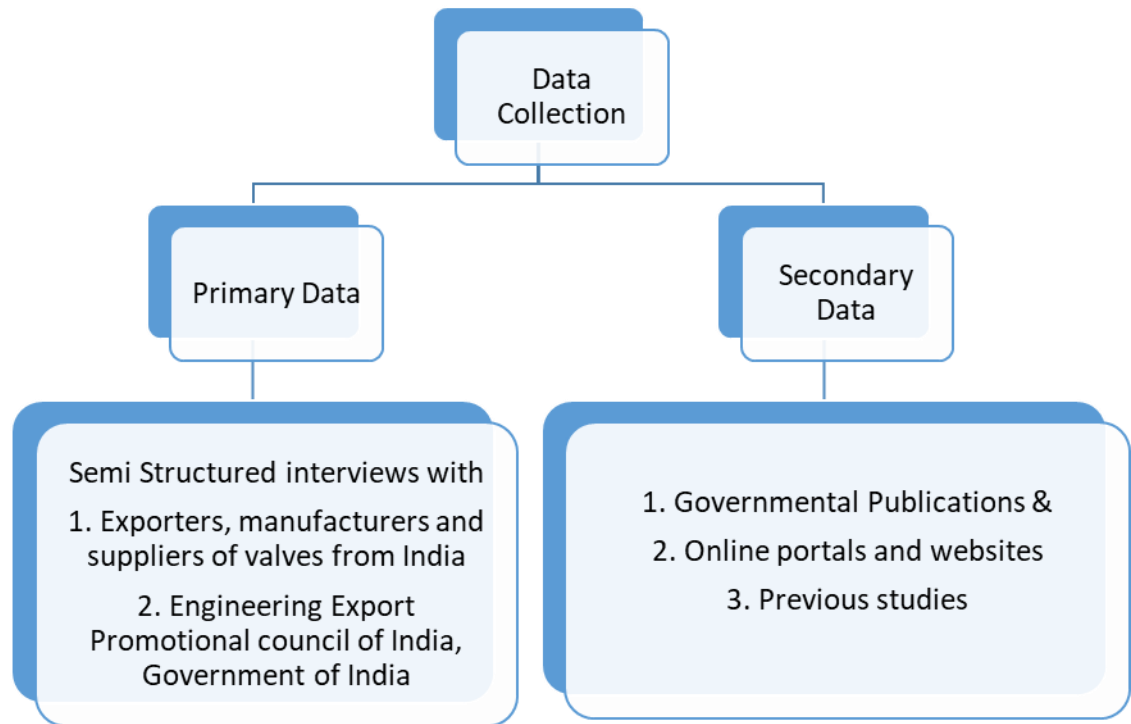


Figure 9. Data collection process (adapted from Kumar 2011, 139)

As shown in Figure 9, empirical study was conducted by collecting data into two categories such as secondary data and primary data. Secondary data was collected through past studies such as research articles, journals, Governmental official websites which gives inputs in the form of statistics and textual data. However primary data collection was done in the form of in-depth interviews by using semi-structured interviews with responsible personnel of the companies who are directly involved export operations of the organization. The reason for choosing semi-structured interview method is because topic under question required insight of the topic from experience of different people from same industry.

“In-depth interview” can be defined as discussion on specific topic between Interviewer and Interviewee for getting detailed insights through semi-structured interview technique. In other ways “it is a special kind of knowledge producing conversation” between interviewer and interviewee. (Hennink et al. 2011, 109)

So this technique for collecting primary data was appropriate for making valid and reliable outputs for readers. The answers to the challenges needs subjective approach from interviewees. For primary data collection, list of questions as mentioned in Appendix-1 were designed according to possible challenges covered under theoretical framework in sub section 2.4 of literature review chapter.

There were total three number of semi-structured interviews conducted for obtaining detailed answers for questions designed on the basis of important elements from theoretical framework. Detail of the interviewees is mentioned in Table 5. All three interviews were conducted in different online modes of communication such as Skype video conferences and telephonic audio call.

Company 1 and Company 2 were interviewed via skype video conference mode which was recorded and saved for data transcription at later stage. Third interview with company 3 was conducted through normal telephonic call. This interview was also recorded and saved to increase the reliability of the results.

These three Interviews were recorded with due respect after taking permission from Interviewees. The language of the interview was mixture of English and Hindi and Punjabi. Hindi is mother tongue of India. Punjabi is local language of Punjab province.

Out of total three interview companies, two companies belong to valve industry in a way that they are manufacturers, suppliers, exporters of the same products. Sometimes they chose way of direct exporting to EU and sometime they prefer method of in-direct exporting. Third interviewee was official authority from certified body and official department of government of India which deals with handling of challenges and promotional activities related to exports of engineering goods of Indian companies to the globe.

The first company I interviewed was ATAM Valves Pvt Ltd from India. The name of interviewee was Amit Jain, Managing Director of the company. He is managing director of the company and all export related operations are handled by him. ATAM valves is a leading valve manufacturing and exporting company which was established in 1982. It started exporting in 1994-95. They are exporting their valves in directly and indirect modes. Their major exports share is in United Kingdom, South Africa and United states of America including many other countries.

Table 5. List of Interviewees

| Serial Number | Name and address of Company | Interview date | Name and position of Interviewee | Length of Interview |
|---------------|---|------------------|---|---------------------|
| Company 1 | ATAM Valves Pvt Ltd 1050-51, Outside Industrial Area, Jalandhar, Punjab, India www.atamvalves.in | 26 March 2019 | Amit Jain (Managing Director) | 49.31 minutes |
| Company 2 | Leader Valves Limited 1050-51, Outside Industrial Area, Jalandhar, Punjab, India www.leadervalves.com | 27 March 2019 | Jarnail Singh (MR and HOD-QA Department) | 36.09 minutes |
| Company 3 | Export Engineering Promotional council on India EEPC Government of India www.eepcindia.org | 11 April 2019 | Opinder Singh (Deputy Director) | 38.24 minutes |

Second company was with company called LEADER Valves Limited. This company was also from India which has been into the valve manufacturing business from last 6 decades. They are exporting their valves to various parts of the world including Europe, United States, Asia, Gulf etc. This interview was conducted with Jarnail Singh working with the company in the position of MR & HOD-QA (Management Representative and Head of Department – Quality Assurance). Leader valves limited is a company in Jalandhar city located in Punjab province of India which was established in 1950 and have been manufacturing and exporting valves from many years. They are approved with various international clients like PETRORAS, KOC, KNPC, EIL etc. Their experience in exports is very vast because they supply all over the world including some European countries like Germany and United kingdom as a supplier of valves components not as fully assembled products. In addition to this, they also exports their valves to other region like Gulf, Saudi Arabia, United states.

Third company which I interviewed on 11th April 2019, was certified and official organization established in 1955 by Ministry of commerce, Industry and Government of India. The name of the organization is Export Engineering Promotion Council (EEPC) Government of India. I interviewed Mr. Opinder Singh who is working in the capacity of deputy regional director of EEPC, sub regional office located in Jalandhar, Punjab, India. He is particularly responsible for handling export related activities like challenges and promotions faced by Indian companies from India to all parts of the world.

