COMPETITIVE ANALYSIS OF INDIAN HOME-TECH INDUSTRY

Asiya Chaudhary
Department of Commerce, Aligarh Muslim University, Aligarh

Abstract: *Technical textile is the term given to textile products used for industrial purposes. It gives the benefits of durability, light weight, cost effectiveness, versatility and high strength in comparison of conventional materials and hence is an integral part of our day-to-day activities. It is a growing sector and has large potential of contribution for economic growth, employment generation and increasing export which is still untapped in our country which otherwise ranks high in traditional textiles globally. The progress of different segments of technical textile industry has been slow but steadily increasing in India in the recent past.*

Out of twelve segments of technical textiles, the market for Hometech is gaining prominence and is significantly expanding as the products are being put to an ever-increasing number of end uses. Hometech Textiles have attracted considerable attention that is other than fabrics, nonwovens and composite reinforcements, lies in the field of furniture, household textiles and furnishing. This sector has got its significance in today's corporate world due to the consumer's changes in life style, process complexities, requirement of specific products, demand for comfort, security situation and well – furnished and modern homes. The Indian companies are expected to perform well in future years in order to meet consumer's demand. From the various literature reviews it is found that there is no conclusive work done about the competitive analysis of Hometech industry in India.

The researcher in this paper tries to explore in to the industry and study its competitive strength using the Michael E Porter's - 'Five Forces' Model. The five forces are:

1. *Bargaining power of suppliers;*
2. *Bargaining power of buyers*
3. *Threat to new entrants;*
4. *Threat of substitutes products or services; and*
5. *Rivalry among existing firms.*

Keywords: *Technical Textiles; Hometech Industry; Five forces Porter's model: Bargaining power of suppliers; bargaining power of buyers; Threat to new entrants; Threat of substitutes products or services; and Rivalry among existing firms.*

1. Introduction

Though the textiles Industry fulfills the physiological needs of mankind, the Technical textile fulfill the high technical and quality requirements (mechanical, thermal, electrical, durability...) giving products the ability to offer technical functions. Technical textiles are understood as textile materials and products used for technical performance and functional properties and are not only concerned to traditional or decorative characteristics. Some terms which are often used in place of technical textile are industrial textiles, functional textiles, performance textiles, engineering textiles, invisible textiles and hi-tech textiles.

Depending on the product characteristics, functional requirement and end use application, the highly diversified range technical textiles products have been divided into 12 sectors: Agrotech (Agro-textiles), Buildtech (Construction Textiles), Clothtech (Clothing Textiles), Geotech (Geo-textiles), Hometech (Domestic Textiles), Indutech (Industrial Textiles), Meditech(Medical textiles), Mobiltech (Textiles used in transport), Ecotech (Environmentally-friendly textiles), Packtech (Packaging textiles), Protech (Protective textiles), Sporttech (Sports textiles). Technical textiles have attracted considerable attention. The use of fibers, yarns and fabrics for applications other than clothing and furnishing is not a new phenomenon.

The technical textiles generating products (by combining the latest developments in advanced flexible materials with advances in process technologies) that ultimately affect all sorts of consumer textile market, including both clothing and furnishings, are HOME-TECH products. The Home textile market is recognized as an important part of the technical textile that comprises household textiles, furnishings and upholstered furniture industry, blinds, filter cloth, mosquito nets (including fiberfill and wadding applications in bedding, cushions, sleeping bags and furniture backings).

2. Hometech Industry

Home-Tech industry has been vibrant and happening place in the textile industry in the last one decade in both India and elsewhere. Considering its highly skilled and technical man power and abundant availability of raw material, India can emerge as a key player on the global fronts. In recent years, the government has

realized the significance of Hometech textiles and taken some steps for the promotion of this sector in India. The production has improved with time but still a big quantity is imported from other countries to meet the growing demand. With the improving income levels the demand for the home tech products is surely going to rise further. Domestic consumption was Rs. 4791 Cr. in 2007-08 and is expected to increase to Rs. 8420Cr. in 2012-13. Only 6% of the domestic production is exported. In addition, there are several growth drivers for Hometech products. For example, changes in life style, process complexities, requirement of specific products, quest of better productivity, security situation etc. have increased the demand of Hometech textiles. Not only on the global fronts, in India too the industry is getting stronger in order to cater the ever growing demand for the product. It has successfully gathered attention of not only industrialists and exporters but the government and the academicians too. On the contrary it lacks behind in many aspects. This necessitates the development of stronger industry in the country, not only to fulfill its local demand but also improve the exports of the sector.

