

**An Assessment of the Market in the “MENA”
Region for Large Diameter Steel Pipes-Market
Entry and Focus Strategy**

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Comments by the Faculty

Energy security is an issue of strategic importance for any country. Even though a good amount of research is on in the field renewable sources of energy, Oil and Natural Gas will continue to play an important role in meeting the energy demand in the next few decades to come. With the demand for oil and gas, there will be demand for Large Diameter Steel Pipe (LDSP) which is the preferred mode for transporting crude refined oil.

This paper, which is a formal documentation of the Summer Internship carried out at Welspun Corp Ltd (WCL), by Mr Binit Kumar Jha, a student of PGDM 2011-13, is an excellent study on B2B market. WCL has made a good name in the field of LDSP. The study encompasses assessment of demand for LDSP in Middle East and North Africa (MENA) region, which are blessed with Oil and Natural Gas reserves, assessment of the attractiveness of the market using Porter's Five Forces Model and an analysis of strategic framework to substantially improve upon and retain the competitive advantage of WCL. The nuances of the B2B market are brought out, the tools used for such an analysis are explained and reference to specialised data sources such as SIMDEX, who are experts in Oil and Natural Gas market research, is made.

The paper finds that there is good market for LDSP in the MENA region, especially countries such as Saudi Arabia, Iran, Iraq, Qatar, UAE and recommends that these markets need to be vigorously pursued. It recommends that liaison office be set up in African countries which have good potential but the quality of data available leaves much to be desired.

The steel that is used in the LDSP is presently being imported as the customers demand for certified steel and the Indian steel is not internationally certified. Interestingly, steel manufactured by Tata Iron and Steel (TISCO), China, is internationally certified but not that produced in India! Since there is large price volatility in the imported steel, the study recommends that WCL should enter into Memorandum of Understanding (MOU) with steel suppliers to benefit from fixed price. An improvement to the study could be exploring other hedging instruments and methods for managing the risk.

The study gains importance with the increased globalisation which throws opportunities as well as threats. Companies like WCL need to improve their internal resources to match with the challenges.

N.R.Govinda Sharma

An Assessment of the Market in the “MENA” Region for Large Diameter Steel Pipes - Market Entry and Focus Strategy

Introduction

Countries in Middle-east and North Africa (MENA region) are oil rich countries. The oil reserves in the MENA region are estimated to be 810.98 billion barrels (The World Bank, 2012). Large Diameter Steel Pipes (LDSP) are the preferred mode for transportation of crude and refined oil. With increasing Gross Domestic Product (GDP) in the countries in MENA region such as Qatar (18.80%), Iraq (9.90%), Kuwait (8.20), Nigeria (7.20%), Saudi Arabia (6.80%) (Central Intelligence Agency, 2011), the demand for consumption of oil and gas will increase and with this, the demand for LDSP will also increase. It is estimated that the demand for LDSP will go up from the present demand of 2.2 million tonnes to a cumulative value of 19 million tonnes by 2016 (SIMDEX, 2012).

Welspun is a company engaged in the business of LDSP in the MENA region and is aspiring to increase its market share. In this background, the company is studying strategic options for expanding its market share. The author had the privilege of studying the issue in the year 2012 as a part of summer Internship Project. This paper is a formal documentation of the work pursued.

Company Profile - Welspun Corporation Ltd

Welspun Corp Ltd (WCL), the flagship company of Welspun group, is today probably the largest manufacturer of line pipe in the world with a capacity of nearly 2.0 Million Tons Per Annum (MTPA). It has been rated as the 2nd Largest Diameter Pipe Company in the world when its capacity was one (1) MTPA. It also has been recognised as the emerging company of the year, in this year 2008 by “Economic Times”. It has been among the most preferred suppliers of line pipes in the world. The company has supplied pipes for the toughest of projects such as the Independence Trail Project in the United States & Canada; the longest pipeline (Keystone project from Canada to US). In Peru, WCL has to its credit, the fame of supplying to the highest elevation pipeline (Peru LNG) and in the Persian Gulf, WCL has supplied pipes for the heaviest pipeline (IGAT) (Welspun Corp, 2012).