3.4 Data Analysis

In order to do analysis of qualitative data collection, I used analytic cycle technique based on grounded theory principles. In this type of analytic technique, there is involvement of some core activities i.e. Codes development, description, comparison, categorization, conceptualization and developing theory. (Hennink et al. 2011, 237)

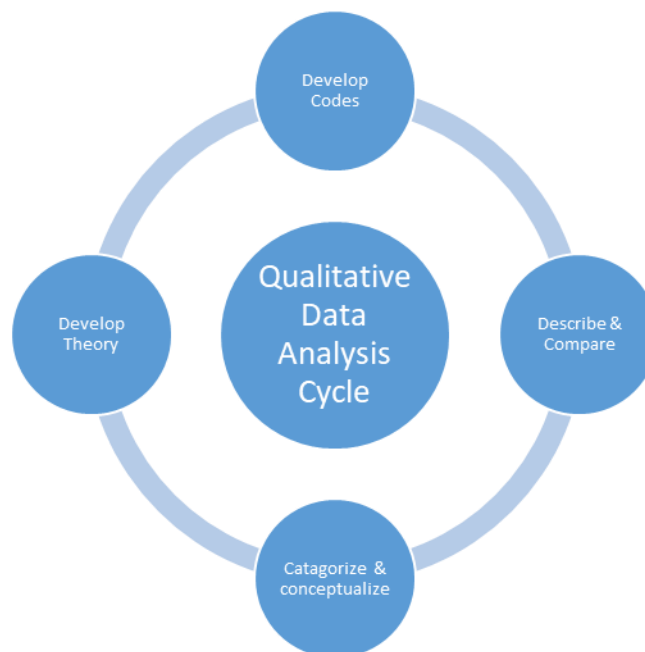


Figure 10. Data Analysis processing cycle (adapted from Hennink Hennink et al. 2011, 201)

All of these core activities are interlinked and works in circular process. As explained, the codes and challenges are interlinked in Table-6 below for doing data analysis. This

coding system of data analysis help in obtained refined results of all the interviews taken with company 1, company 2 and company 3 mentioned in Table 5.

To obtain the in-depth understanding and detailed inputs from all three interviews, the whole discussion between interviewer and interviewees of all three interviews were transcribed in word format as text data. To understand properly, transcribed data was further filtered with the help of excel file for data reduction to reach at consided outputs.

Table 6. Codification Matrix in data analysis

| Codes | Description |
|-------|--|
| C1 | Lack of understanding EU legislation and procedural regulation |
| C2 | Control in design, manufacturing and quality of products |
| C3 | Challenges in availing economic and political support |
| C4 | Lack of Information on market access and competition |
| C5 | Restrictions on packaging & labeling requirements |
| C6 | Challenges in transportation & logistics |
| C7 | Negative image on quality |

In excel file, all challenges with codes as per Table 6 were described so that possible solutions given by interviewees could be placed to do data analysis. Some answers from interviewees were common and repeated and some were exceptionally new outputs. Moreover, some interview questions were not acting as big challenge to these interviewees. Therefore, with the help of word and excel file, It became possible for Interviewer to receive proper outcomes after analysis which could be treated as theory development.

3.5 Verification of the findings

The verification of the findings in empirical study of qualitative research is generally possible in three ways. First , by checking validity of the developed theory in which consistency level are checked. Second method is to check if the empirical study really fit into other alternative theories & will it become reliable and the third method is checking real life validity by presenting the developed empirical study to Interviewee

or participants based on produced interpretations & explanations (Hennink et al. 2011, 264).

As per Kumar (2019, 278), Guba and Lincoln posit that validity, reliability and objectivity of the findings of qualitative research can be determined by checking four factors of trustworthiness of the findings and those factors are credibility, transferability, dependability and confirmability. To check the quality level of empirical research study, it is needed to do assessment of the methods used.

In the following paragraphs, it shall be explained in detail that how the developed empirical study was ensuring the verification of the findings describing if theory emerged from data was properly supportive and fit to the data. It sheds light for enhancing all three aspects of validity, reliability and objectivity of the findings.

Validity

According to Kumar (2019, 270), validity of the research findings can be defined as a concept in which appropriateness and accuracy of the findings can be checked. So, it depends a lot on the technique or procedure which we choose to do analysis of collected data. It ensures us whether the findings obtained from particular research are valid or not.

In order to ensure the validity, the utmost care and attention was given while choosing interviewees for conducting semi-structured interviews. All the participants were credible because all of them belongs to same field of the research context which is valve industry or cluster. Two interviewees were from valve manufacturing companies and third interviewee was official authority from engineering export promotion council of India from Government of India. It means that the findings made after Interviews gave in-depth clarifications by covering detailed perspectives on research topic. However on the other hand of this, secondary data was also from government web sources like EU commission www.ec.europa.eu , Eurostat www.ec.europa.eu, CBI Ministry of foreign affairs www.cbi.eu, Trademap www.trademap.org and many more which also ensured that collected data is more relevant. Therefore, selection of appropriate participants from valve industry and relevant existing resources ensured that findings of the empirical study are valid.

Moreover some other past studies related to challenges and solutions of exporting also put valuable contributions and made significant inputs to make sure the findings are more valid.

Reliability

Reliability of the findings from empirical research can be verified by assessing the quality level of the methods applied to obtain results (Flick 2015, 229). If approach in methods or techniques used for collecting data and its analysis is rightly followed, it is possible to achieve reliable results. Since author had practical experience from the same industry in which the research was carried out, it gave an opportunity to design interview questions for making questionnaire in appropriate way for better understanding of interview participants.

While interviewing the first, second and third participant, repeating the same interview questions in circular manner led author's understanding go deep into the subjective questions to produce more knowledgeable answers to ensure the reliability. Repeating the same interview questions to different participants in the same industry and getting common answers increases the chances to get more reliable results (ibid. 2015, 230). After interviewing the participants, each answer from all three interviews were transcribed into the word files for further analyzation with the help of coding system. It helped author to unite the common answers.

Primary data was collected from the sources or participants belonging to same field of the research context i.e. valve industry or cluster which means that the observations made after Interviews gave in-depth clarifications by covering detailed perspectives on research topic. However on the other hand of this, secondary data was also from government web sources like EU commission, Eurostat, CBI Ministry of foreign affairs, Trademap and many more which also ensured that collected data is more relevant. Moreover some other past studies related to challenges and solutions of exporting also put valuable contributions and made significant inputs to make sure the findings are more reliable.

Objectivity

According to Kumar (2019, 277), Trochin & Donnelly (2007, 149) says that when results of any qualitative research can be confirmed by doing research in identical manner from other researchers, it is called objectivity.

Flick (2015, 235), point out that objectivity of the findings of the empirical study can be verified by analyzing the extent to which other researchers can bring the same results by conducting research in similar way. Therefore, Higher the extent of independency of the results to the person applying the same research, higher is the objectivity. Interview questions were designed with a focus on relevance to the industry in research question. Hence, It can be ensured that if identical field will be researched with similar method, same results will be received.

