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Review on National Competitive Advantage for Marketing Potentials for Off-The Road (OTR) Tyre Industry in Sri Lanka

K. A. C. Vidyaratne
Doctoral Student, University of Kelaniya
md@vanadiumlanka.com

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ABSTRACT

Among countless number of products manufactured around the world certain countries have developed highly competitive positions in the global market for certain products. This case study looks into the national competitive advantage of nations through the Porters diamond model and investigates how countries could develop leading position in a product facing the fierce global competition. Sri Lanka being the world's largest solid tyre manufacturer, the country has great potential to develop in the much larger off the road tyre segment. A country being situated in a region where an industry cluster is strong has proven to give the country higher potential success in the particular industry. Further Asia's newly industrialized countries starting from similar positions to Sri Lanka held competitive positions in the apparel industry. However, the economic development shifted their national competitive advantage to other more industrialized sectors including the tyre industry. Sri Lanka as a country featured with national advantages in rubber sector should look into shifting our national competitive advantage to other industries where tyre industry is a highly potential candidate. The review on the said content has been presented in this paper followed by a literature-based discussion as the main research instrument. Paper discusses the main concepts and related justifications on national competitive advantages by referring to accepted models and empirical review. It has concluded the main points whilst encouraging future research works to examine the ways and means to expand the marketing potential of Sri Lankan rubber industry.

Keywords: *National Competitive Advantage, Rubber Industry, Sri Lanka*

1. INTRODUCTION

Countless number of goods and services are manufactured around the world for our consumption. Nations around the world has built up immense reputation for certain products they manufacture. Swiss chocolates, New Zealand milk and German cars will come into anyone's mind right away. No country in the world can produce all the products nor a product can be manufactured in every country (Porter, 1990). However certain countries have built up very competitive positions in the world market for certain products even without being so famous. According to Reuters, Taiwan manufacture over 60% of worlds semiconductor demand and 90% of the chips used in military applications in the world. European Institute for Asian Studies (EIAS) in August 2021 estimated 75% of the worlds semiconductor industry is concentrated in east Asia. Global electronics industry massively depends on Taiwan and the East Asia.

It is common knowledge that a manufacturing of certain products would take off in a certain area, a country or a region depending on the best availability and offering of factors of production. This conventional wisdom was investigated by many scholars and dived deep into in very specific knowledge areas. Professor Michael Porter in 1990 with his publication "National Competitive Advantage" came up with a distinct perspective on why certain nations becomes very good in certain industries while others simply can't follow. Industrial competitiveness determines the status of a country in today's highly globalised environment. Being the most popular competitiveness theory explaining competitive advantage of countries and firms, Porters diamond model has been extensively studied discussed and criticised by scholars around the world (Zhang & London, 2013). Policy makers, economists, politicians alike have taken advantage of this knowledge, designing and analysing macroeconomic policies.

Knowledge in national competitive advantage is important to businesses and investors equally. Although firms and nations are two different agents Porter showed there are important linkages between these two. Firms develop their competitive strategies within frameworks provided by nations or regions (Sölvell, 2015). Good understanding in this subject area will ensure the correct investments are done in the right countries or regions which will provide the best advantages to harness the intended products. For already established industries it will provide good understanding of developments and changes required to sustain the industry. This understanding is further important in expanding into international markets, when doing business in international markets and in building and operating multinationals.

1.1. Purpose of the Study

Sri Lanka is the world's largest industrial solid tyre manufacturer. Solid tyres are a specialise sub segment of the much larger off the road tyre segment (OTR). Sri Lanka has high potential to achieve rapid growth in the OTR tyre segment with the reputation and acceptance it has gain in the world market as a manufacturing hub for solid tyres. This paper emphasises the national and regional advantageous position and discuss why firms should capitalise on this opportunity. Further the apparel industry being Sri Lankas largest merchandise export, this paper compares experiences from newly industrialise south east Asian economies and the impact of their economic development had on the national competitive advantage of their apparel industry. Finally, this paper investigates why the OTR tyre industry could sustain the national competitive advantage, which Sri Lanka may develop over the apparel industry as Sri Lanka will grow into a more industrialised developed economy.

2. METHODOLOGY

This research adopted a deductive approach to review theories, concepts, literature and to investigate industry practices. This concept paper was developed as a mixed strategy synopsis format of literature review and case review. Taking Porter's diamond model as the theoretical background, the off the road tyre industry and apparels industry has been investigated in several context. Secondary industry data sources have been used to evaluate the potential of the OTR tyre industry and to make conclusionary remarks.

