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**Performance of the Sri Lankan Value-Added Tea Producers: An  
Integration of Resource and Strategy Perspectives**

A thesis presented in partial fulfilment of the requirements for the degree of

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## Abstract

This research examined the status of sources of competitive advantage and their influence on the performance of value-added tea producers in Sri Lanka using the strategy and resource perspectives of the competitive advantage paradigm. It aimed to extend the literature on competitive advantage by examining whether these perspectives influence firm performance within an agribusiness sector of a developing country.

Both strategy and resource perspectives and the relationship between them were considered in the analytical framework. Primary data came from 40 of the 47 value-added tea producing firms registered at the Ceylon Chamber of Commerce in 1999. Initial assessment of firm characteristics revealed high heterogeneity among the firms in experience, involvement with businesses other than tea, market focus, managerial talent, involvement in the overall tea industry and branding.

Multi-method, multivariate statistical techniques were performed based on the value-added tea industry segment-specific sources of competitive advantage. Core resources based on the dimensions scale, skill, brand equity, managerial talent, experience effects and backward integration, and core strategies based on the dimensions production, marketing, promotion, product development, quality and competitive strategies were selected. Initial factor analyses revealed four distinctive resource and six distinctive strategy patterns. Strategic groups formed based on both these patterns showed that Ward's method outperformed both average linkage and centroid methods. Three groups were identified: *private labelling oriented* (strategic group one), *niche market oriented* (strategic group two) and *mass market oriented* (strategic group three) based on the nature of the firms comprising the groups.

Discriminant analysis showed that the three strategic groups differ significantly in their resource and strategy patterns, with the third group being the strongest with respect to both. Kruskal-Wallis one-way analysis of variance and chi-square procedures indicated that this group was associated with strong mobility barriers and the greatest performance differences. No performance differences were apparent between the first and the second groups. The significant differences across these three strategic groups in

terms of both resource — and strategy-based sources of competitive advantage — demonstrated the importance of incorporating a mix of variables in strategic group formation.

Although canonical analysis revealed a significant relationship between strategy and resource patterns, resource patterns explained only 21 per cent of the variance of the strategy patterns. The analysis indicated that the Sri Lankan value-added tea producing firms' choice of, and ability to perform, a particular strategy are weakly associated with their core resource strength. Factor analysis regressions indicated that both resource and strategy perspectives contribute to explaining firm performance. However, the explanatory power of the model based on the strategy perspective was shown to be weaker than that of the models based on the resource and integrated resource and strategy perspectives. The integrated model based on resource and strategy perspectives outperformed the other models.

Resource-based sources of competitive advantage — skill, managerial experience, size of firm, brand awareness and backward integration — showed a positive influence on firm performance. Of the strategy-based sources of competitive advantage — tea imports, outward foreign direct investments, high perceived competitive advantage, proportion of tea exports, adoption of the Lion logo and the use of trade fairs — showed a positive influence on firm performance. Although prior research and theory have emphasised brand marketing, advertising and product development strategies in creating a unique position and meeting competitive challenges, none explained firm performance.

Derived regressions of the three strategic groups revealed that resource patterns have more consistent relationships with firm performance across the groups than do strategy patterns. The level of influence of resource and strategy patterns on firm performance of these three strategic groups was shown to be different. These revealed that any assistance programmes that aims at developing sources of competitive advantage and enhancing firm performance should be created by considering strategic group differences.

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## Glossary

|        |  |
|--------|--|
| ANOVA  | Analysis of variance                               |
| ASEAN  | Association of South East Asian Nations            |
| CIS    | The Commonwealth of Independent States             |
| CTC    | Cut, tear and curl tea                             |
| FDI    | Foreign direct investment                          |
| FOB    | Free on board prices                               |
| GDP    | Gross domestic product                             |
| ISO    | International Organisation for Standardisation     |
| ITC    | International Tea Committee                        |
| MNCs   | Multinational companies                            |
| MT     | Metric tonnes (1 MT = 1,000 Kg)                    |
| NIEs   | Newly industrialised economies                     |
| RBV    | Resource-based view                                |
| Rs     | Sri Lankan Rupees                                  |
| RTD    | Ready-to-drink tea                                 |
| SCP    | Structure- conduct- performance                    |
| SBV    | Strategy-based view                                |
| TRI    | Tea Research Institute                             |
| UK     | United Kingdom                                     |
| UNCTAD | United Nations Conference on Trade and Development |
| USA    | United States of America                           |
| US\$   | United States dollar                               |
| USSR   | Union of Soviet Socialist Republics/Soviet Union   |
| VAT    | Value-added tea                                    |

# Chapter One

## Introduction

In Sri Lanka, historically the agribusiness sector of the economy has consisted primarily of domestic agriculture with paddy and other field crops. In 1867, the British introduced tea as the second plantation crop to the country. Since then, tea has become the key industry in the economy of Sri Lanka. As the highest net foreign exchange generator, tea is considered to be the most important agribusiness in the country at present. Thus, it has been recognised that the tea industry will have a significant role in the economy for the foreseeable future. But the plantation-base of the industry is associated with a number of weaknesses — especially with respect to the cost of production, and productivity. These weaknesses of the tea industry mean that there is less possibility of pursuing a low-cost strategy in competing with other countries. Therefore, product differentiation achieved through value-addition should be considered as the best strategy for Sri Lanka in positioning herself within the global tea industry. Given the greater importance of value-added tea, this research examines the status of the sources of competitive advantage and their influence on the performance of value-added tea producing firms in Sri Lanka with a view to enhancing the overall industry-wide strategy of value-added tea production.