Its marquee client list includes most of the fortune 100 companies operating in Oil & Gas (Chevron, ExxonMobil, TransCanada, Saudi Aramco, Shell, GAIL-India etc.). WCL currently offers a one stop solution in line pipes with a capacity to manufacture Longitudinal Submerged Arc Welding (LSAW), Helical Submerged Arc Welding (HSAW) (also termed as “Spiral”) and High Frequency Electric Resistance Welding (HFERW), High Frequency Induction Welding (HFI) (also called “Electric Resistance Welding” (ERW)) pipes. (Welspun Corp Ltd, 2012).

Objectives of the Study

The objectives of the study are:

1. Analysing the future demand for LDSP in the MENA region up to the year 2015.
2. Prioritize the specific market on the basis of business potential, market attractiveness and feasibility.
3. To find the feasibility for exporting steel pipe to MENA market.
4. Developing the strategies to increase the market share in the MENA market.

Scope of the Project

The research was conducted on countries in middle-east Asia and North Africa. Specific countries covered are Algeria, Bahrain, Egypt, Israel, Jordon, Morocco, Congo republic, Turkey, Oman, Iran, Iraq, Libya, Kuwait, Saudi Arabia, Qatar, Tunisia, UAE, Yemen, and Cameroon. The time frame of the research was from 2011-2015.

Approaches and Methodology

The methodology for arriving at the demand in the MENA region comprised of analysis of the past data and interview with experts in the field. The data was sourced from SIMDEX, who are experts in oil and gas research. SIMDEX data was also used in identifying future projects. This was complemented by conducting interviews with the expert in the field.

The “Porter’s Five Force Model” was then used to understand the attractiveness of the industry by studying the threat from the potential entrants,

bargaining power of the suppliers and bargaining of the buyers, threat of substitute products and the intensity of rivalry amongst incumbents.

A model suggested by Porter for analysing the factors that help in creating and sustaining superior performance was also adopted.

Demand for Large Diameter Steel Pipes in MENA Region

The data on demand of line pipes in MENA region is obtained from Simdex database and represented in Table 1 and contains the total demand in different countries for period between 2011 and 2015.

Table 1 : Demand for LSDP in MENA region

Country	Weights (tons)	Percent of total demand (tons)	Length (Km)
Demand in Middle East			
Iran	4373900	35%	12
Iraq	2833240	22%	9082
Qatar	1467000	12%	7874
Saudi Arabia	1248000	10%	139
Turkey	1120000	9%	58
UAE	769100	6%	4165
Oman	482810	4%	2650
Kuwait	330300	3%	4268
Israel	18600	Fraction	1740
Syria	17000	Fraction	210
Bahrain	3600	Fraction	3730
\Jordon	1500	Fraction	4185
Total demand in Middle-east	12665050	100%	

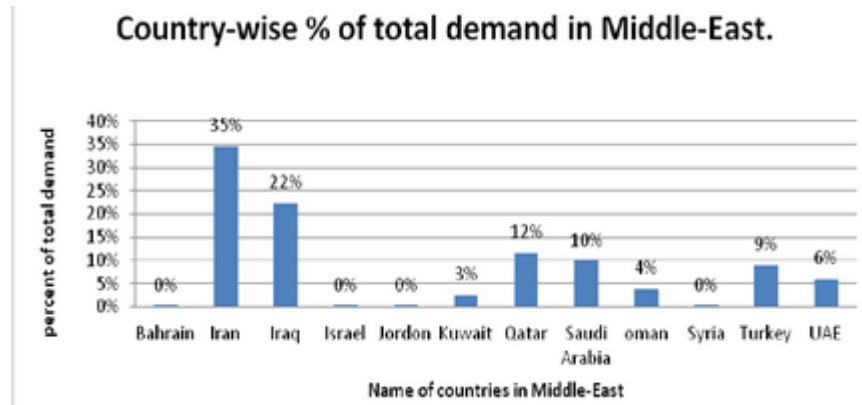
Table 1 (Continued)

Demand in North Africa			
Nigeria	3783110	54%	1562
Tanzania	525000	8%	76
Egypt	511100	7%	175
Uganda	409000	6%	1500
South Sudan	380000	5%	1530
Algeria	378960	5%	15
Congo Kinshasa	370000	5%	32
Tunisia	180000	3%	60
Mali	161000	2%	817
Kenya	96000	1%	2790
Mozambique	65800	1%	143
Morocco	28000	Fraction	978
Namibia	27000	Fraction	225
Rwanda	9700	Fraction	5558
Equatorial Guinea	6700	Fraction	43
Cameroon	5410	Fraction	310
Ivory Coast	4300	Fraction	1400
Qatar	4080	Fraction	3149
Gabon	3200	Fraction	315
Angola	1300	Fraction	3255
Total demand in Middle-east	6949660	100%	

From the table-1 it can be inferred that countries like Iran (35%), Iraq (22%), Qatar (12%), Saudi Arabia(10%) and Turkey (9%) are attractive for doing business in Middle-East and countries like Nigeria(54%), Tanzania (8%), Egypt (7%) and Uganda (6%) are of high demand amongst all North-African countries.