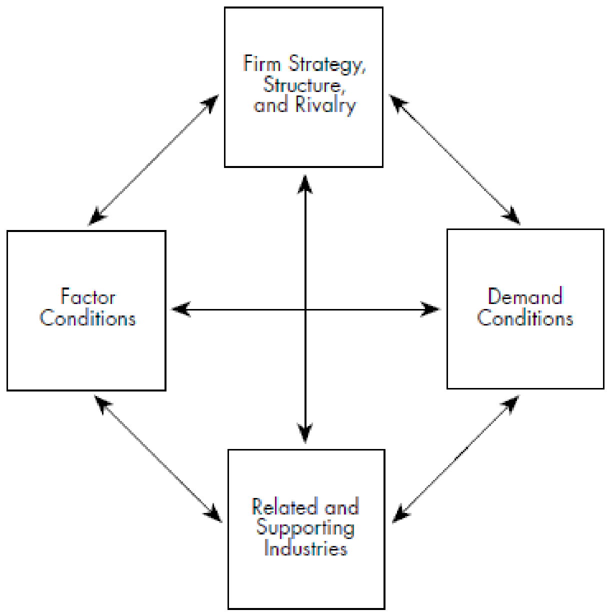
3. EMPIRICAL REVIEW

3.1. National Competitive Advantage

Many scholars in the past have discussed about the concentration of industries and the advantages it creates for business development. Considered as one for the earliest works in spatial economics, Von thunen (1826) introduced a conceptual model of the relationship between production, markets and transport. Marshall (1890) with his reference to "industrial districts" theorised economic agglomeration and industrial localisation. He highlighted inputs, labour market pooling and knowledge spill overs as drivers of industrial agglomeration. Weber (1909) identified three fundamental location forces for business as transport cost, labour cost and agglomeration of economies. Christaller's (1933) theory of central places use economies of scale in retailing and distribution to generate hierarchy of city size. Expanding Christaller's approach, Lösch's (1954) came up with system of central places explaining how specialised places are richer than others (Brosnan et al., 2016).

Fast forwarding to the eighties' Professor Michael Porter's highly influencing works, competitive strategy (1980) and competitive advantage (1985) widened the academic understanding and critical business thinking. The concept of competitiveness in businesses has modelled the way of modern business thinking and how we perceive business opportunities. Broadening his area of focus Porter in 1990 published the "competitive advantage of nations". With his research on various economies and industries Porter identifies why some nations do better in an industry when others simply can't follow. Introducing four attributes required to create a nation's competitive advantage, he developed the famous "Porter's diamond" model. Porter's diamond model helps us to identify a nations competitive position in world trade (Afzal et al., 2019). The attributes of the diamond contribute individually and together as a system to create national competitive advantage in the international markets.

Figure 1: Determinants of National Competitive Advantage



Source: (Porter, 1990)

Factor conditions in the model refers to factors of production such as Land Labour and capital. However, Porter argues having mere and abundant resources are not enough, rather an economy need a more specialise and industry specific resources. Having a highly educated labour force will not be sufficient, rather to have a skilled labour force required for certain industry will provide for the necessary factor conditions. Being scares in resources a nation may tend to innovate more, where innovation is the key to achieve national competitive advantage.

Demand conditions refers to the character of home country demand. This is important when the domestic market and local buyers are more specific about their needs and visible compared to international markets. Higher the sophistication and demanding nature of the buyers, better the national advantage in the international markets it creates.

Having a home based related and supporting industries will give a country and edge over its competitors. Such a base will create cost and logistic advantages as well as create more opportunities promote innovation and R&D in the related and supporting industry. it will support and an industry not with just better tangible supplies but will assist and react fast for innovative needs of an industry.

Firm strategy, structure and rivalry the fourth determinant in the diamond is how companies are created, organised managed and the rivalry among them. Style of management differs from country to country. The industry and management style should sync to have the best performance. People's perception on things varies from country to country. Their interest of skills they acquire varies on their society. How businesses compete with each other differs country to country, region to region. These factors matter in building the national advantage and where industries may gain the best international advantage.