Taking this as a background, it becomes necessary to asses the competitiveness of the industry so as to reveal the various prospects which are yet to be tapped in this sector. The purpose of this research is to identify the salient features which matter most for improving the efficiency and competitiveness of India's Home Tech sector, identifying policy options to improve industrial production and national export performance.

3. Previous studies

Out of various works done in this domain, few of the literatures are as follows:

D.J. Johnson, (2003) in their article “High-tech fibres for Technical textiles” throws light on the increasing use of high-tech fibres in technical textiles. Ministry of Textiles (2006) presented a paper on “Technical Textiles with focus on the use of Geo Textiles” in National advisory council (NAC). Dr. Asiya Chaudhary, (2007**)** in the paper on “Technical textiles-an evolving stage in India” has discussed the impact of post MFA period on Indian textile industry. S. Chakrabarty (2008), in his paper entitled “Indian Technical Textiles prospects” reveals that the consumption of Technical Textiles in India is insignificant but it attains the growth rate of conventional textiles. V.Parthasarthi, (2009) writes a research paper on “Application of Acrylic on Home textile” examines the application of acrylic on bedcovers. The test showed the superiority of acrylic bed covers over the cotton bed covers. Mr. Mallyah Marimuthu, 2010 , paper on “Why should Technical Textiles grow in India” analyses the reasons that will increase the growth of Technical textiles industry in India. Chaudhary, Asiya and Shahid, Nazneen (2011) in their paper “Technical Textile industry in India: Special reference to Hometech industry” tried to disclose the present position of Technical textile industry in India. Chaudhary, Asiya and Shahid, Nazneen (2012) in their paper entitled “Growing importance of Hometech Textiles in India” endeavored to find out the increasing significance of Hometech Textiles as an essential segment of Technical Textiles Industry in India. Ramachandralu[2] & Sathiyapriya Sundarasamy[3]**)** in their paper “Technical Textiles in India: The trade perspective” examined the India’s trade for Technical Textiles in the past decade i.e. from the year 2001-2002 to2009-2010.

4. Research Gap

After reviewing various literatures, it’s found that though substantial work has been done on various aspects of technical textiles but so far no study deals with the Hometech segment of the Technical textiles in India. Nor does any work reviewed above tried to examine the competitiveness of the Indian Hometech industry in global market. The present study makes an earnest attempt in the direction to bridge this gap. It is devoted entirely to the Hometech industry in India for its competitive analysis in global scenario.

5. Objectives

The objectives of the research are:

1. To explore the areas of competitive strengths and weaknesses of the Hometech in India on basis of five forces recommended by M. E. Porter;
2. To investigate in to bargaining power of the buyers and suppliers in this industry;
3. To examine the barriers to new entrants, substitutes competitors across the different category of products.

6. Hypothesis

1. H_{01} = there is no significant difference in the value of bargaining power of suppliers across the different category of products.
2. H_{01} = there is no significant difference in the value of bargaining power of buyers across the different category of products.
3. H_{01} = there is no significant difference in the value of barriers to new entrants across the different category of products.
4. H_{01} = there is no significant difference in the value of Barrier to substitutes across the different category of products.
5. H_{01} = there is no significant difference in the value of Barrier to competitors across the different category of products.

7. Research Methodology

A quantitative, descriptive approach is adopted under study. The product of the Hometech industry is classified in to different categories. The research is based on Michael E Porter's - 'Five Forces' Model. The five forces are:

1. Bargaining power of suppliers;
2. Bargaining power of buyers
3. Threat to new entrants;
4. Threat of substitutes products or services; and
5. Rivalry among existing firms.

To measure these forces primary data is collected through a well structured questionnaire. Sampling technique used is convenience sampling. There are approximately 60 Hometech producers in the country, of which 28 responded to the questionnaire. Conclusions are drawn on the basis of these responses by using appropriate statistical tools.