4 Results

The core area of research study is to identify challenges which are being faced by Indian companies in exporting valves from India to EU and how they are overcoming these challenges. Particularly for import of valves from India to EU, It has been noted that there could be possible challenges like lacking in compliance to requirements related to design and manufacturing of valves, safety requirements as per Pressure Equipment Directive 97/23/EC and ATEX Directive 2014/34/EU, packaging and labeling of products, product liabilities, tariffs and non tariffs, information regarding market assessment, how to avail government support in making exporting more easy and understandable. It has also been noted that supplying valve parts to EU countries is more easy instead of supplying finished products like fully assembled complete valves. Moreover, level of quality acceptance criteria for importing valves in northern european countries has less restrictions as compare to countries in southern europe. (CBI Ministry of foreign affairs 2017)

The following sub-sections or paragraphs in this chapter will put light in the context of challenges and solutions which were discussed during the first, second and third interview taken on 26th March 2019, 27th March 2019 and 11th April 2019 respectively. Each interview question was designed based on theoretical framework mentioned in sub section 2.4 of literature review chapter. The interview

questionnaire can be seen in appendices as Appendix 1. Each challenge shall be explained thoroughly with suitable solutions so that SMEs can overcome these challenges.

4.1 Lack of understanding EU legislation and procedural regulations

One of Government official authority from Engineering Export Promotion Council of India (EEPC) has said during the interview that, many of the valve manufacturing companies have approached him on various tariff and non-tariff barriers related to exporting from India to European Union. He further said, companies do mention him that complying to EU legislation and its procedural regulations on safety requirements is one of the toughest non-tariff barrier to enter into the EU market especially for products like valves. PED directives and EN standards demand very high level of safety commitment in these products.

Valves basically come under the category of pressure and explosive product group. Hence, they are considered as the most critical equipment in the pipeline work of any project. For SMEs to meet these legislation and regulations set by EU in PED directives like PED 97/23/EC, there should be proper control on manufacturing activities in the production plant where these products will be manufactured. For example when valves are under manufacturing in production plant, there has to be proper control on pollution control activities like toxic emissions, hazardous waste going to environment through air or water. After these pollution controlled activities, there are other safety measurements like valve thickness and its safety factors by assuming how it will perform at work site. All these requirements are to be followed as per PED 97/23/EC and other corresponding EU standards.

So, there are few reasons noted during the interviews from the companies for not being able to comply these legislation and procedural regulations. These are mainly complicated policy from EU, lack of understanding on “How to develop,” “How to implement” and “How to properly control” these manufacturing activities which can fulfill requirements of EU legislation and procedural regulations on safety requirements.

Therefore, to overcome this particular challenge, following findings can be helpful to take over control on it.

Table 7. Solutions to overcome challenges of EU's legislation and Procedural regulations

| Solutions |
|--|
| <ul style="list-style-type: none"> • Development and implementation of Quality Management System (QMS) in the company • Hire technical expert or consultants • Conduct third party inspection audits in the company |

After having detailed discussion with interviewees from valve manufacturing industry as well as one authority from government of India's Engineering Export Promotion Council (EEPC), SMEs can develop Quality Management System (QMS) according to EU legislations. When QMS system is developed in the company, its implementation make sure that company's manufacturing activities of the products are as per EU acceptance criteria. There is a set of documents like work instruction manual, quality manual, testing instructions and other corresponding documents relevant to valve manufacturing are derived from QMS of the company.

Secondly, It has been noted that most of the indian SMEs lack with the understanding on detailed technical requirements like certifications, testing benchmarks. Therefore, Indian SMEs can hire some technical consultant or team of experts with in their organization who can first understand and then educate company's other people about various requirements to pass EU legislation and procedures on safety requirements. For example, if companies want to qualify PED 97/23/EC directives or ATEX directives, they need to have qualified personnel in their organization chart who can qualify acceptance criteria of EU mentioned in PED and EN standards. Similarly, there are requirements on non-destructive testings like NDT level-1, level-2 and level-3 qualified inspector which is also needed to qualify EU legislation and procedural regulations on safety requirements. Therefore, hiring of right team or personnel to get in-depth understanding on EU legislation and regulations can play vital role to qualify the entry barriers to enter into EU market.

Third possible solution is, companies can have conduct of third party inspection audits in their manufacturing plants to make sure EU import requirements can be

met or not. This will at least let the companies know where do they stand in terms of meeting EU requirements. Through these inspection audits, it is possible to get firm advice on what is to be improved in infrastructure of the company, what kind of technological changes are required, what kind of machinery or equipment to be possessed by the companies to be qualified from EU legislation and procedural regulations.

Moreover in general, interviewees were having a feel that this is one of the most difficult challenge from the aspects of non tariff barriers imposed by EU market on import of valves. Cost for getting approval and maintaining PED certification and EU procedural regulations is very high. Therefore, these additional costs gets add up in the final price of the product which ultimately makes their products leading to non competitiveness as compare to local market competition in EU.

4.2 Control in design, manufacturing and quality of products

Out of three interviewees, two interviewees have admitted during the interview that EU expectations for importing high quality valves demand high level of control to ensure quality and accuracy in the production. It is only possible if you have high quality infrastructure, machinery, design and testing facilities in the production plant. It has been always a big challenge for Indian SMEs.

Indian SMEs should focus on producing products that are made with proper safety precautions, can be easily used for plant operations, with less maintenance cost and smooth run for long time. Therefore, in order to maintain quality and control in the production plant, following findings can be helpful for Indian SMEs.

Basically SMEs have to first understand what is required and then how to maintain control so that acceptance criteria of EU standards can be met. In the next paragraphs, solutions are separately defined under three categories i.e. Design, manufacturing and quality.

Table 8. Solutions to overcome challenges of design, manufacturing and quality requirements.

| Solutions |
|---|
| <ul style="list-style-type: none"> • New technology like 3D model and tools for valve designing and its validation at advance level. • Quality based foundry set up for castings by automotive processes . For example investment castings or shell moulding processes. • Testing labs with high sensitive analyzers and equipment. • Modern Machinery & infrastructure. • Unique identification on orders which gives high attentions for special work order like PED order. • High control and co-ordination level with sub-vendors according to QMS and EN standard requirements. • Hiring of technical personnel who can qualify technical benchmarks according to EN & PED standards. • spreading work instructions, quality policy at all work stations through electronic displays, sign boards etc. • Regular training & seminar sessions at personnel level or workshop level on quality acceptance criteria. |

There are various parameters which are responsible to cover quality while producing valves. It starts from design section of any company that plays a vital role in product development. For that, SMEs need to upgrade their plants with latest technology like concept of 3D design tools and use of updated Auto-Cad, simulation software and installation applications. With the help of high technological instruments, it helps to develop product design at advance stage and same way, it helps to validate the product at its designing stage itself. After design finalization, design department should make drawings of the product for further stages that have to be followed for accurate manufacturing.