The capacity of nations industries to innovate and upgrade will determine the competitiveness of a nation. Porter's idea on national competitive advantage was highly debated and criticised over the years. Many scholars argued the model is incomplete. The model was further extended by Moon, Rugman & Verbeke in 1995 to double diamond model by adding the determinants of chance and government. They went on to argue that several nations can contribute to a nations competitive advantage expanding over a region of many countries. There for a country needs to incorporate international activities which may occur within or outside the country to expand the national competitiveness (Moon et al., 1995). Further work by other scholars have demonstrated the benefit in national level and industry level solution finding for global market share in industry upgrading and resilience for economic crisis (Hanafi et al., 2017).

It is always not required to fulfil all determinants of the Porter's diamond to gain national competitive advantage. One optimum determinant will reinforce the other determinants. Internationalisation should be the initial focus. When larger markets are acquired the determinants of the diamond will self-reinforce (Jin & Moon, 2006). Increasing the firm size by expanding business internationally (Dvouletý & Blažková, 2021) and broadening the industry (J. Contractor, 2013) is also said to improve the national competitive advantage. The application of Porter's theory of national competitive advantage and further developments by other scholars will provide a fine picture of an industries competitive advantage.

4. Case review & Discussion

4.1. Off the road tyre (OTR) market

Tyres in general can be divided into two categories, Highway tyres and off the high way tyres (also known as off the road tyres (OTR) or industrial tyres). Highway tyres consist of all vehicle tyres which run on the roads. Off the road tyres consist of all industrial vehicle tyres including agriculture, construction & mining, forestry and material handling operations. According to industry data published by "Smithers" The world tyre market (sales) in 2021 was USD. 264 billion and predicted to reach pre Covid levels in 2022. Global OTR tyre market was USD. 24.8 billion in 2017, which was around 10% of the total global tyre market. Global tyre market is estimated to reach USD. 325 billion amounting to 2.8 billion tyres by 2026. The OTR tyre segment is predicted to reach 32.5 billion by 2026.

According to Export development Board, Sri Lankas export earning stood at USD. 11.12 by November 2021 and was predicted to surpass USD 12 billion for the year 2021. During the period rubber products sector contributed to this income with USD. 1.05 billion, whereas the total tyre exports were USD. 0.6 billion. Out of Sri Lankan tyre exports 60% are generated from industrial solid tyre which is a specialised sub category of off the road tyres. Out of the balance 40% vast majority consist of OTR tyres. There for Sri Lanka's tyre exports mostly consist of off the road tyres (OTR).

Solid tyres have no air inside and fully consist of rubber compounds. These specific designs are to bare very heavy loads in slow speed industrial applications. It is estimated Sri Lanka is catering 30% of the worlds solid tyre market (EDB,2021), leading other major manufactures such as China, India, Thailand and Korea. World's leading brands, Michelin, Continental & Trelleborg operate their solid tyre plants in Sri Lanka. Many other multinational companies and number of local companies also operate solid tyre plants in Sri Lanka. There are three companies producing off the road pneumatic (air filled) tyres specifically for exports, producing for market segments such as construction, agriculture, forestry and material handling. Two of these manufactures Micheline and Trelleborg are world leading multinationals whereas GRI is wholly Sri Lankan company. Another notable fact is, no major multinational tyre brand manufactures industrial solid tyres in India and major multinational brands source tyres from Chinese manufacturers rather than operating their own solid tyre plants in China. Nonetheless, both China and India are world leading manufactures for all other types of OTR tyres.

4.2. Porter's Diamond and The Future Prospects for OTR Tyre Industry in Sri Lanka

Applying the porters diamond to the Sri Lankan OTR tyre industry will give us good understanding of how the industry has grown to its current state and the needful actions to further strengthen the national advantage. One can argue the OTR industry has come so far since the country was able to fulfil the determinants of the porter's diamond. Location specific assets of emerging market companies expanding in global scale includes the mindset of the top management, home country cultural traits, extensive pool of technical talent and use of common language (J. Contractor, 2013). Firms operating in the OTR sector has consistently grown over the years. The top management of these organisations has not just increased the production and expanded the international markets, they have lifted the standards of the industry in all aspects. Tyre companies in Sri Lanka has developed unique work cultures and practises to fulfil their operational needs. With years of industry experience Sri Lanka is equipped with a rich pool of technical and process knowledge and a skilful workforce.