### 1.1 The Tea Industry and the Sri Lankan Economy

Tea is one of the most important industries in the Sri Lankan economy in terms of foreign exchange earnings. Although its relative importance has declined over the years, it still acts as the country's largest net foreign exchange earner. Tea brings twice the net foreign exchange compared with that of the textile and garment industry<sup>1</sup> — even though their gross foreign exchange earnings exceed those of tea by 16 per cent (NARESA, 1991). The main reason behind this is the tea industry's high domestic input

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<sup>1</sup> At present textile and garment is the leading industry in Sri Lanka and contributes the highest foreign exchange earnings to the economy.

utilisation, unlike that of the textile and garment industry<sup>2</sup>. According to Athukorala and Bandara (1989) the unit import content of the tea industry in 1981 was 9 per cent, whereas the textile and garment industry had a unit import content of 67 per cent. Therefore, they concluded that the tea industry is in a predominant position in the economy in terms of net export income generation. Similarly, the Tea Research Institute of Sri Lanka (1999) also has pointed out that, at present, the tea industry is the highest net foreign exchange earner in the country. In 1999, the tea industry earned Rs. 43,728 million through exports and contributed around 14 per cent to the total export earnings of the country (Central Bank of Sri Lanka, 2000). In terms of the total agricultural sector export earnings, in 1999 tea showed a contribution of around 66 per cent, whereas the other two main plantation crops — rubber and coconut — showed minimal contributions of only 3 and 14 per cent respectively (Central Bank of Sri Lanka, 2000). This demonstrates the role of the tea industry among the other agribusinesses in terms of export income generation.

In 1999, the tea industry contributed 7.5 per cent to the agriculture sector's proportion of the gross domestic product (GDP) by earning Rs. 12,295 million. However, during the period 1970-1999 the contribution of the tea industry was subject to wide fluctuation. This is clearly evident from the tea industry's contribution to the overall GDP in real terms<sup>3</sup> and from the percentage contribution to the agriculture sector's proportion of the GDP (Figure 1.1). Both illustrated an increasing trend until 1984. In 1984, the tea industry made a record contribution of Rs. 6,401 million, or 18 per cent, to the agricultural sector's proportion of the GDP. Therefore, 1984 was referred to as the *tea boom* in which the performance of the tea industry reached a peak due to high world tea prices. Thereafter, the contribution from the tea industry to the overall GDP and agriculture sector's proportion of the GDP has shown both declining and increasing trends. However, the tea industry's percentage contribution to the overall GDP has shown a very low level of fluctuation. The greatest contribution to the overall GDP came in 1984, when it was around 5 per cent. Its contribution continued to decline

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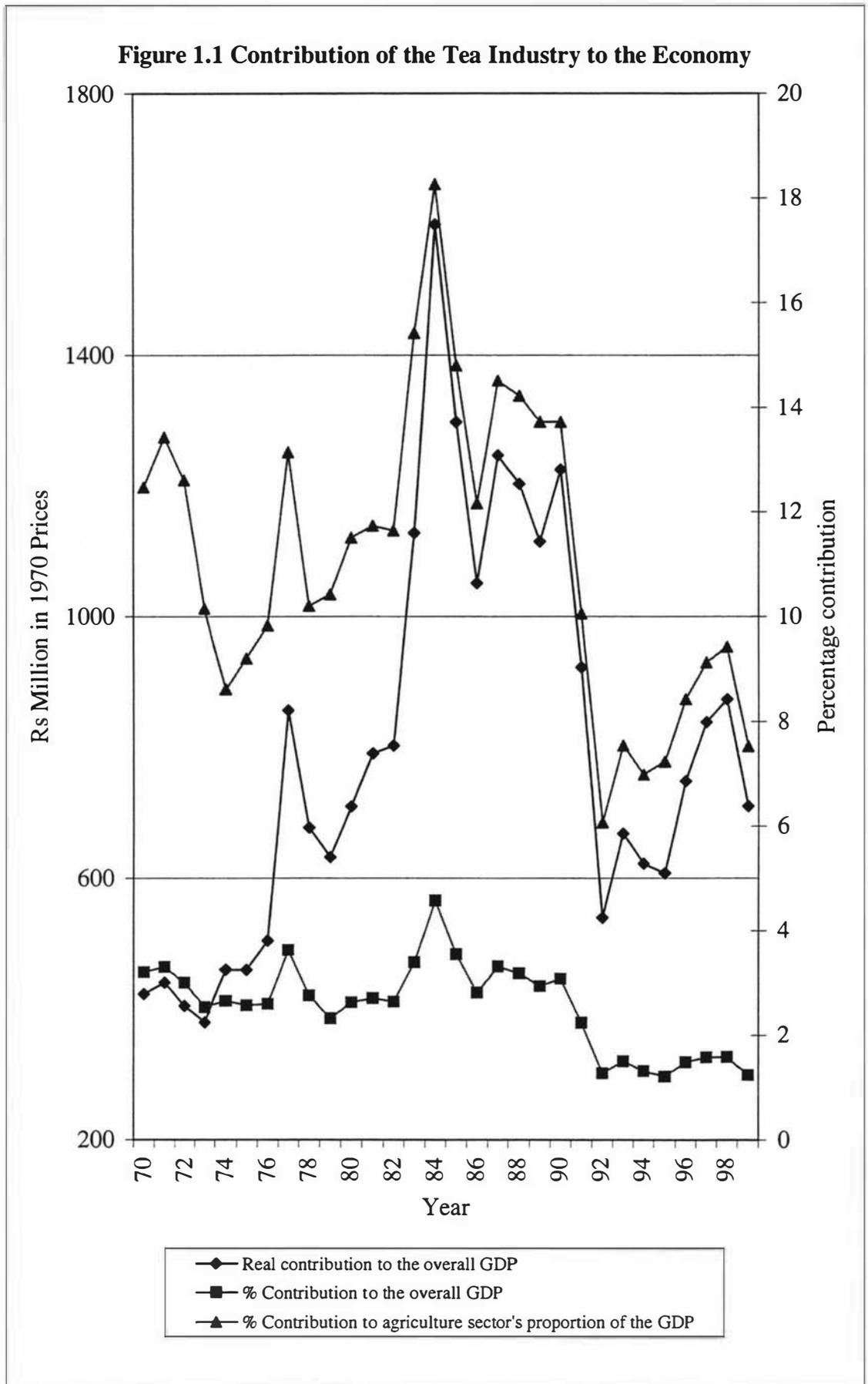
<sup>2</sup> In 1999, the textile and garment industry contributed Rs. 171,067 million (53 per cent) through exports, but in the same year the cotton yarn and textile import expenditure accounted for almost 46 per cent of those earnings (Central Bank of Sri Lanka, 2000).