At foundry stage, automated processes like investment castings, shell molding techniques can produce high quality castings which ultimately leads to qualify visual inspection standard MSS SP-55 category A and B. In MSS SP-55, category B is particularly focused for export level products as per interviewee from company 2. If companies use automated process, it gives chances of getting sound castings with less rejection level and impurity defects like pin holes, porosity. Outer appearance of the valves in EU market, matters a lot and it can be only good if manufacturing company is having well controlled casting set-ups in its production plant.

Moreover, testing labs where the valves and its components gets checked from its performance point of view, it should be equipped with highly sensitive material analyzers, latest and updated equipment for destructive and non-destructive testing.

It has been noted that companies can work on following things very carefully for producing high quality valves at their manufacturing workshops. If they get any order, they should allot unique identification for orders while making their internal manufacturing order like stamp of PED order. It will ultimately spread awareness among other people in the factory that this particular order need high attentions as per PED and EN standards.

Sometime, manufacturing companies have to take bought out items or components or raw material from other suppliers which are called their sub vendors. It is very important for valve manufacturing company to make sure that their sub vendor is following requirements as EU norms. It needs high control and co-ordination level with sub-vendors according to QMS and EN std requirements.

In order to make sure that manufacturing company is producing valves as per EU requirement, there are some key elements like hiring of technical personnel because EU standard and PED directive demands skill qualification according to job competency. For example, if welding operations are involved in the production of valves then person has to be qualified welding inspector as per EN technical standard. Similarly, person who has to perform destructive and non-destructive testing operations on the valves, he has to be NDT level-1, level-2, level-3 qualified or approved inspector.

Furthermore, there should be work instructions, quality policy at all work stations through electronic displays and flex sign boards. Regular training and seminar sessions for educating personnel of the company at all concerned level including workshops on quality acceptance criteria is also important concern. Hence, hiring and implementation of skillful manpower to qualify technical benchmarks according to EN & PED standards would be much needed.

4.3 Challenges in availing economic and political support

For exporting valves from India to European Union, there are barriers on tariffs as well as non tariff issues. From the interview discussions with two executives of valve manufacturing companies in India and one government official authority from ministry of engineering export promotion council of India, trade policies and negotiations on bilateral relationship are still under process with expectations of improvements.

Therefore, situation for exporting valves to EU has still been very challenging in terms of understanding issues on extra taxes and high cost in getting certifications and various marking approval like CE marking on complete product which is needed if product has to be imported by EU based company.

However if components or parts of the valves are going in disassembled conditions then CE marking is not required. These are issues from host country whereas Indian government as home country government try to motivate its exporters by giving various benefits. But for availing all this benefits is sometimes challenge for SMEs in India. They lack in availing this type of support from their understanding point of view.

It is worth saying that SMEs sector plays vital role in raising economy of any developed or developing country. So, it is very important for governments also to understand problem of SMEs. For example, SMEs need technical education on understanding function of various export related activities. Sometime, they need support from home country to know what type of new technology is being adopted by other world level multinational companies. So, these kind of key factors makes it difficult for SMEs to obtain information on customer's expectations and possible way outs to know, how their requirements can be catered.

In order to overcome this big challenge, followings are the possible solutions and support for Indian SMEs as per interviewees mentioned in Table 5 above.

Table 9. Solutions to overcome challenges about Economical and political support

| Solutions |
|--|
| <ul style="list-style-type: none"> • Duty drawback benefits from Ministry of commerce, industry and Government of India. • Departmental guidance to avail MDA claims from Engineering Export council of India (EEPC) & other export related motivational schemes • Online links for export motivations to other countries. • Regarding tariffs and non tariffs between India and EU, there should be improvement in trade policy and bilateral relationship with less import restrictions. • Guidance and time to time updates on tariffs and non tariffs from official websites and Online portal, Chamber of Commerce, EEPC, Updates. |

For SMEs, there are various online and offline platforms placed region wise by Government of India where required information on tariffs and non tariffs barriers can be obtained. Department of chamber of commerce, Engineering Export promotion council of India help exporters to get them required information. These department keeps updated and full fledged information about other country's tariffs so that exporters can get information on import duties for market analyzation. Engineering Export Promotion Council of India run many programme to update the exporters about latest changes in trade of export and import. So, manufacturers, suppliers, exporters from Indian SME sector should register themselves with these official departments like Engineering Exports promotion council (EEPC) from India and various export promotional programme run under banner of ministry of commerce and industry.

However, information on tariffs imposed from European union to various countries can be found on official webpage of EU Commission www.ec.europa.eu and CBI ministry of foreign affairs affairs www.cbi.eu. Both of these official websites can help Indian companies to get potential information about EU market.

In order to lift share of exports from India to European Union, Government of India have been trying their best efforts to motivate exporters by giving different financial compensations. Indian SMEs can avail various incentives in the form of export duty drawback benefits, marketing development Assistance scheme (MDA) claims as a support from Ministry of Industry and commerce by Government of India.

Just to encourage and make Indian product competitive enough in EU industry, If any SMEs pay custom duty as taxes while exporting their products to any country outside India, there is a provision of availing the paid custom duties as duty drawbacks in reimbursement scheme. Moreover, it has been proposed by government official that EU commission should also look India as potential market to get competitive advantage like less labour cost, high skilled technology at competitive prices.

4.4 Lack of Information on market access and competition

Two interviewees have mentioned that it is very difficult to obtain correct and logical information about the market area and its possible aspects. For example, which market has good potential for particular product category, what is the competition from local market, what are the essential qualifying factor with which customer can be convinced for import valves from India. So, all these obligations have made this process very tedious from Indian SMEs point of view. They said that it requires a lot of research to find good customer or potential market. To overcome these important issues, following are best possible solutions.

Table 10. Solutions to overcome challenges in obtaining information on market assess and competition

| Solutions |
|---|
| <ul style="list-style-type: none"> • Participating in trade shows, exhibitions, buyer seller meets in overseas especially in EU like valve world in Germany. • Monitoring of market competition around the world especially in domestic market. • Attending Industry related seminars organized by Government Official trade institutions or departments like Engineering Export council of India (EEPC), Chamber of Commerce, Ministry of commerce, Industry and government of India, official websites and Online portals. • Subscription of magazines like valve world, pumps and valves. • Establishing business contacts via company's official linkdin account • Hiring team of different people for market research to find potential market area and its scope and by exchanging views with different engineering consultants of the country to know about the market |

There is a high trend of organizing events from all types of industries across the globe. In valve industries, there are various trade shows, International exhibitions, buyer-seller meets which are organized by governments of different nations to

attract people from relevant industries. Most likely for valve industry, all exhibitions from industries like oil & gas industry, petrochemical Industry, Chemical Industry, power generation plants, food processing Industry, water & wastewater management projects, marine and offshore industry, construction sectors, paper mills and various other industrial projects can be worth for finding potential information about market area and its competition from local market.

Most of the companies choose this way to meet and find new customers from relevant industry. SMEs can attend these type of exhibitions as visitors as well as exhibitors. Sometimes most of SMEs find it too costly to exhibit as an exhibitor in these exhibition. So these can attend these exhibitions as visitor also which has sometime free access for visitors or sometimes at very reasonable fee. These type of exhibitions serve these SMEs with multipurpose benefits. SMEs learn about new customers, new market trend, new technology, new advancement related to manufacturing of same category products.