"Companies achieve competitive advantage through innovation. Companies innovate through new technologies or doing things in new ways." (Porter, 1990). Although the process is lengthier and broader in OTR tyre manufacturing when compared with solid tyre manufacturing, the skills and techniques required are more or less the same. From production to maintenance, product development to administration it is just expanding the same skills and knowledge. With years of experience in the industry, the factor conditions specialising in industry specific requirements are the launching pad for the further expansion into the OTR industry.

When targeting for competitiveness it is important to identify the nature and the essence of the business. Firms doing business in a wider area are more competitive (Arai, 2021). Broadening the product basket into OTR tyres will improve the national competitive advantage. Smaller economies like Sri Lanka should expand to international markets for an industry to grow rapidly. No country can reach and sustain a high position in the world market unless that country have made continuous innovation in their products and processes. The similarities of the industry should be managed and innovative ideas should be generated for the industry to flourish. Industry expertise and knowledge availability are the key points that the country could capitalise to broaden the area of operation in OTR tyres.

Competitive advantage achieved by a company can only be sustained by persistent improvement (Porter, 1990). Having the roots in 1970's Sri Lankan industrial tyre manufacturing started with "Solid Resilient" tyre. The industry moved on to products such as "Press On Band" tyres and "Mould On" tyres. Later the industry evolved to the larger industrial pneumatic tyre segments. The most recent development has been assemblies of tyres, wheels and other components for direct fit on to machinery and equipment. Hence, for the past few decades the Sri Lankan industrial tyre sector was able to differentiate the product offering and find innovative processes to succeed in the global tyre market.

Like many other industries in Sri Lanka, solid tyre industry was also commenced by European companies for the demand they had in their home countries. As porter stated, "innovators are often outside the industry or a different country", Sri Lankas solid tyre industry was initiated by multinationals. From the very beginning the customer base was not local. Solid tyres produce in Sri Lanka earn the reputation to be better performing, higher quality and better cost. This has created a national brand value for Sri Lankan solid tyres around the world. Rather than starting in a less demanding market like Sri Lanka, the industry taking off to fulfil the needs of very demanding consumers in western Europe established the industry to be recognised the tyres for product and quality. The existing worldwide market and the reputation the country has earned can be capitalised by companies to achieve rapid international growth in the OTR segments of material handling, construction, agriculture and mining.

Related and supportive industry in Sri Lanka is very limited compared to the mere size of existing and potential OTR industry. However, Sri Lanka is located within a region where the related and supportive industry is strong. For smaller economies it is important to cooperate with partner economies to strengthen their positions of competitiveness as a cluster of countries. To improve the present development state and overcome the weak areas, It is essential to assess the strength and weaknesses of the country (Cho et al., 2016). Located in a region of the world where rubber and tyre industry are strong, Sri Lanka is able to harness the locational advantage in the supply side to advance into the OTR tyre industry. Locally produced natural rubber is not enough nowadays at all and being imported from neighbouring countries. India, China, Indonesia & Malaysia are regional countries who produce other required raw materials for the industry. Being close to India, China and Taiwan new machinery and technology is easily accessible.

All the local manufactures operate in international markets. These companies have developed their own brands and brand identity is very important in the tyre business. Emerging market multinational have to learn how to punch above their weight as they have to fight with more richer, knowledgeful, brand reputed nations with better backgrounds in internationalization (J. Contractor, 2013). Having number of world leading brands already operating in the country the rivalry to perform better than the competition is high. One Sri Lankan solid tyre brand has taken up the initiative to manufacture their brand of OTR tyres in an east Asian country as contract manufacturing and distributes to their customers in the western hemisphere. This is an example of how a company from an emerging market can increase their grip on the market competing with the larger multinational. Further it proves the potential of the industry to expand in to OTR tyres as the next growth phase.

India is home to one of the world's largest tyre manufacturing hubs. Most world leading brands operate in India and also a very strong pool of Indian manufacturers are competing neck to neck with international brands. Takeover of the Dutch manufacturer "Verdestein" by "Apollo tyres" India is one good example of the increasing dominance of the Indian tyre manufacturers. Many manufacturers operating in India is preforming well in the OTR segment as well. BKT is among top 30 manufacturers of the world, is one of two companies to make the top 30 list being a producer of only OTR tyres (Tyre press, 2021). Neighbouring countries possess similar competitive advantages. A country has a 65% probability to be successful in an export product if the neighbouring country is a successful exporter of the same product. (Bahar et al., 2014). Being closer to India where the OTR industry is very strong Sri Lanka has very good opportunity to become successful in OTR tyres. If we consider the south and southeast Asian region, the regional tyre industry cluster is apparent. Porter (1998-200) said the economic forces were not generic or distributed evenly across nations but "clustered" within particular regions. Scholar went on to prove the cluster expand beyond national boundaries to consist of regional countries. They indicated the importance of dynamic clusters and healthy rivalry, as the centre point how firms build and sustain competitive advantages in the global market (Sölvell, 2015). The strategic position of Sri Lanka in a region of the world where the rubber industry is strong and a clear cluster of the tyre industry is located, it gives a definite advantage for Sri Lanka in the OTR tyre industry.