<sup>3</sup> Deflated by using the Colombo Consumers' Price Index (CCPI).

thereafter, and in 1999 it contributed around 1.2 per cent only to the overall GDP. This illustrates the present low and fluctuating contribution of the tea industry to the overall economy of Sri Lanka.

The other important contribution of the tea industry to the economy of Sri Lanka is its ability to generate employment. The labour-intensive nature of the production structure of tea provides a high level of employment, especially by absorbing a large number of unskilled workers. According to the Sri Lanka Export Development Board (1990) the tea industry absorbs around 11 per cent of the national workforce. Of the total workforce, nearly 317,000 are on large-scale tea plantations and 210,000 to 240,000 are on small-scale tea plantations. In addition, at least another 200,000 are in tea-related employment in the country (The Tea Research Institute of Sri Lanka, 1999).

For decades tea has been one of the most important industries in the country, and it can be assumed that this will continue in the future. The country's well-being is directly related to the performance of the tea industry, especially to its high net foreign exchange earnings. According to Betz (1989, p. 65) the tea industry — even with depressed prices — yields higher profits and foreign exchange per hectare than do other crops. Therefore, he argued that the tea industry makes a very substantial contribution to the economy, which is suffering adverse effects from having only a small base of non-traditional exports, persistent balance of payment problems and escalating defence costs — along with shrinking receipts from tourism as a result of the ongoing ethnic crisis. Similarly, the national export development plan of 1990-1994 has also recognised tea as being the most important agribusiness in Sri Lanka that will continue to act as the main supporter for the economy for the foreseeable future (Sri Lanka Export Development Board, 1990).



Source: Based on data from the Central Bank of Sri Lanka (Various issues)

## **1.2 The Tea Industry and the Need for a Better Strategic Focus**

In the past, the Sri Lankan tea industry has been highly dependent on the factor comparative advantages of the country. Climate, cheap labour and land availability were all very favourable for the tea industry. These natural advantages vis-à-vis other major tea producers paved the way for her to be one of the leading producers of tea in the world and finally to become the world's largest tea exporter. The natural gift of a beneficial climate is still an advantage in producing the world's finest quality tea. The differences in agro-climatic regions in the country enable it to produce teas with different aromas for different segments of the market. Along with that, a reputation for quality orthodox tea production has created added advantages for the Sri Lankan tea industry. However, the present picture of the industry clearly demonstrates that the country is moving away from the other factor comparative advantages.

Expansion of the land area for the cultivation of tea has become a problem due to increasing population pressure on the limited land available in the country. With this declining land endowment and with the benefits of hindsight, the country should have taken more returns from the existing land under tea — yet the average national yield level ranks as the lowest among major tea producers. Although there are significant improvements in the small-holding tea sector, estate sector performance is comparatively low resulting in an overall poor performance. While the Indian immigrant labour force in the plantations was beneficial in the past, labour is no longer a comparative advantage for the Sri Lankan tea industry. Over 66 per cent of the cost of production is represented by the labour cost component (Central Bank of Sri Lanka, 1999). Furthermore, its labour productivity is the lowest among the major tea producing countries (Betz, 1989). It appears that the implementation of inappropriate policies has largely contributed to dragging the Sri Lankan tea industry down to a very poor cost position compared to the other major producers. On the whole, the Sri Lankan tea industry is faced with a number of problems and constraints that greatly influence its performance (Samaranayake & Samaranayake, 1995).

Further, factors such as tea plantations and a beneficial climate do not automatically lead to the derivation of more benefits from trade. Balasubramanyam and Basu (1990, p. 215) pointed out that although the traditional theory says that comparative cost

advantage leads to potential gains from trade, yet there is no guarantee that the developing countries which are also specialising in primary exports could not gain a reasonable share from trade. Therefore, it is important to utilise the available factors both efficiently and effectively, which Sri Lanka has failed to do over the years. This is clearly evident both from her declining position as an exporter vis-à-vis other major tea exporters and from the pattern of exports. Sri Lanka, after 130 years of tea plantations still exports a greater proportion of tea as a commodity following the colonial patterns. In 1999, almost 64 per cent of the exports were made as a commodity<sup>4</sup> (known as *bulk tea*) and the other value-added product exports were shown to be minimal (Central Bank of Sri Lanka, 2000). This illustrates the fact that, overall, the Sri Lankan tea industry is beset by problems not only in production but also in marketing. All these factors have contributed to a highly unfavourable position for Sri Lanka in the global tea trade. Therefore, it is important that the Sri Lankan tea industry adopts a better strategic focus to ensure its survival.