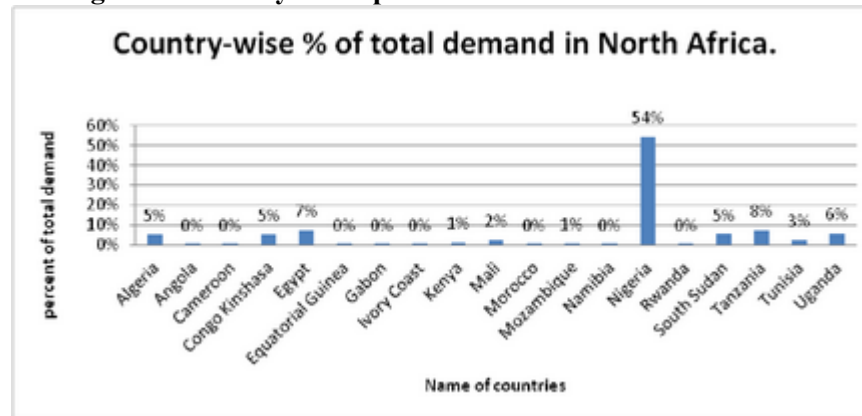
The demand of all this countries is also depicted in the figure-1 and figure-2 in a bar chart.

Figure 1 Country-Wise percent of Demand in Middle-East



Source:- Simdex February 2012 update.

Figure 2 Country-Wise percent of Demand in North-Africa



Source: - Simdex February 2012 update.

From the above diagram we can infer that countries like Iran, Iraq, Saudi Arabia, Turkey and UAE among all Middle-east nations have highest demand for line pipes in next five years and countries like Nigeria, Algeria, Congo,

south Sudan, Tanzania, and Uganda have the maximum demand amongst all North African countries.

Once we have seen the demand of lined pipes in MENA region, we have to analyse the production capacity within the said country to understand the demand and supply on country to country basis. This will give the clear figure on the market potential to do business in these regions.

Table 3: Demand vs. Production Capacity of Selected Nations in MENA

Country	Production (tons)	Demand (tons)	Difference (Demand-production)
Iran	2655000	4373900	1718900
Qatar	0	1467000	1467000
Saudi Arabia	1670000	1248000	-422000
Turkey	3868000	1120000	-2748000
UAE	150000	769100	619100
Tanzania	70000	525000	455000
Egypt	355000	511100	156100
Oman	350000	482810	132810
Kuwait	0	330300	330300
Bahrain	0	3600	3600
Jordan	0	1500	1500

(Metal Bulletin, 2011).

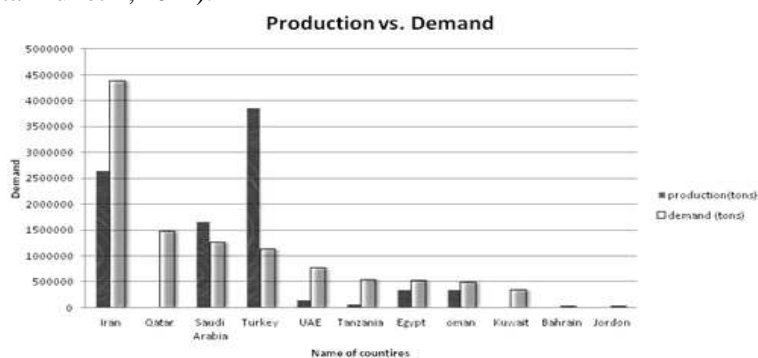


Figure 3 : Demand vs. production of selected nations in bar chart

From the above Figure 3 we can see that few countries such as Turkey (-2748000), Saudi Arabia (-422000) has high production capacity when compared with demand and hence shows negative demand, whereas countries like Iran (1718900), Tanzania (455000), Kuwait (330300), Qatar (1467000) depend on import of pipe to satisfy its huge demand. Thus, the potential for export in countries like Iran, Tanzania, Kuwait and Qatar is good.