In EU, valve world is one platform which is one of the leading exhibition in valve industry. It gives utmost satisfaction to all types of visitors, buyers, exhibitors according to the expectations at individual level. It exhibits world class and high quality manufacturers, suppliers from across the globe. There are other events happens in various other parts of European union. In addition to this, subscription of trade magazines like valve world, pump and valves also help SMEs to know about latest technology and updations in valve industry on regular basis.

In addition to this, Interviewee from company 1 has mentioned that one of the most important solution to get over issue of assessing market information is , companies should always be in touch with market competition. Sometimes companies just limit themselves and keep their focus on some local competitors and their activities in industry which is not good. If company want to increase their presence in international market, they will have to look beyond their local or domestic market competition. In valve market, China is one of big competitor among the list of countries giving tough competition to India in Asia.

Some other modes to assess market area and its potential of scope are making social media accounts which acts as online platform. In addition to this, SMEs can hire

market research team that keeps putting continuous efforts with engineering consultants to know current market scenario.

4.5 Restriction on packaging & labeling requirements

European union has its own set standard on packaging and labeling requirements for importing valves. In PED and EN standards, EU suppliers or importers wants packaging of the valves as per requirement set in EU standard on sea worthy packing. Quality of the packing boxes matters a lot. Packing boxes, crates, pallets should be properly fumigated to avoid any pesticides and chances of catching insecticides. EU requirements are very particular on this.

Labeling of valves in EU is also very important. When fully assembled or finished product come to EU market, it has to be qualified from its labeling point of view. For example, if any exporter wants to export complete assembled valves to EU market, he has to give full compliance by labeling CE marking on the products. However if products come to in parts or components separately then it can be imported without CE labeling but still if EU supplier who imports those components or parts to use in final product has to do labeling CE marking under his brand when he use those components in finished products to sell in EU market. In that case, it is the responsibility of EU buyer who imports parts or components of the valves. That importer will perform all check points on the parts imported from India to make sure all requirements are in line and he can place CE marking on the product so that it can be sold out in EU market.

Though these were not big challenges for the companies that were interviewed, following are solutions noted from the discussion with them.

Table 11. Solutions to overcome packaging and labeling requirements

| Solutions |
|--|
| <ul style="list-style-type: none"> • Appointing special team to make sure the packaging and labeling requirements are met with proper sea worthy packing. • Proper fumigation of wooden pallets and labeling as per EU and Use of Special wooden material and Coating with proper fumigation |

In order to fulfill packaging and labeling requirements as EU standard, Indian SMEs should try to focus on hiring qualified person so that the same person can be trained for playing that particular role. Moreover, retaining the same person is also important for these kind of jobs. This kind of tendency from Indian companies can sort out this problem. There is no doubt that they have to outsource wooden pallets, packing boxes and fumigation services from other sub vendors but making sub-vendors aware about EU acceptance criteria is a difficult one.

4.6 Challenges in transportation & logistics

Indian SMEs spread all over India. All of them have their own location advantages and disadvantages based on their works presence. Transportation and logistics have important role to play in moving goods from manufacturing plant to sea ports and airports. India have 13 major sea ports and 122 airports and all of these ports have intermediate ports that connects them to major ports of India. They can be connected by different ways of transportation like railways and roads.

Table 12 . Solutions to overcome transportation and logistics issues

| Solutions |
|--|
| <ul style="list-style-type: none"> • Registered & approved logistics partners to avoid mishandling of the shipments • Selection of nearest dry port, chances of mishandling of the shipment get reduced. |

From interviewees, it has been noted that if they choose registered companies that deals in transportation and logistic operations, it is easy for them to cover problems in moving goods from their manufacturing origin to destination. Sometimes client mention their own preferred transporter who take responsibility of picking shipments from origin to destination.

Companies which are far away from sea ports, they choose nearest dry port for exporting material to destination because chances of mishandling of shipments gets reduced and vessels or containers get stuffed properly in dry ports. However it affects delivery issues ultimately.

4.7 Negative image on Indian quality

During the third interview with official authority from government of India, it has been noted that Indian government is putting forward various proposal to take up initiations on trade policies. EU union should also come forward to see India as potential industry. In valves sector, India is manufacturing almost all kind of valves for various applications that serves various industries. EU officials should also take up to educate Indian companies about EU stringent tariffs.

Table 13. Solution to overcome negative perception on Indian quality

| Solutions |
|--|
| <ul style="list-style-type: none"> • Improvements in bilateral relationship , trade policies between India and EU. • India one center in every potential country |

It has been proposed by the authority that India should open one department under banner name of “India one center” where Indian engineering product and high technology can be displayed. This is the best possible way for foreign buyers to see how fast Indian technology is growing and what is the quality level of the product.

Moreover, foreign buyers or importers from EU market should see India as potential country from industrial prospective. There should be some positive and favorable policies to do trade negotiations between India and EU so that bilateral relationship can be improved to reduce restrict level of tariffs and non-tariffs issues.

5 Discussion

The main purpose of this chapter is to conclude, how present research study has reached its objective defined in research question and how the results obtained in chapter 4 can be significantly used in a concised way. Indian SMEs were the main focus in this research which are interested to step into exporting from India to EU market as a startup or established entity.

In the following sub-sections of this chapter, all the important factors like how the research results may support managers, executives, directors and other responsible positions of the companies who are interested to start or promote their valve business from India to EU market. In addition to this, it shall also be discussed that how previous studies helped researcher to develop the whole thought process for achieving results mentioned in chapter 4 with proper assessment in the light of previous literatures. Moreover, there are some limitations and future recommendations which shall also be taken into consideration in following paragraphs.

5.1 Answering the research questions

This research study was grounded with a focus to get into the in-depth knowledge of the various issues that hold Indian valve companies to raise or to start export of their products to EU market.

This whole research was designed to answer following research questions

1. What are the main challenges or barriers in exporting valves from India to European Union?
2. How can companies overcome these challenges or barriers ?

5.1.1 Main Challenges faced by Indian companies

After applying thorough approach on understanding of results obtained after data analysis from semi structured interviews, followings are the main challenges faced by Indian companies.

- Lack of understanding EU legislation and procedural regulations
- Control in design, manufacturing and quality of products
- Challenges in availing economic and political support
- Lack of Information on market access and its competition

First and foremost challenge is lack of understanding and knowledge on EU legislation and procedural regulations in EU market. People from Indian industry find it very tough to meet EU's safety requirements set in its PED and EN standards. The reason behind is, they are different from the routine standards which India is following in its manufacturing. Saying different from India does not mean that Indian

Standards (IS) do not apply safety precautions. It actually means that IS are made and developed as per its own set requirements on safety precautions, consistency and reliability of the product taking into account of climate preferences, local environment and temperature requirements. Similarly, EU has its own set requirements in PED and EN standard. So, if nations wants to do import and export business with each other, it is quite obvious that each and every nation has to agree and respect standards and acceptance criteria set by local governments of that particular country.