### **1.3 Value-Added Tea Production as a Viable Strategy**

At present, for reasons explained in the next chapter, the Sri Lankan tea industry has the highest cost structure among major tea producers. Most importantly, the industry needs productivity improvements, especially with respect to land and labour. However, these remedial measures take time both to implement and to become effective. Even if the country were to succeed in cost minimisation, it would create a least cost structure in the industry, and therefore the competition would be in terms of cost. Competition based on cost is considered to be a non-viable strategy in the long-term if it is not based on technological improvements — as any competitor can overcome the advantages (Fairbanks & Lindsay, 1997; Porter, 1998b). Further, by assessing the competitive position of the Sri Lankan tea industry, Ali, Choudhry and Lister (1997) pointed out that achievement of a cost leadership strategy for Sri Lanka would be difficult due to its cost structure with highest costs and lowest productivity. Accordingly, product differentiation achieved through value-addition may be the best strategy for Sri Lanka to enhance its competitiveness.

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<sup>4</sup> *Agricultural commodities* refer to unprocessed or minimally processed agricultural materials which are handled and marketed in bulk quantities (Padberg, 1997, p. 2).

In the global tea trade value-added tea (VAT) has captured a significant position because of the sophistication of tea consumption patterns. Therefore, the future demand for tea is likely to be different from that of the past, and there could be more demand for convenience-oriented products. Consumer preference for loose tea is on the decline, while demand for tea bags and ready-to-drink teas is on the increase. According to Kelegama, Gunaratne, Samaraweera and Abeygunawardana (1995) over 75 per cent of the markets in the Middle East and Pakistan are for tea in packets, while tea in bags comprises over two-thirds of the consumer markets in Western and Northern America. Further, growing dietary health concerns have increased the consumption of tea, as it is considered to have medicinal values (Chang, 2000). Along with the concerns about a healthy life-style there is an increasing demand for organically produced tea. This indicates that, overall, there could be a greater demand for tea with high value-added component than for loose tea. But as a supplier of tea, Sri Lanka has not modified its exports to meet the changing consumer demands. Therefore, greater emphasis on VAT rather than on bulk tea will provide the best opportunity for the Sri Lankan tea industry to enhance its competitiveness. It has the potential to capture a larger portion of the changing world demand and will be able to increase export earnings through high world prices. Finally, the multiplier effects will have a very beneficial impact on the plantation-base of the country.

#### **1.4 Role of the Firm in Value-Added Tea Production**

VAT production is considered as an industry-wide strategy, but it is implemented at the firm level. Therefore, VAT producing firms play a significant role in enhancing the performance of the tea industry. The firms' final target should be to produce a product that satisfies the consumer — a process in which identification of changing food consumption patterns plays an important role. Once a change has been identified, the product must be modified accordingly. This is a crucial issue in order to survive and maintain a competitive position in the global market. Similarly, Fonseka (1997) pointed out that with Sri Lanka's declining share in the world market, it is necessary for firms to have a strong customer focus in setting their goals. He showed that the two leading brand-marketing firms (*Dilmah* brand by M.J.F. Exports and *Mlesna* brand by Euro-Scan Exports) have a strong customer focus — whereas other firms that he considered are more distant from consumers.

Along with a customer focus, it is vital for firms to develop a stronger basis of competitive advantage to enhance their own performance. Creation of unique advantages by firms will invariably be important in facing the competitive threats that are accelerating along with the globalisation of the tea industry. These unique advantages developed by individual firms are important in competing against the other producers and thereby in enhancing the overall industry-wide strategy, VAT production. Therefore, along with a proper strategic focus, it is important for firms to recognise their position in terms of the sources of competitive advantage and their need to enhance their own performance.

### **1.5 Objectives of the Study**

The primary objective of this study is:

*To examine the status of the sources of competitive advantage and their influence on the performance of value-added tea producers in Sri Lanka.*

This examination will incorporate the resource and strategy perspectives of the competitive advantage paradigm. Even though these perspectives have been widely used in developed countries such as the United States of America and European countries in explaining firm performance, their application to an agribusiness in developing countries, so far as this researcher is aware, is non-existent. Further, none of the studies conducted so far has tested the relationship between these two perspectives. Therefore, the secondary objective of this study is:

*To examine the relationship between resource and strategy perspectives and their relative importance in explaining the performance of VAT producers in Sri Lanka.*

The objectives of this study will be achieved through the examination of the following specific topics:

- 1. The characteristics of VAT producing firms,*

2. *The structures of core resources and strategies that represent the sources of competitive advantage,*
3. *The existence of strategic groups within the VAT industry segment,*
4. *The differences in the strategic groups and their mobility barriers,*
5. *The relationship between resource and strategy perspectives,*
6. *The performance differences across the strategic groups,*
7. *The relative importance of resource, strategy and integrated resource and strategy perspectives in explaining firm performance, and*
8. *The factors that influence firm performance.*