Grouping the Countries in MENA Region on the Basis of Oil and Gas (O&G) Resource and Labour Resource

- 1) Resource-rich, labour abundant countries: - These countries are producers and exporter of oil and gas and have a very rich reserves of the same vis-à-vis large population which contribute to the labour force. This group of countries includes Algeria, Iraq, Syria and Yemen.
- 2) Resource-rich, labour-importing countries: - countries in this region are producers and exporters of oil and gas, and have abundant oil and gas reserves and have huge population of foreign resident contributing to the work force of these countries. The countries in this group consist of Gulf cooperation council (GCC) members such as Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and UAE.
- 3) Resource-poor countries: - These are small producer of oil and gas and depend on import of oil and gas from other region. These countries include Egypt, Jordan, Lebanon, Morocco, Tunisia etc.

This shows that countries which are rich in resource as well as labour such as Algeria, Iraq, Syria can start building their own capacity and produce pipe which can act as potential threat as these countries may use its resources and avail labour at low cost and reduce the total cost of production which will make these countries unattractive in future.

Whereas for those countries which is rich in resource but depend on import of labour such as Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and UAE may not be get advantage of low cost labour and the production cost may shoot up in future.

A talented pool of workers, along with abundant capital and investment, presents immense opportunity for creativity and innovation, which in turn lead to rapid gain in productivity growth and GDP for India (Nandan Nilekani, 2008).

Analysing the MENA Region on Country to Country Basis

1) Kuwait

The market is sound for business and the demand in this area is mostly for spiral pipes (HSAW) as this pipe is used even for oil and gas transportation. The estimated demand for line pipe in next five years is 330300 tons. (Refer Table 1)

2) Qatar

Qatar is indeed a very attractive market with several projects lined up in upcoming year and the added advantage is that this country does not have any local producing mill. Hence, the market is like a cake to international pipe manufacturers and there is limited preference to any other mill.

3) Saudi Arabia

Saudi Arabia is a very competitive market for market leader as it has its own production capacity to produce spiral pipe and the mill has all major approvals and accreditation to serve this region.

4) Iraq

Iraq is mainly spiral pipe market and open market to all as it does not have any local producing mill. This country mainly prefers pipe of European and American origin, with huge market potential in this region. With all its attractiveness and potential, the major problem in serving Iraq is its political uncertainty and high corruption.

5) UAE

UAE was initially Japanese dominated region when it comes to steel pipes, but now is equally competitive to all producers across the world.

6) Oman

Oman is a good market for market leader as due to its good brand name and past experience in this region. The major competitor in this area is GP which is a local mill and apart from the production capacity of GP, the market is open to all producers.

7) North Africa

The demand for pipes in North Africa put together is very high with huge demand in next five years. But the market is generally corrupt and politically unstable. The regions which Market Leader should mainly focus

are Algeria, Nigeria, Tanzania, Mozambique, Uganda and south Sudan. The market leader does not enjoy much branding in this area yet it is approved and accredited by major Exploration bodies to supply pipes in this region. But these regions have to be explored more and to get competitive edge in this region and increase its hold in this market. Countries like Syria and Yemen suffers from high political instability. There are few mills in this region such as Alfa pipes in Algeria which enjoys nearly 20% cost benefit in its country but again the production capacity is very low, the market leader also have a local producer SCC pipes in Nigeria which produces long pipe (LSAW) but due to its quality and production capacity it does not act as major threat. Apart from all above there are also few small producer in Tanzania, Mozambique, and Libya etc.

Analysis of Industry Attractiveness

The next step for market leader is to determine the attractiveness of the industry. This was carried out using Porter's Five Force Model as described below:

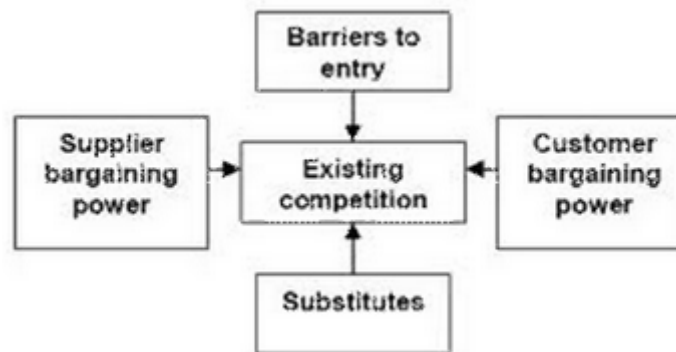


Figure 3 Porter's five force analysis of the pipe industry

1) Threat of Potential entrants (Entry barrier) - HIGH.