8. Statistical tool, technique, data analysis

To prove the hypothesis and analyze the data collected from various sources, simple average mean, percentage, standard deviation, and Paired sample T-test has been applied in this study. To measure these forces likert scale test is applied. The data has been analyzed with the help of Statistical Package for the Social Sciences (SPSS).

9. Results and discussion

Hypotheses are based on porter's five forces model to determine the competitiveness of the Hometech Industry.

1. H_{01} = there is no significant difference in the value of bargaining power of suppliers across the different category of products.
   In order to determine the variation in the responses of manufacturers across the different category of products on bargaining power of suppliers One Way ANOVA is used.

It has been observed that the manufacturers of doors and windows obtained the highest mean value on bargaining power of the suppliers. However, those units manufacturing the toys and fillings stand at the minimum mean value of the bargaining power.

The results of ANOVA shows F= 3.238 and Sig. = .038, which is less than .05 (95% level of significance). This indicates that there exists a significant difference in the value of bargaining power of the suppliers across the different category of products.

Therefore hypothesis H_{01}stands rejected and the alternative hypothesis H_{01a} is accepted.

2. H_{01} = there is no significant difference in the value of bargaining power of buyers across the different category of products.

The result of the test shows the mean value obtained on bargaining power of the buyers across the different category of products manufactured by the Hometech manufacturers.

The statistics shows that the manufacturers of toys and fillings obtained the highest mean value on bargaining power of the buyers. However, those units manufacturing the floor coverings stand at the minimum mean value of the bargaining power of the buyers.

The results of ANOVA shows F= .692 and Sig. = .608, which is more than .05 (95% level of significance). This indicates that there exists no significant difference in the value of bargaining power of the buyers across the different category of products.

Therefore hypothesis H_{01}stands accepted and the alternative hypothesis H_{01a} is rejected.

3. H_{01} = there is no significant difference in the value of barriers to new entrants across the different category of products.

The statistics shows that the manufacturers of floor coverings and toys and fillings obtained the highest mean value on the barriers to new entrants across the different category of products. However, those units manufacturing the, bedding fabrics stand at the minimum mean value.

The results of ANOVA shows F= .488 and Sig. = .744, which is more than .05 (95% level of significance). This indicates that there exists no significant difference in the value of Barrier to new entrants across the different category of products.

Therefore hypothesis H_{01}stands accepted and the alternative hypothesis H_{01a} is rejected.

4. H_{01} = there is no significant difference in the value of Barrier to substitutes across the different category of products.

The statistics shows that the manufacturers of toys and fillings obtained the highest mean value on barriers to substitutes. However, those units manufacturing bedding fabrics stand at the minimum mean value of the bargaining power.

The results of ANOVA shows F= 2.616 and Sig. = .072, which is more than .05 (95% level of significance). This indicates that there exists no significant difference in the value of Barrier to substitutes across the different category of products.

Therefore hypothesis H_{01}stands accepted and the alternative hypothesis H_{01a} is rejected.

5. H_{01} = there is no significant difference in the value of Barrier to competitors across the different category of products.

The statistics shows that the manufacturers of any other items apart from mentioned above obtained the highest mean value on barrier to competitors. However, those units manufacturing the floor coverings and bedding fabrics stand at the minimum mean value on barrier to competitors.

The results of ANOVA shows F= 1.101 and Sig. = .388, which is less than .05 (95% level of significance). This indicates that there is a significant influence of the different category of products on the barrier to competitors.

Therefore hypothesis H_{01}stands rejected and the alternative hypothesis H_{01a} is accepted.

10. Conclusion

In the light of the analysis and findings, following conclusions may be drawn:

1. The result of the first hypothesis shows that the manufacturers of doors and windows are exposed to strong bargaining powers of the suppliers. This may be due to the reasons that: The raw material taken from the supplier is expensive and not easily available; there may be the chances that the options in

terms of suppliers is restricted to manufacturers; suppliers may be few in number providing raw material for doors and windows, a sort of oligopoly situation in the market; and may be the raw material taken from the supplier is imported from other nations. These could be the reasons why suppliers are in commanding position and try to control or bargain the terms and conditions for the supply of raw material.

In contrast to this the suppliers to the units producing stuff toys and fillings are less strong in terms of bargaining power. The reasons are large quantity of suppliers, easy availability of raw material, easy production of raw material, raw material available in the local market.