## **1.6 Methodology of the Study**

In this thesis, the researcher has incorporated the resource and strategy perspectives of the competitive advantage paradigm and developed a model to explain firm performance. Important resources and strategies upon which firms can base their competitive advantage were identified. These were considered as core resources and strategies and were selected based on six dimensions each. The relevant data were gathered from the VAT producers in Sri Lanka by conducting an in-country survey. Initially, firm characteristics and their VAT production were descriptively assessed. Statistical analyses were conducted to investigate the performance of the VAT producing firms where multi-method, multivariate statistical techniques were applied to the identified core resources and strategy variables. Initially, a factor analysis was conducted and thereby the structures of core resources and strategies were addressed. The new, aggregated patterns of core resources and strategies were considered as resource and strategy patterns. These new variables (factor scores) were considered in the subsequent analysis. Intra-industry heterogeneity was examined by using the technique of cluster analysis, and the existence of strategic groups was identified. These results were validated by using the technique of multiple discriminant analysis, and significant differences across the strategic groups were identified. Further, the Kruskal-Wallis one-way analysis of variance and chi-square tests were used in identifying the existence of mobility barriers and performance differences across the strategic groups. A canonical correlation analysis was performed to assess the existence of any significant relationships between resource and strategy patterns of firms. Through the analysis, the degree to which strategy patterns could be accounted for by the resource

patterns was identified. Finally, factor analysis regressions were performed in order to assess the influence of individual as well as integrated perspectives on firm performance, which three indices were selected to represent. Differences across the strategic groups were examined by incorporating two dummy variables.

### **1.7 Organisation of the Thesis**

The thesis consists of eight chapters. Chapters two to four cover the literature review for the study. The second chapter provides a preliminary discussion of VAT and the Sri Lankan tea industry as compared to other major producers of tea, along with an examination of the relevant literature. A discussion of the global influences on VAT and the Sri Lankan tea industry is contained in chapter three, along with an examination of the relevant literature. Chapter four presents the strategy and resource-based views in assessing firm performance. The analytical framework developed based on the strategy and resource-based views, research hypotheses, research design and analytical techniques are addressed in chapter five. Chapters six and seven provide the results and a discussion of the study. Chapter six discusses the characteristics of VAT producing firms by using the survey information. Chapter seven combines the theories and tests the hypotheses. Finally, chapter eight provides the summary and conclusions of the study as well as recommendations for the future strategy of the Sri Lankan tea industry.

## Chapter Two

### Value-Added Tea and the Position of the Sri Lankan Tea Industry

The Sri Lankan tea industry consists of a plantation-base and a number of other firms which are involved in tea-related activities. This plantation-base of the tea industry is responsible for the production of primarily processed tea. Other firms are mostly involved in VAT production and in marketing bulk tea. The Colombo Tea Auction acts as the link between the plantation-base and the firms. In Sri Lanka, VAT production is strongly linked with the plantation-base due to the fact that only a limited quantity of tea is imported. Therefore, the performance of the plantation-base can significantly influence the performance of the overall VAT production as well as the performance of individual VAT producers. In addition, other factors such as the tea trade, demand and policies are influencing the VAT production in the country. Therefore, this chapter discusses the overall position of the Sri Lankan tea industry vis-à-vis other major tea producers and other related factors by giving a high profile to VAT.

#### 2.1 Value-Added Tea

After plucking, leaves of the tea bush (*Camellia sinensis*) are passed through a number of stages before reaching the consumer. Figure 2.1 illustrates the stages by which value is added to the fresh tea leaves. At each and every stage there is a certain degree of value-addition. Although the primary processing adds value to fresh tea leaves, it produces a commodity that is less differentiated compared to the final consumable product. In Sri Lanka, more than 90 per cent of the primarily processed tea is in the form of orthodox and other forms of tea are very minimal. Unlike the primary processing, secondary processing and packaging convert the undifferentiated commodity to a differentiated product. However, Sambasivam (1982) pointed out that more profitable operations in the tea industry lie in the blending and packaging activities and not in the cultivation and manufacturing of tea, and emphasised the importance of secondary processing and packaging.

Even if blending is considered as a part of value-addition, its contribution in increasing value is minimal. At present, Sri Lanka exports almost all the bulk tea as bulk blends by adding a certain level of value. However, the tea industry recognises VAT to be all teas that are not in bulk form. These include consumer packs, bags, instant, green, oolong, organic and other teas. Even though among the primarily processed tea, Sri Lanka considers green, oolong and organic tea as VAT, only organic tea is considered to be a VAT in the rest of the world (Director, Tea Promotion Bureau, Sri Lanka, personal communication, 3 January, 2000).

Among the processes in value-addition, packaging can be considered as extremely important in trade promotion, primarily in obtaining shelf space in supermarkets and in increasing sales. Sambasivam and De Alwis (1998) pointed out that flavoured and speciality teas require "up market" packaging and presentation as consumers buy their tea products with "their eyes" first and with "their palate" later. In addition to packaging and presentation, branding<sup>5</sup> can play a significant role in increasing sales of VAT. Especially, branding can enhance consumer loyalty by assuring the quality of the product offered. This is clearly evident from the marketing margins, where blenders earn about 24-28 per cent and packers earn about 22-27 per cent of the margin (Kelegama et al., 1995) — which reveals the greater importance of moving along the value chain by adding more value to tea.

The activities that can be included under secondary processing and packaging, and the types of speciality teas are listed below.

Secondary processing – blending, flavouring, instant tea and any other type of secondary processing.

Packaging – tea packeting, tea bagging, gift packing and any other type of packaging.

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<sup>5</sup> A *brand* is a name, term, sign, symbol, or design or a combination of these intended to identify the goods or services of one seller, or group of sellers and to differentiate them from those of competitors (Kotler & Armstrong, 1995).

Speciality tea – green tea, oolong tea and organic tea.

The specific activities included in the secondary processing and packaging and the speciality tea types can be briefly described as follows:

**Blending<sup>6</sup>:** Mixing of different teas from different origins to obtain the desired quality parameters like taste, colour, aroma and strength.

**Flavouring:** Addition of different flavours to tea as a liquid or as granules to achieve the desired taste. These flavours can be added to either blended or unblended tea, and can be fruit (natural/aromatic), spice or flower flavours.