Capital Requirements

To enter into this sector a firm requires huge capital investment in form of installed capacity, manpower etc. Hence this is a favourable advantage for existing players in the industry.

Time Frame

Any company entering in this sector requires nearly five years bagging a project and starting operation. The company has to set up plant, get approval from government, certifications as per international standards such as API, ASTM etc which are pre-requisite to get orders.

Switching Cost

For any player in this industry, the cost of switching to other business is comparatively high due to huge installed capacity and funds that is invested. Hence this is another entry barrier that will not attract many companies to invest in this sector.

Absolute cost Advantage

Companies that already exist in this sector will always have absolute cost advantage over new entrant due to past expertise “Learning Curve” (Wikipedia, 2012) and also relationship build over past several years. This is a threat to new entrant and makes this segment look unattractive as competing with established giants.

Scale of Operation

Per unit cost of operation is very high. Hence it is highly essential for any company in this sector to have sufficient order to leverage per unit cost of operation. Hence this is another barrier for new entrant to enter this market.

2) Buyer’s Bargaining Power - MODERATE.

As the product is very vital, the focus of the buyer is more on quality and technical specification rather than the price. But at the end everyone looks for some price advantage, hence the price is also a considerable factor due to minimal product differentiation and large number of companies bidding for the project in the market. Hence any company in the industry should try to gain high technical expertise and optimise cost to cater its market at a competitive cost and sound quality. High scale integration in manufacturing process and close vendor relation can also help in attaining optimal cost of production.

3) Bargaining Power of Suppliers - LOW

Bargaining power of supplier is comparatively low as there are several players which can provide raw material across the globe. The switching power in

the industry is low and supplier concentration as high due to huge capacity of steel producers. And also the major threat to any supplier is backward integration of the producers. And lastly approximately 70% of the final product consists of raw material (steel) hence the volume can act as another factor for the bargain.

4) Competition Among the Firms - HIGH

As the product is truly global, the competition is high with large producing countries like china significantly influencing global prices through aggressive export. Line pipe does not enjoy much of branding, yet goodwill of the company does matter and there is little differentiation between the competing products.

The strategy to tackle with this threat is by continuous improvement in quality, productivity and investment in technology which will provide an avenue to compete globally on overall cost and quality leadership.

5) Threat of Substitute - LOW

As the product is very quality and technology driven, the threat of substitute is comparatively low. Potential threat can be taken into consideration, but as of today there is no complete substitute for this product.

From the above analysis, it may be concluded that the attractiveness of the LDSP industry is high as is evident by the ROIC of 13% for the players in the industry. Thus, it is strategically beneficial for market leader to actively pursue opportunities in MENA region.

Conclusion from the Porter's Five Forces Model

Since the industry has high entry barrier, moderate bargaining power of buyer, low bargaining power of supplier, high rivalry among the firm and low threat of substitute, we can say as so far the industry is attractive but since the competition is gaining pace and the product differentiation is low market leader has to retain its quality and also choose backward integration strategy in order to remain competitive in the market.

Generic Competitive Strategies

According to Michael porter there are three generic strategies that help a company to cope up with five competitive forces such

Overall Cost Leadership

This strategy suggests the Industry Leaders to co-opt with major suppliers to realise full scale integration.

Differentiation

As steel pipes manufacturer does not have a privilege to create a unique product or differentiated design of the product, the only option left with industry leader is to continuously improve the Quality and production efficiency.

Focus

“With increasing demand, there shall always be increase in supply” which we can see very well in today’s scenario as Turkey, China, Saudi Arabia etc with all its mighty demand for steel pipe is getting self-sufficiency in its domestic capacity to cater that demand.