Statistical test also give us an idea that the bargaining powers of the suppliers is significantly influenced by the nature of raw material supplied or the type of products manufactured. This can be concluded on the basis that responses vary across the different category of products of the Hometech industry.

2. From the statistical results conclusion may be drawn for second hypothesis that the producers of stuff toys and fillings are exposed to strong bargaining powers of the buyers. The reasons could be that the buyers' concentration is stronger than the firms'; limited number of buyers with huge volumes of purchases; substitute products easily available; large numbers of sellers of these products; etc., In comparison the buyers of Hometech material for doors, windows, beddings, fabrics and others have less strong bargaining powers.

   In contrast to this the buyers of Hometech material for floors have lowest bargaining. This is because of the reasons that they are least concentrated, large in numbers with small quantity purchases or lesser number of sellers of floor coverings.

   It may be observed that the there is a little difference in the mean values between the bargaining powers of the buyers across the different products of the Hometech industry. Further, statistical test also give us an idea that the bargaining power of the buyers is not significantly influenced by the type of products manufactured in the industry.

3. The results of the third hypothesis reflect that firms producing floor coverings, stuff toys and filling material pose strongest barrier to new entrants across the different category of products. Others have a comparatively less strong barrier to entry but the variation is not too large. The reasons responsible for this may be huge capital requirement, lesser access to necessary inputs and technology, lacking the required economies of scale, existing proprietary product differences, switching costs, poor proprietary learning curve, anticipated retaliation and unsupportive government policies.

   The results also indicate that the different category of products have no significant influence on the barrier to new entrants in the industry. It may be concluded that all sectors of the industry impose almost equal barrier on the new entrants.

4. The result of the analysis fourth hypothesis shows that the manufacturers of toys and filling material impose strongest barrier to substitutes. Whereas, the sector- 'bed and fabric' material impose minimum barrier to substitutes. The reasons could be the relative value /price of a substitute compared to the different category of products of the industry, the cost of switching to the substitutes and the buyers propensity to switch.

   Further the results also prove that though there is difference to the level of barriers across the different category of products but there is no significant influence of this different category of products on the barriers to substitutes.

5. Lastly, the analytical results of the fifth hypothesis prove that there is intense rivalry between different product segments in the industry. There is a significant influence of the different category of products on the barriers to competitors. The segment taken as 'any other' category poses strongest barrier in contrast to the floor and bed & fabrics.

   Apart from these findings, qualitative analysis was also done on the basis of discussions done with various people associated with the industry. It could be drawn that the industry in India is still at a nascent stage. It faces various problems like: The primary reason for low consumption of Hometech

Textiles in India is lack of awareness about the application of Hometech textiles and its benefits for the end product and user. This leads to lack of demand for the product.

Many products required as raw material for this industry are imported from the foreign countries (i.e., knitted fabric, fur fabric, filter fabric for vacuum cleaner, woven fabric etc.). This results in high cost of production and in turn costly products.

The industry is technical in nature. It requires technology of latest quality. India lacks behind due to various causes like lack of capital, research and development, etc. It is a high-tech segment and very skilled workforce is required for manufacturing Hometech products, which is scarcely available in India. Professional training is required to develop an efficient man force for the industry.

Though, there are number of IITS/Textiles Institutes and eight Centers of Excellences (COEs) present in India but unfortunately, there is no single center of excellence for Hometech Textiles in India.

It can be concluded that a technical textile is one of the emerging areas with huge potential in the textile field all over the world in general and India in particular. Of all the segments Hometech is among fastest developing industry. The country has great potential but there are various shortcomings existing to be done away with. The competitiveness of the industry must be strengthened not only for economic growth, employment generation and increasing exports like many other sectors, but also in the larger public interest, in terms of public safety, security, hygiene, protection of environment, quality infrastructure and an overall better world and a better life. There are certain regulatory areas where government intervention is required. For example setting up of Center of Excellence for Hometech segment, more investment on technology up gradation, training of workers, R& D facilities, etc.