**Instant Tea:** Instant tea is produced from black tea by extracting the brew from processed leaves, tea waste, or undried fermented leaves. This extract is concentrated under low pressure and dried to a powder by either freeze-drying, spray drying or vacuum drying.

**Other types:** In addition to the types mentioned above, there can be different secondarily processed tea types — aromas, tea concentrates, carbonated teas and ready-to-drink teas that are produced by using primary and secondary processed tea.

**Tea packets:** Blended, unblended or flavoured loose tea packed in convenient size packs or any kind of container.

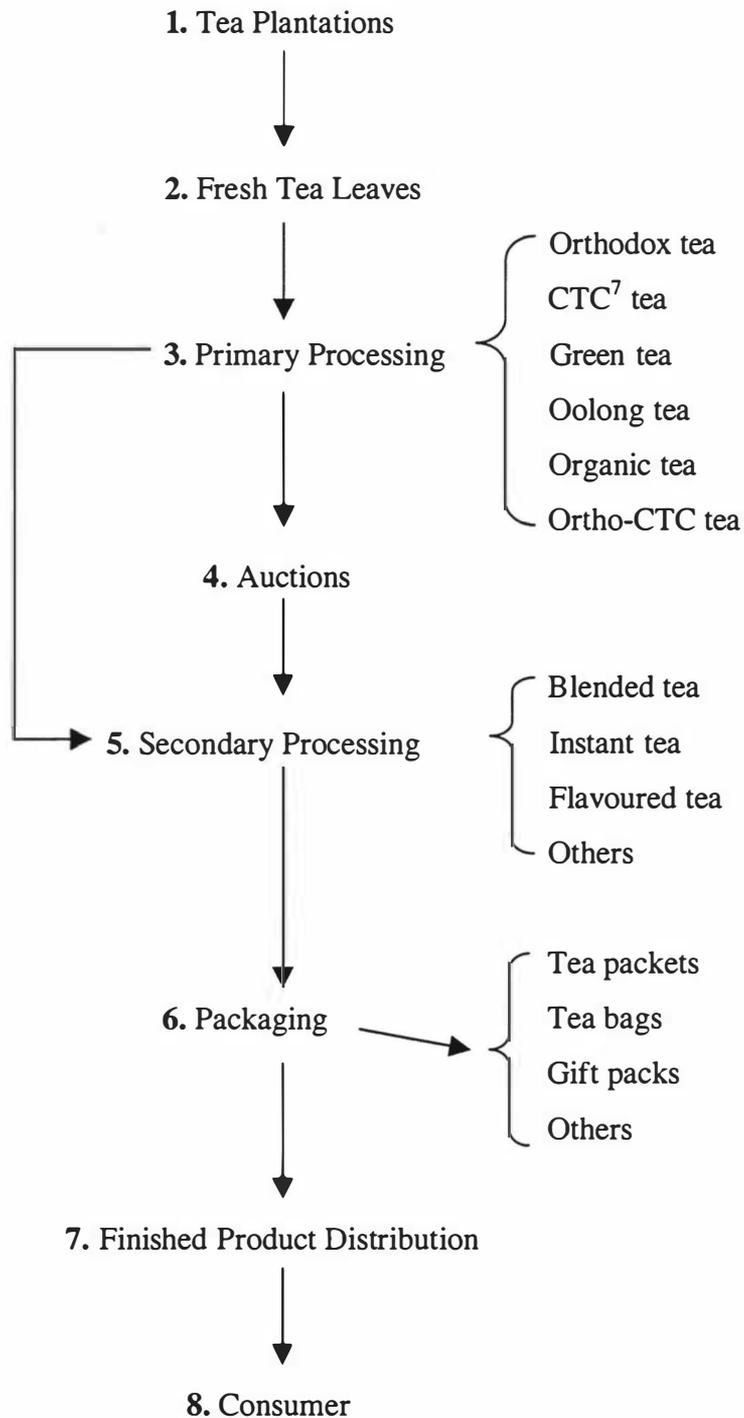
**Green tea:** Unfermented tea which is withered, then immediately steamed or heated to prevent fermentation, and then rolled and dried.

**Oolong tea:** Partly fermented tea. It has the taste and colour qualities of black and green tea.

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<sup>6</sup> In the Sri Lankan tea industry, the term *bulking* (mixing of different teas coming from different elevations within the same origin) is used interchangeably with the term *blending*. But in this study, the term *blending* is used as it is the more commonly accepted usage.

**Organic tea:** Organically produced tea. The tea that comes from lands where there have been no chemical applications for at least three years.



**Figure 2.1 Stages of Value-Addition to Fresh Tea Leaves**

<sup>7</sup> Tea manufactured by using the cut, tear and curl tea method.

Although the proportion of VAT production is relatively low within Sri Lanka, it ranks highly among the major tea producers. According to the Central Bank of Sri Lanka (1999), value-addition in Sri Lanka is relatively high compared to that of the other major tea producing countries. In terms of tea bag production, Sri Lanka leads all the other major tea producing countries (Director, Tea Promotion Bureau, Sri Lanka, personal communication, 3 January, 2000). However, a comparison of VAT among all the major tea producing countries is difficult due to the unavailability of published data. None of the other countries publishes data on VAT production and exports, except for instant tea. According to the statistics of the International Tea Committee (ITC), India produces the highest quantity of instant tea, whereas Sri Lanka produces the least (ITC, 1999). During the period 1988-1998 instant tea production has increased in India, Kenya and Sri Lanka by 63, 54 and 69 per cent respectively.