The second most challenging stage for Indian valve companies after proper understanding on EU legislation and procedural regulations is, how to control the production activities in maintaining three basic parameters of valve production (i.e. design, manufacturing and quality) of the products. In valve production, design of the product is the most important concept so that everything can be analysed at advance stage before actually going into the production. Controlling manufacturing activities in which work orders are distributed to production department shall be properly controlled, coordinated and highly focused to qualify PED and EU requirements. However maintaining the quality level of production is another key factor parallel to other two parameters.

Third issue for Indian companies is very important which is about challenges in availing support from government of India and EU. No company can grow wisely if it has no support from its government in terms of compensations on tariffs and non tariffs imposed. All the interviewees have expressed their difficulties to comply restrictive non tariffs barriers from EU market.

Lastly, the challenge in lack of information on market assess and its competition is prime reason from Indian companies prospective . It is not possible to sell any product to market if companies are not aware about the potential area of market and its scope along with local environment about price competition and expectations from products in demand. Indian companies are lacking of information in EU market to know which market has huge potential for which particular product.

As far as the market competition is concerned, it has been noted that valves made from country like China have gained huge amount of competitive advantages

because their prices are very competitive as compare to valves made in other countries. China is the highest populated nation in the world. Therefore, companies in china get various advantages such as usage of land at subsidized rates, local labor at much cheaper rates along with various other benefits or incentives from government of china.

5.1.2 Solutions for overcoming challenges

Though solutions to overcome these main challenges mentioned in sub-section 5.1.1 are explained in results chapter 4, it can be concisely explained for Indian firms.

For first and second challenges on EU legislation and procedural regulations, it has been noted that Quality Management System (QMS) can be the best solution for Indian companies because QMS of any company can be developed in which all requirements of EU legislation and procedural regulations can be defined in one set of documents. All manufacturing related instructions and policies are easy to understand when they are defined in one source.

However, it is possible only when companies hire right and capable personnel to understand EU technical requirement and make sure these required are transferred to each level associated with the manufacturing of valve in production plant. Time to time conduct of third party inspection, audits, training of personnel and advancement in technology and machinery can plays vital role in overcoming these challenges.

To overcome third and fourth challenge, Indian companies should register themselves with official departments of Government of India. By doing this, Indian companies can get updates about all the support available for them to avail valuable information. Companies will get updates about the relevant trade shows, exhibitions ,buyer seller meets which are being time to time organized at subsidized rates by concerned authorized department from Government of India.

Engineering Export Promotion Council of India (EEPC) helps Indian companies with financial compensations under Market Development schemes (MDA). Moreover, duty drawbacks are given as reimbursement of custom duties paid by Indian companies while exporting their products. In addition to this, other solutions like

subscription of relevant trade magazines, hiring market research team and tie-ups with engineering consultants can also participate in overcoming these main challenges.

In addition to this, monitoring the competitors from local market and neighbouring countries is also an important aspect for companies. If companies limit themselves just to monitor their competitors from local market, it will not give them much exposure and information on technological upgradation in valve industry because customer in modern era of 21st century always look for better products. Therefore, companies should remain in touch with competitors from local as well as international market. Especially in China, there is huge competition to India. Their pricing and updations from technological point of view are growing so fast.

5.2 Managerial Implications

The main findings from the empirical study of this research can possibly claim that they are detailed and thoroughly elaborative for Indian valve companies. Since it has been noted during the interviews conducted with Indian companies that, it is very difficult for them to know about EU market entry barriers and so are the solutions to overcome them.

Managers, directors, executives and other related positions can take advantage from this research to make their strategic decisions when it comes to exporting valves from India to EU market. This study can help them to get familiar about various challenges available in supplying valves from India to EU market. Through this study, it is easy for them to know the basic parameters like what are the challenges in EU market, what are the solutions for those challenges, how those solutions can actually be implemented, where to approach and which official government department can be contacted to overcome that particular challenge of export.

Findings obtained from the research study suggests important implications for future practice in a way that, if they don't hire compatible team of technical experts, they will not be able to meet requirements of PED and EN standards and hence, they cannot understand EU's requirement on import of valves. Moreover, if Quality Management System needs to be developed, they would need control on pollution

control activities and hazardous activities which are essential to be complied in EU products. When they will go through the requirement defined in QMS, they will get to know what kind of high sensitive analyzers are needed for complying testing requirements.

In order to control and maintain design, manufacturing and quality of valves, findings of present study encourage managers of Indian valve companies to take advantage by implementing additional suggestions. To produce good quality valves, they can follow practice of issuing unique identification number on PED orders to have control on parameters in manufacturing activities for producing high quality valves, high control and co-ordination with sub-vendors of bought out items like springs, spindles, raw material as per company's QMS requirements, training of workforce as per quality policy.

Results of research study have made it possible for managers of Indian valve SMEs to choose option of direct export over in-direct export because direct export gives high profit return instead of in-direct export. Moreover, managers will have good control on export process and chances of close relationship with international customer will be increased. Whereas in the method of in-direct exports, there are intermediaries, merchant exporters, agents, dealers in home country who purchase goods from SMEs and gain more profits by adding their high margins while exporting those products to international buyer. However, in-direct exports covers the risks and complexity issues of direct exporting which is an advantage itself. So, awareness of various challenges along with corresponding solutions can help managers of Indian valves companies direct with buyers in foreign countries.

5.3 Assessment of the results in the light of literature

Empirical study of this research and literature reviewed from the past studies have close relationship. After making a close review from expert interviews and reviewed literatures, there are various new suggestions which have been found and explained in following paragraphs. From the empirical study of this research, it has been found that the main problem of these challenges is issue of hiring compatible personnel in

the company and then market assessment and its competition. There has not been much rise in exporting valves from India to EU market due to challenges.

EU legislation and procedural regulations on safety requirements which are very stringent (Mohit 2006; Chaudhary et al. 2012, 39; CBI Ministry of external affairs 2017.) To overcome this issue, findings from empirical study suggests to develop and implement Quality Management System (QMS) that can play vital role manufacturing activities which ensures proper implementation of safety requirements as per EU legislation is also in line with solutions proposed in Acharya's (2006) possible measures to make exports better. However conduct of third party audits in companies and hiring of technical experts or consultants were additional solutions suggested in empirical study. Hiring technical experts can actually help Indian valve companies to understand technical requirements of EU legislation and procedural regulations. Conducting third party inspections or audits can make sure companies that they are following right track to meet EU standards.

Controlling and maintaining design, manufacturing and quality of the product needs lot of control and assessment according to CBI Ministry of external affairs (2017). Empirical study reveals various possible solutions to overcome this challenge. The main solution says that it is very important to do time to time upgradations in plant's R&D division, technological advancements with adoption of new technology like 3D design tools, machinery and infrastructure improvements are in line with findings proposed by Acharya (2006) and Paul et al. (2017).

Moreover, SMEs are suggested with additional findings from empirical study. Allotment of unique identification number on PED orders to control design, manufacturing and quality of products at all production level, high control and co-ordination with sub-vendors of bought out items like springs, spindles, raw material as per company's QMS requirements, training of workforce as per quality policy. These additional findings from empirical study can help companies to maintain control on production activities of good quality products.