4.3. Sustaining National Competitive Advantage with Economic Growth, Comparing Apparels and OTR Industry

Sri Lanka’s major merchandise export is apparels. In 2021 apparel sector contributed for 36% of exports while generating a revenue of USD 5.5 billion. Many Asian economies which started their modern-day market economies in a similar stage to that of Sri Lanka and now progressed into industrialised developed economise, gain their initial economic leverage, especially in export sector through the garments industry. Studies have carried out to investigate the national competitive advantage such countries had during the take off in apparel industry and the impact the industry confronted once they became mid and high earning economies (Wegapitiya & Dissanayake, 2018). Analysing these studies will give us a prediction of the changes to expect in the national competitive advantage of Sri Lanka’s apparel sector parallel to the anticipated social development.

Asian countries such as Hong Kong, South Korea, Taiwan who held leading positions in apparel exports lost their competitiveness due to the increased labour cost (Jin, 2004). However, manufacturers in these countries with their expert knowledge and business contacts went in to global sourcing and continued to supply their clients. Jin, 2004, explained industry specific advantages (integrated system, brand, agility) and Asia’s newly industrialise countries advantages (triangle manufacturing, sourcing networks) synthesised into new competitive advantage (global brand, global sourcing, agility) for the apparel industry in those countries. With such innovations Asia’s newly industrial countries were able to maintain part of their share in the global apparel market. Nevertheless, the manufacturing advantage has shifted from these countries to economise with lesser labour cost.

Countries with lower labour cost compete with lower value assembly segments in the apparels industry. Growing in labour cost countries will have to shift to higher value segment with brand and value. Such transition will require a more skilled work force (Samarasinghe et al., 2015). Thailand being a mid-income economy, Thai government has given importance to improving marketing activities and improving entrepreneurial knowledge. The apparel cluster programme of the Thai government have assist to control production costs, improve productivity and promote innovation (Watchravesringkan et al., 2010). As innovation is key to sustain national advantage the apparel industry in general is yet to find a cost-effective model to tackle the production process when standard of living improves. It is very much apparent the industries inability to be automated is leading to the dilemma.

Growing up in economic prosperity east Asian countries have gain higher international position. Looking at the industry statistics for tyre brands and manufacturing capacity in these countries, one can argue that while the early stages of economic development was supported by light and labour heavy industries such as garments, a better choice in a much-developed state could be mechanised industries similar to tyre industry. Korea and Taiwan have sustained their growth in the tyre industry over the years and has now reached a demanding position in the world tyre market. According to the global ranking report released by “Tyre Press” 2021 out of the 30 leading tyre companies in the world three are from Korea, four are from Taiwan. There for with the national competitive advantage Sri Lanka poses at the moment within the OTR tyre industry, firms should be exploited the opportunities and target long term national competitive advantage.

5. CONCLUSION

In the years to come with the potential socio-economic growth Sri Lanka may have, it will be difficult for the apparel sector to sustain its competitiveness. Learning from the southeast Asian experience OTR tyre industry have greater potential and possibility to sustain its competitive position with the socio-economic growth the country may achieve. Application of the Porter's diamond has confirmed the factors behind the national competitive advantage of the Sri Lankan solid tyre industry. Further exploration shows the high potential the OTR tyre industry possess with the regional advantage Sri Lanka has. The findings of this paper is useful to policy makers, firms and investors alike. These findings can be used to set a new growth path to Sri Lanka. Further the firms and investors can realise these findings useful while looking for future business avenues. Further research into the OTR industry and the nations who built leading positions will help Sri Lankan firms and investors to set their paths more successfully. Researching in other industries could give a scientific snapshot of the competitive advantage Sri Lanka holds and the ways to sustain growth in those industries as well.

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