The enhancement of VAT production strategy provides a number of benefits to the country. Unlike the plantation-base, its greater industry orientation can strengthen the industrialisation of the country and, along with that, the multiplier effects can substantially enhance the efficiency of the plantation-base. The development of such a forward linkage is important in order to revitalise the country's dominant agriculture-based industry. Thereby, both a weaker plantation-base and industrial sector development can be expected. The overall development of the tea industry will lead to the promotion of related and supporting industries and generate more employment. Further, the outcome of this industry-wide strategy, a higher VAT production, will lead to augmentation of the export revenue generation as it captures a higher FOB price<sup>8</sup> than does bulk tea. Most importantly, the production of VAT under Sri Lanka's own brand names will become a product and lead to strengthening of consumer loyalty.

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<sup>8</sup> FOB (Free On Board) price is the price of a product at the seller's factory or at a named port of exportation or a named vessel at a port of exportation (Schaffner, Schroder & Earle, 1998, p. 233).

### **2.1.1 Previous Research on Value-Added Tea Production Strategy**

Although research based on the tea industry is diversified it has given a greater emphasis to tea plantations and manufacturing. The inadequacy of market-oriented research is considered as one of the serious problems faced by the tea industry at present (Samaranayake and Samaranayake, 1995). Fonseka (1997) conducted the first firm level market-oriented study by assessing the mission statements of two brand marketing and six non-brand marketing firms. He incorporated the strategic management perspective of a firm and pointed out that industry foresight, goal orientation, planning horizon, element of channelling goals, attitude to risk and innovation, basis of competitive advantage and closeness to consumer should be considered in the planning process of marketing. The findings of this study indicate that Sri Lankan firms should market tea directly as branded consumer products in order to capture higher margins.

Ali, Choudhry and Lister (1997), by primarily assessing the position of the plantation-base of the Sri Lankan tea industry, stressed the problems of pursuing a low-cost strategy within Sri Lanka. Hence, they advocated building a wider portfolio of advantages where the firms could move along the value chain to keep strengthening their competitive advantage. Diversification into more VAT, enhancement of quality and reliability, building of efficient marketing channels and brand names, and building a global customer base were the four steps advocated, based on the position of the tea industry. Similarly, export development reports in the late 1980s also pointed out the importance of pursuing a VAT production strategy, mainly due to high prices achieved by VAT (Sambasivam, 1989; Sri Lanka Export Development Board, 1990).

Primarily processed tea illustrates characteristic qualities based on the place where it is grown. But its differentiation power is comparatively low when it is traded as a commodity rather than as a branded product. Therefore, Ali, Choudhry and Lister (1997) pointed out that none of the tea producing countries has a strong entry barrier with respect to product differentiation. They raised a number of problems associated with lack of differentiation among the tea producers. Further, high dependency on the commodity-based trade of tea by all the major producing countries and its lesser differentiability in the global market will increase competitive intensity among its rivals. Therefore, the share gains will be at the expense of the competitors and will lead to a

decrease in the bargaining power of sellers (Ali, Choudhry & Lister, 1997). Similarly, within Sri Lanka, intense rivalry among the existing firms is evident due to lack of differentiation (Fonseka, 1997).

Further, De Silva (1985) pointed out that competition among firms is one of the important factors in developing the packaging industry in Sri Lanka. According to the Director, Tea Promotion Bureau, even at present the Sri Lankan tea industry demonstrates heavy competition. Sri Lanka is the world's third largest tea bag producing country next to the United Kingdom (UK) and Germany. However, in terms of the cities Colombo has the world's largest number of tea bag producers (Director, Tea Promotion Bureau, Sri Lanka, personal communication, 3 January, 2000). Similarly, there is a high level of competition among the global VAT producers. Therefore, Fonseka (1997) pointed out the need to develop a basis of competitive advantage as a strategic direction for the tea industry.

Some studies emphasised the importance of marketing strategies along with VAT production. J.E. Austin Associates and Sri International (1998) have raised the matter of the importance of emphasis on marketing strategies where they advocated targeting high-priced, branded and niche markets<sup>9</sup>, and making Sri Lankan tea a mark of quality. In addition, the strategies that support investments in plantations, processing equipment and methods were suggested along with strategies that allow more freedom to compete internationally. Similarly, Tambinayagam (1996) also pointed out that the marketing strategies of Sri Lanka are inadequate in competing with countries that have more dynamic selling and bargaining powers. Even though these previous studies did not conduct any statistical analyses they did raise the importance of marketing, quality-based strategies and unique resources such as brand ownership as the key to improving the position of the tea industry. Further, all these studies stressed the importance of developing a basis of advantage in enhancing the performance of the tea industry. These support the significance of examining the performance of VAT-producing firms by incorporating their resource- and strategy-based sources of competitive advantage.

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<sup>9</sup> Market niches are pockets of demand that possess a unique willingness to pay premium prices for certain product attributes, such as high quality, rapid delivery or customised designs (Harrigan, 1985).

## **2.2 Cost and Production Structure of Primarily Processed Tea**

Primarily processed tea is used as the input for value-adding stages, secondary processing and packaging. Therefore, the performance of the VAT-producing firms is directly related to the purchase price of the primarily processed tea. Even though the input prices are of significance to all the VAT producers, it is crucial with respect to firms who compete in terms of price. This cost of production of primarily processed tea is influenced by its production structure. A comparative analysis of the factors that influence the cost and production structure of the primarily processed teas of major producers will provide a better understanding of the position of Sri Lanka. Therefore, the following sections provide a description of the position of the Sri Lankan tea industry with respect to labour costs, area, production and productivity.