Empirical study suggest solution to overcome challenge in availing information on economic and political support from government on tariffs and non tariffs issues. Finding of study in line with effective strategies of successful exporting (Paul et al.

2017, 335) shows that there is financial support from concerned departments of Government of India under various exports schemes. However Government of India is already putting efforts to negotiate these tough trade barriers on tariff and non tariff issues with EU union.

Finding in line as per Paul et al. (2017) sheds light from empirical study that participating as visitor or exhibitor in trade shows, exhibitions and buyer seller meets can really put impact on company's criteria of market research to know where the product can fit as per potential scope. Meeting people from local industry of particular EU market can be beneficial for Indian companies to discuss further possibilities from business point of view. The information obtained from CBI Ministry of external affairs (2017) says that, It is good to have collaborations between with EU companies and make products in their own brand because it would be easy for local to accept reliable brand from own country. But no interviewee had mentioned this particular solution during the discussion on market assessment and its potential. It is suggestion that this type of collaboration can really make a positive output for Indian companies if they do collaborations with EU companies.

The empirical study also suggests that challenge on facing negative image on quality of Indian products, can be overcome by doing export quality improvement which is in line as per Acharya's (2006) measures to make exports better. Moreover, another finding suggests that If Indian government do take initiative to open one platform called "India one center" in potential country of European Union, it can play big role to show quality of Indian products which is now equal or at par to stand in global world. Furthermore, Government of India is already in process to negotiate deals on trade policies on various tariffs and non tariffs issues.

5.4 Limitation of the research

The main limitation on the research study was taking interviews only with participants who were from north part of India because some readers may point out that why only north Indian companies were taken into consideration for taking interviews. Due to this location disadvantage, it would have been possible to obtain information on different solutions for handling challenges on transportation and

logistic issues. Moreover, difference in internal support from provincial Governments in terms of incentives on land, subsidy in electricity usage may vary based on location preferences.

Second limitation is that, this study cannot be generalized to its full extent with other countries outside EU because EU has its defined requirements and eligibility criteria which could be different as compare to other countries outside EU. However upto some extent, it is possible to generalize the findings on some challenges like handling transportation and logistics and improvements in quality of the products.

Thirdly, study did not interview for getting opinions from EU companies to get more clarity on challenge of local market assessment and its potential for Indian valve industry. By interviewing EU companies, It was possible to know more about their perceptions on quality of Indian valves along with discussion on trade barriers in importing from Indian companies.

5.5 Recommendations for future research

The research study has given significant outputs for Indian companies on understanding various challenges involved in exporting valves from India to EU market along with possible solutions. But there is always a scope of improvements in previous findings or results on any research.

Further research in this field would be great help if future researcher can take up further step to study challenges on the basis of Individual country of European Union. EU Member state country like Germany, Spain and France have huge potential for valves. it has been noted that Germany is the largest importer of valves in EU market (CBI Ministry of Foreign Affairs 2017). There are total 28 member state countries in European Union. Therefore, doing research on challenges in exporting valves from India to Individual country level could make huge impact in this research field.

Moreover, some more value additions can possibly enhance the scope of this research. It could be an high advantage, if future researchers can particularly do their research on analyzation of marketing threats to Indian valve Industry. Mainly in Indian valve industry, a county like china give tough price competition to India even

both of the countries share their boundaries from same asian region. So, it would be more beneficial to study and analyze market competition to Indian valve industry which can give added value to this research.

Moreover, there are various issues yet to be analysed like feedback from EU companies about their perceptions on Indian valve market. Further research can be made from the prospective of EU buyers who import valves in high volume from other countries than India. It would be possible to understand in-depth reasons. Furthermore, I would recommend future researcher to do more interviews to find out more possible solutions on transportation and logistics.

References

- Albaum, G. & Duerr, E. 2008. *International Marketing and Export Management* (6th ed.). Harlow, England: Financial Times, Prentice Hall.
- Amadeo, K.2018. Exports and their effect on the economy. *The balance*. Assessed on 21 January 2019. Retrieved from <https://www.thebalance.com/exports-definition-examples-effect-on-economy-3305838>
- Amadeo, K.2019. International Trade, Its Pros, Cons and Effect on the Economy. *The balance*. Assessed on 21 January 2019. Retrieved from <https://www.thebalance.com/international-trade-pros-cons-effect-on-economy-3305579>
- Bhardwaj, A.,2018. The new MSME definition in India: Good or Bad? The times of India. Webpage assessed on 2 February 2019. Retrieved from : <https://timesofindia.indiatimes.com/blogs/thewindbeneaththewings/the-new-msme-definition-in-india-good-or-bad-why/>
- CBI Ministry of Foreign Affairs. 2017. Webpage Assessed on 03 March 2019. Retrieved from: <https://www.cbi.eu/market-information/pipes-process-equipment/competition/>
- Chaudhari, M. B., Giedraitis, V., & Kapse, P. 2012. BARRIERS TO EXPORT FROM INDIA TO THE EUROPEAN UNION. *Ekonomika*, 91(2), 38-48. Retrieved from <http://ezproxy.jamk.fi:2048/login?url=https://search.proquest.com/docview/1371840759?accountid=11773>
- Creswell, J. W. (2016). *30 essential skills for the qualitative researcher*. Thousand Oaks, California: SAGE Publications, Inc.
- CSE WartherFisher 2009. website page assessed on 05 March 2019, Retrieved from <https://www.cse-waf.co.nz/shop/VALVES+%26+ACTUATORS.html>
- Daniels, J. & Radebaugh, L. 2001. *International Business* (9th ed.). Environments and Operations. United states of America, Prentice Hall, Inc.
- Essays, UK. (November 2018). Four Trade Barriers Government. Webpage assessed on 18 February 2019. Retrieved from <https://www.ukessays.com/essays/marketing/four-trade-barriers-government-marketing-essay.php?vref=1>
- European Commission. 2018. Trade Picture India and Eu. webpage assessed on 1 March 2019. Retrieved from : <http://ec.europa.eu/trade/policy/countries-and-regions/countries/india/>
- European Commission. N.d. Internal market, Industry, Entrepreneurship and SMEs. webpage assessed on 4 February 2019. Retrieved from : https://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition_en

Eurostat statistic explained 2018. Imports from India by member state. webpage assessed on 16 March 2019. Retrieved from <https://ec.europa.eu/eurostat/statistics-explained/index.php?title=File:Imports from India by Member State, 2017.png>

Eurostat statistic explained. 2018. India-EU-international trade in goods statistics. webpage assessed on 16 March 2019. Retrieved from : <https://ec.europa.eu/eurostat/statistics-explained/index.php?title=India-EU %E2%80%93 international trade in goods statistics>

Felbermayr, G., Mitra, D., Aichele, R., & Groshchl, J. 2016. Europe and India: Relaunching a troubled trade relationship. *Ifo center of International economics*. Assessed on 28 February 2019 Retrieved from <https://www.econstor.eu/bitstream/10419/167440/1/ifo-Forschungsberichte-80.pdf>

Flick, U. (2015). *Introducing research methodology: A beginner's guide to doing a research project* (Second edition.). Los Angeles: SAGE Publications Ltd.