Table 4 -Requirements and risk in general competitive strategy

Generic strategy	Common Requirements Skills and resources	Common Organizational Requirements	Risk Associated
Overall cost leadership	<ul style="list-style-type: none"> ◆ Sustained capital and access to capital. ◆ Process engineering skills. ◆ Intense supervision of labour. ◆ Product designed for ease of manufacturing. ◆ Low-cost distribution system. ◆ Strong marketing abilities 	<ul style="list-style-type: none"> ◆ Tight cost control Frequent detailed control report. ◆ Structured organization and responsibilities. ◆ Incentives base on meeting strict quantitative targets 	<ul style="list-style-type: none"> ◆ Competitors may imitate. ◆ Technology changes. ◆ Other basis of cost leadership erodes. Proximately in differentiation is lots over time. Cost focusers achieve even lower cost in segments. Hence overall cost leadership is difficult to sustain for long term

Focus.	♦Combination of the above policies directed at particular strategic target.	♦Combination of the above policies directed at particular strategic target.	♦The target segments become unattractive when structure erodes or demand disappears. ♦Broadly targeted competitor overwhelm the segment: ♦The segment difference from other segment narrows. The advantage of broad line increase. The focuser sub segment the industry.
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(Porter, 1985)

The competitive advantage of major players are high quality, high production capacity and strategic location of plants which helps in saving cost. Hence it is necessary for major players to retain the competitive advantages that it has. Therefore an analysis of strategic factors that are necessary to retain competitive strategy are summarised below in Table 5:

Table 5 : Summary of Strategic Factors Analysis

Key	Weight	Ratings	Weighted	Duration	Comment
(O) Growing GDP of developing countries resulting into energy demand.	0.20	2	0.40	Short term	Improve on capacity utilisation for better market result.
(O) Huge gas discoveries in different parts of the world.	0.10	2	0.20	Long Term	Capitalise this opportunity.
(O) Huge pipe replacement market in USA.	0.15	4	0.60	Immediate	Important for the success.
(T) Declining coverable market due to logistical reasons.	0.15	3	0.45	Short Term	Strategically set up plants to capitalise on logistical cost.
(T) Technological change	0.10	2	0.20	Long Term	Continuous up gradation.
(T) Local protection by Government of several nations.	0.20	3	0.60	Immediate	Acquire local mills to get entry and cost benefits.
(S) Continuous improvement and up gradations.	0.20	4	0.80	Long Term	Important for sustainability.
(S) Largest producer of line pipe	0.10	4	0.40	Immediate	Capitalise it.
(S) Prestigious client list.	0.15	3	0.45	Short Term	Set up agreement or joint venture to reduce risk.
(W) Dependency on import of raw material from other countries.	0.20	4	0.80	Short Term	Upgrade Remi metals and get necessary certifications.
(W) Not capitalising on Remi metals, a subsidiary of WCL.	0.15	4	0.60	immediate	Has to improve.

*source: Michael E. Porter, Competitive Advantage: Creating and sustaining superior performance, The Free Press, New York, 1985. P.40-41

Conclusion Based on Strategic Factor Analysis:-

From the table -5 we can infer that some of the short term strategy to be implemented is- to set up agreement or joint venture with the raw material suppliers to reduce risk of price volatility and Upgrade semi metals and get necessary certifications. And the long term strategy which is of high importance are- continuous up gradation and capitalising on new gas discoveries with increasing the capacity.

Findings

- ◆ Based on the study, the total demand for LDSP in the MENA region is estimated to be 19. 6 MT (Table-1) (cumulative over the year 2011-2025). The country-wise break-up of the demand is already mentioned in Table -1
- ◆ Markets of Saudi Arabia, Iran, Iraq, Qatar, UAE, are the most attractive markets in terms of demand, the details of which are given Table-1.
- ◆ The Porter's Five Force analysis indicates that the LDSP industry is attractive.
- ◆ With increasing domestic capacity over demand of countries like Saudi Arabia, Turkey the feasibility of doing business in that country is defeated which is given in table-4.
- ◆ Major threat for international pipe manufacturer is the growing domestic capacity of countries such as Turkey, Saudi Arabia which makes them self sufficient in fulfilling the domestic demand.
- ◆ The price volatility of steel is the main concern for any pipe manufacturer.
- ◆ Based on the above, it is good for WCL to increase its presence in the MENA region.
- ◆ Overall market in North Africa is untapped and we had very little exposure to many markets such as Angola, Cameroon etc. These markets require aggressive marketing, so that we become a well known brand in this market. The best way to cater these markets as of now would be by setting up few representatives on commission basis or project basis provided that agent has close contacts with Government bodies, Exploration companies and other companies which are directly or indirectly related to oil and gas sector. This initiative will keep us updated about the market and help us prepare well in advance for upcoming perils or changes. This

region is not only difficult to cater it's even difficult to gather information on it through websites or other secondary sources, and it has also been seen that few projects are sometimes found only on papers; hence it is important to have real-time information about the countries we looking to trade with.