References

[1] Nemoz, G. (2001, 7 Nov). Applications and markets of Technical Textiles**:** Actual situation and trends**.** Institute of Francis du Textile-Habillement. Retrieved April 11, 2010, fromhttp://www.inexmoda.org.co/portals/35/documentacion/sesion_grupo_asociativoen_funcionalidad/aplicaciones_y_mercados_de_los_textiles_tecnicos.pdf
[2] Narendranath, K.G. (1999, June 7, Monday). Research associations asked to submit reports. Indian Express.
[3] Northern India Textile Research Organization**.** (n.d.). NITRA Profile. Retrieved December 13, 2011, from http://www.nitratextile.org./nitra-profile.php.
[4] Obeetee Textiles Pvt. Ltd. (n.d.). Retrieved October 4, 2010, from http://obeeteetextiles.com/index.php?option=com_content&view=article&id=47&Itemid=28.Para 4. Line 1.
[5] Office of the Textile commissioner. (2009, March). Baseline survey of the Technical textile industry in India - Final Report. Supported by ICRA Management consulting services (IMaCS). New Delhi, Ministry of Textiles, Government of India. pp.4, 49, 76, 49, 654, 655, 659 and 664.
[6] Office of the Textile Commissioner. (n.d.). Agriculture, horticulture and fishing. Office of the Textile Commissioner, Government of India. Retrieved July 12, 2012, from http://www.technicaltextile.gov.in/indexd708.html?id=2
[7] Office of the Textile Commissioner. (n.d.). Hometech (Home Textile). Office of the Textile Commissioner, Government of India. Retrieved Jan 2, 2012, from http://www.technicaltextile.gov.in/index8803.html?id=7
[8] David Rigby Associates. (2010). Technical Textiles and Non wovens: World market forecasts to 2010. Retrieved February 4, 2012, from http://www.fibre2fashion.com/industry-article/pdffiles/Technical-Textiles-and-Nonwovens.pdf. p. 6 - 12.
[9] Alexander, M. (2010, march 6). Home Textiles- Recent developments. Retrieved December 11, 2012, from http://www.fibre2fashion.com/industry-article/25/2425/home-textiles-recent-developments1.asp
[10] Home Textiles (n.d.).In Indian Technical Textile Association. Retrieved September 2, 2013, from http://www.ittaindia.org/discover_technical_textiles.php?ID=21
[11] Ministry of Textiles.(2006). Report of the working group on Textiles & Jute industry for the Eleventh Five year plan (2007-12). New Delhi: Ministry of Textiles, Government of India. p. cxvi
[12] Ministry of Textiles.(2011). Report of the working group on Textiles & Jute industry for twelfth five year plan (2012-17), Chapter 16.Government of India. New Delhi: Ministry of Textiles, Government of India. p. 265.
[13] Production. (n.d.).In Wikipedia, the free encyclopedia online. Retrieved November 28, 2012, from http://en.wikipedia.org/wiki/Production_(economics).

[14] Sage Publication. (n.d.).Introduction to Hypothesis Testing (chapter 8). Retrieved August 7, 2013, from http://www.sagepub.com/upm-data/40007_Chapter8.pdf. pp. 3-7.
[15] Chaudhary A. and Shahid. N. (2013, March).Upcoming Opportunities for the Hometech Textiles Industry in India.Fibre2fashion (online journal).Saturday, March 16, 2013. p. 10.
[16] Joshi, R.M. (2009). International Business, Oxford University Press, New Delhi and New York. ISBN 0-19-568909-7. Retrieved September 5, 2012, from http://en.wikipedia.org/wiki/Import
[17] Kothari, C.R. (2004). Research Methodology Methods and Techniques. Second Revised Edition. New Age International (P) Limited Publishers. New Delhi. p. 3 and 184.
[18] National Council of Applied Economic Research. (2009, July). Assessing the Prospects for India's Textile and Clothing Sector. Retrieved July 6, 2011, from http://texmin.nic.in/reports/Report_NCAER_CITI_nmcc_20091001.pdf. pp. 174-177.
[19] Office of the Textile commissioner. (2009, March). Baseline survey of the Technical textile industry in India - Final Report. ICRA Management consulting services (IMaCS). New Delhi: Ministry of Textiles, Government of India. pp. 766-767.

11. Corresponding address

Dr Asiya Chaudhary
Assistant Professor,
Department of Commerce,
Aligarh Muslim University, Aligarh, India.