Forsgren, M., 2016. A note on the revisited Uppsala internationalization process model – the implications of business networks and entrepreneurship. *Journal of International Business studies*. Assessed on 31 January 2019, Retrieved from <file:///D:/SUMITH%20THESIS/Previous%20Article%20on%20exporting%20challenges/uppsala%20theory%20article%20journal%20on%20international%20process.pdf>

Gourdin, K. N. (2006). *Global logistics management: A competitive advantage for the new millennium*. Oxford: Blackwell.

Government of India. Ministry of Micro, small & Medium Enterprises .2018. *What are Micro, small & Medium Enterprises?* website page assessed on 24 January 2019, Retrieved from <https://msme.gov.in/know-about-msme>

(2003). *Guide to export-import basics* (2nd ed.). Paris: ICC Publishing.

Harrison, A., Dalkiran, E. & Elsey, E. (2000). *International business: Global competition from a European perspective*. Oxford: Oxford University Press.

Hennink, M., Hutter, I. & Bailey, A. (2011). *Qualitative research methods*. Los Angeles: Sage.

India Exports to EU. 2019. Page on Trading Economics website. Assessed on 2 March 2019, Retrieved from <https://tradingeconomics.com/india/exports-to-europe>

Katzman, J. (2011). *A basic guide to exporting: The official government resource for small- and medium- sized businesses / edited by Jason Katzman*. New York: Skyhorse Pub.

Kenton, W. 2018. What is Joint Venture-JV. *Investopedia*. Assessed on February 2019. Retrieved from <https://www.investopedia.com/terms/j/jointventure.asp>

Kotler, P. & Keller, K. 2012. *Marketing Management* (14th ed. Global edition). Harlow, England: Pearson.

Kumar, R. (2011). *Research methodology: A step-by-step guide for beginners* (3rd ed.). Los Angeles: Sage

Kumar, R. (2019). *Research methodology: A step-by-step guide for beginners* (Fifth edition.). Los Angeles: SAGE.

LaMarco, N. (2018), The three stages of International Product Life Cycle theory, *Small Business Chron.* Assessed on 30 January 2019, Retrieved from <https://smallbusiness.chron.com/three-stages-international-product-life-cycle-theory-19364.html>

Maps of India. 2019. Sea ports and airports in India . website page assessed on 16 April 2019, Retrieved from <https://www.mapsofindia.com/maps/sea-ports/>

Mehta, R. (2006), Nontariff Barriers Affecting India's Export. Assessed on 25 February 2019, Retrieved from <https://www.adb.org/sites/default/files/publication/29369/inrm10-trade-inequality-india.pdf>

Mulder, P. (2012), Product Life Cycle Stages, *Toolshero* . Assessed on 30 January 2019, Retrieved from <https://www.toolshero.com/marketing/product-life-cycle-stages/>

Patel, N. (2018), Top 10 valve manufacturing company in India. Assessed on 16 March 2019, Retrieved from <https://medium.com/@nirmech/top-10-valve-manufacturing-company-in-india-939a0ab258d6>

Paul, J., Parthasarathy, S., Gupta, P. 2017, Exporting Challenges of SMEs: A review and future research agenda. *Journal of World Business.* Assessed on 30 January 2019, Retrieved from https://www.researchgate.net/profile/Justin_Paul2/publication/312958573_Exporting_challenges_of_SMEs_A_review_and_future_research_agenda/links/5b5d4e8c0f7e9bc79a6c5129/Exporting-challenges-of-SMEs-A-review-and-future-research-agenda.pdf

Pollinger, C.2013, How to internationalize your business Guidebook for German companies. *Theseus*. Bachelor Thesis. Vaasa University of applied Sciences, Degree Programme in International Business Retrieved from: <https://www.theseus.fi/bitstream/handle/10024/59379/Final-1.pdf?sequence=1&isAllowed=y>

Ratajczak-Mrozek, M.,2012, The network model of Internationalization, *ResearchGate*. Assessed on 31 January 2019, Retrieved from: https://www.researchgate.net/publication/257614949_The_network_model_of_internationalisation

SME chamber of India (2019), *SME Sector in India*. Definition of MSMEs in India. website page assessed on 24 January 2019, Retrieved from <http://smechamberofindia.com/about-msme-in-india.php>

Techsci Research, India Industrial valve market website page assessed on 16 March 2019, Retrieved from <https://www.techsciresearch.com/report/india-industrial-valves-market/3549.html>

The Economics times (2018), Engineering. Indian Industrial valve market expected to reach USD 3 billion by 2023. website page assessed on 16 March 2019, Retrieved from <https://economictimes.indiatimes.com/industry/indl->

[goods/svs/engineering/indian-industrial-valve-market-expected-to-reach-usd-3-billion-by-2023/articleshow/62622050.cms?from=mdr](https://www.goods/svs/engineering/indian-industrial-valve-market-expected-to-reach-usd-3-billion-by-2023/articleshow/62622050.cms?from=mdr)

Trade Map (2019) website page assessed on 1 March 2019, Retrieved from https://www.trademap.org/Country_SelProductCountry_Graph.aspx?nvpm=1%7c699%7c%7c%7c14719%7c8481%7c%7c%7c4%7c1%7c1%7c1%7c1%7c2%7c1%7c1

Zohari, T., 2012. The Uppsala internationalization model and its limitation in new era .*Digitpro*. Assessed on 31 January 2019, Retrieved from <http://www.digitpro.co.uk/2012/06/21/the-uppsala-internationalization-model-and-its-limitation-in-the-new-era/>

Zohari, T., 2012. Internationalization of SMEs .*Digitpro*. Assessed on 28 February 2019, Retrieved from <http://www.digitpro.co.uk/2012/11/06/internationalization-of-smes/>

Appendices

Appendix 1.

Interview Questions

1. Name of Company / Organization and year of establishment
2. Nature of the Company (Small or Medium Scale)
3. Name & Designation of Interviewee
4. Does your company exports to European Union?
 - 5a. what are the challenges you face to comply EU's legislation and procedures for exporting valves from India to EU Union (e.g. Safety requirements in compliance to Pressure Equipment Directive 97/23/EC and ATEX Directive 2014/34/EU)?
 - 5b. how did you overcome those challenges?
- 6a. how difficult/stringent it is to meet acceptance criteria on quality of the products?
 - 6b. How did you overcome this challenge?
- 7a. What are the challenges you find in availing economic and political support from home country's Government as well as host country's Government? Do you find problems regarding tariff and non-tariffs issues?
 - 7b. How did you overcome those challenges?

8a. what are the challenges you face to obtain information regarding potential market area, price competition, potential customers and their requirement?

8b. How did you overcome those challenges?

9a. What are the challenges you find in complying EU's requirement on packaging, labeling of the products?

9b. How did you overcome those challenges?

10a. What are the challenges in handling logistic & transportation of products from factory in India to customer in EU?

10b. How did you overcome those challenges?

11a. Please mention if there are any other challenges which prevents your organization to exports its products from India to Eu union?