Recommendation

- ◆ Based on the above analysis it is recommended that WCL should intensify its efforts in the MENA region, with specific strategic focus on countries such as Iraq (22%), Qatar (12%), Saudi Arabia (10%), UAE(6%), Oman(4%), Kuwait (3%), in Middle-East and countries such as Nigeria (54%), Tanzania (8%), Egypt (7%), Uganda (6%),Algeria (5%), Congo (5%) in North African market.
- ◆ As the data from the North African Countries is neither easily available nor reliable and it is recommended to set up an in-house marketing team or commission based agents in countries such as Congo, Angola, and Cameroon
- ◆ Since the price of the main raw material steel is fluctuating, it is recommended to set up MOU or joint venture with steel mills.
- ◆ Industry leader can also choose to set up MOU or joint ventures with the local mills in North Africa and Middle- east to get increased technology, access to specific markets, reduce financial, political risk and ensuring competitive advantage. And also an entry to this market.
- ◆ Industry leader should try to organise or participate in trade shows in African market which will not only help in building a good Brand name in this market but also help in understanding the market, culture, practices etc.
- ◆ Industry leader should try to increase interaction with past clients which will help in getting repeated orders, straight re-buy, modified re-buy. Interaction is key to large account management company should always try to enhance its relation with clients over the period of time. Management of Client Relationships is important to hold existing businesses, maximize the likelihood of identifying opportunities for further work and progressing them to the point of agreement.
- ◆ As it has already been said that “knowledge is strength” Industry leader should set-up dedicated and full-fledged team to do market research. The advantage of this is to keep the marketing programme smooth, develop insight of market and also find hidden opportunity in the concerned area.

- ♦ Industry leader should look for setting up co-partnership or some kind of tie-up with major supplier to source raw material at competitive price as it pays to be a loyal customer for purchasing raw material over several years.
- ♦ As price volatility of raw material is a prime concern for all pipe manufacturer, WCL can choose to enhance own in-house steel production and get all major approvals, so that it can get a competitive edge and have a unified production system. This will not only help in optimising the cost, but also provide close control over quality of production.

References

- Central Intelligence Agency. (2011). The World Factbook. Retrieved August 20, 2012, from <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2003rank.html>
- Metal Bulletin. (2011). The Five year outlook to Global OCTG Industry. Metal Bulletin Reserch.
- Nandan Nilekani. (2008). Imagining India- Ideas For The New century. New Delhi: Penguin ALLEN LANE.
- Porter, M. E. (1985). creating and sustaining superior performance,. New York: The Free Press. p.21.
- SIMDEX. (2012). SIMDEX Future Pipeline Projects Worldwide Guide . London, UK: SIMDEX.
- Srinivasan, R. (2012). Strategic Management. New Delhi: PHI.
- Srinivasan, R. (2012). Strategic management: The Indian context. Delhi: PHI.
- The Conference Board. (2012). Global Economic Outlook 2012. Retrieved August 20, 2012, from <http://www.conference-board.org/data/globaloutlook.cfm>
- The World Bank. (2012). Data and Research. Retrieved August 2012, 2012, from The World Bank: www.worldbank.org/wbsite/external/data

Welspun Corp Ltd. (2012). About Us. Retrieved July 12, 2012, from Welspun : <http://www.welspun.com>

Welspun Corp. (2012, June 22). Welspun Corp bags New Orders of Rs. 1,738 Crore,. Retrieved August 20, 2012, from Welspun Corp: http://www.welspun.com/userfiles/file/news/pressrelease/WCL_Pree%20Release_Welspun-Bags-new-orders-of-Rs-1738-crore-22june12.pdf

Wikipedia. (2012, August 20). Learning Curve. Retrieved August 21, 2012, from http://en.wikipedia.org/wiki/Learning_curve