### **2.2.1 Cost Structure of Primarily Processed Tea**

In the Sri Lankan tea industry, escalating labour costs have become one of the critical problems that increase pressure on the existing high cost production structure. As a result of continual demands from labourers, equalisation of wages, fixed days of work, minimum wages and increasing cost of living allowances have been implemented from time to time — all of which have increased the cost of labour. In 1997, daily wages were increased from Rs. 83 to Rs. 101. With this, the share of the cost of labour in the cost of production increased from 59-66 per cent during the period 1997-1998 (Central Bank of Sri Lanka, 1999). The Sri Lankan tea industry is associated with the highest cost of labour, despite the fact that its labour productivity was shown to be comparatively poor. In 1992, Sri Lankan plantations had 2.8 labourers per hectare (ha) and the intake per green leaf plucker was 14.22 Kg — whereas India and Kenya had 2.5 and 2.2 labourers per ha respectively, and their intake per green leaf plucker was 25 Kg for India and 48 Kg for Kenya (as cited in Fonseka, 1997, p. 179). This clearly illustrates the poor productivity of the Sri Lankan labourers compared to its competitors. Moreover, this situation has not improved — even after the privatisation of tea plantations, as the average intake per plucker was still at a lower level of 15 Kg per labour day in 1996 (Central Bank of Sri Lanka, 1997). Betz (1989) pointed out over-staffing, virtual lack of incentives, constant norms of fieldwork and plucking irrespective of technological improvements as probable reasons for lower labour

productivity. This has become an even greater threat in the declining competitiveness of the country. As cited by Fonseka (1997, p. 179), Sri Lanka represented the highest unit cost in manufacturing tea. For example, in 1992, the costs of manufacturing tea (US\$/Kg) in Sri Lanka, India and Kenya were 1.48, 1.05 and 0.80 respectively.

### **2.2.2 Area Planted in Tea**

In Sri Lanka, the land planted in tea can be categorised into three broad areas: namely low-grown (mean sea level to 610 metres), medium-grown (from 610 to 1,220 metres) and high-grown (elevation above 1,220 metres). In 1995, the total area under low-grown tea was the highest, extending to around 43 per cent, while mid-grown and high-grown constituted approximately 30 and 27 per cent of the total area respectively (Sri Lanka Tea Board, 1999). During the period 1961-1998, the total area declined from 237,722 ha to 190,473 ha, due mainly to the decline in the mid-grown area. The highest area, which extended up to 244,918 ha, was recorded in 1981. All elevations demonstrated a sudden drop in the area under tea in 1992. One of the main reasons behind this could have been the rescinding of the statutory requirement of registering tea lands with the Tea Commissioner, which took effect from January 1993 (Central Bank of Sri Lanka, 1994). This may have meant that not all land planted in tea was recorded. Furthermore, a severe drought in 1992 affected the plantations and decreased both the infilling and harvesting.

In terms of the major tea producers, China represents the highest area planted in tea and revealed a steady increase until about 1983. However, the area of 1,131,074 ha recorded in 1983 had decreased to 860,000 ha by 1997. In 1998, the area planted in tea in China was nearly five times larger than that of Sri Lanka. China is the only country that demonstrated an increase in the area, whereas all other countries demonstrated a gradual fluctuation in the area planted in tea. At present, India has the second highest area planted in tea, and has revealed a gradual increase in the area over the years. Its area was twice that of Sri Lanka in 1998. Kenya recorded the lowest area planted in tea throughout the period. Among the four major producers of tea, only Sri Lanka has demonstrated a declining trend — whereas all others have shown an increasing trend over the period 1985 to the present (Figure 2.2).

### **2.2.3 Tea Production and Productivity**

The total tea production, as shown in the three elevations mentioned above, has demonstrated varying levels of contribution over the years. However, total tea production has increased during the period 1980-1998. The highest contribution came from the privately owned tea areas in the country<sup>10</sup> while both mid and high-growns demonstrated a declining pattern of contribution, low-growns had a steadily increasing contribution in the period from 1961-1998 (Sri Lanka Tea Board, 1999). The main reason behind this change could have been the higher level of private ownership<sup>11</sup> structure in the low-grown area. Characteristic features like higher productivity and a high level of vegetatively propagated plant stock are prominent among the private small-holders, contributing more towards increased production<sup>12</sup>.

The average yield level of tea in Sri Lanka demonstrated a minimal increase until 1965, after which it showed a declining trend till about the mid-1980s (Figure 2.3). It can be assumed that the main reason for the changing pattern of yield was the nationalisation of the tea plantations. Some practices such as lower fertiliser application, and poor land care were evident in the plantation sector due to fear of the nationalisation concept<sup>13</sup>

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<sup>10</sup> During the period 1980-1996, production by type of management demonstrated that private sector production increased steadily over the period, whereas the production level of the state-owned management structures demonstrated a declining rate of production until 1991 (Ministry of Public Administration, Home Affairs and Plantation Industries, 1997). In 1992, the majority of the state-owned plantations were handed over to management companies on five-year contracts.

<sup>11</sup> According to the tea lands survey of 1994/95, more than 70 per cent of land in the low-grown area was privately owned (Ministry of Public Administration, Home Affairs and Plantation Industries, 1997).

<sup>12</sup> According to the Central Bank Annual Report 1996, small-holder yields are higher than those of the state sector and privatised company yields by 85 per cent. Further, nearly 70 per cent of the land of the small-holders is under high yielding vegetatively propagated clonal tea (Central Bank of Sri Lanka, 1997).

<sup>13</sup> Although the nationalisation scheme was implemented in 1972 by the Land Reform Act, it was a theme in the election manifesto of the 1960 Coalition Government. Therefore, the foreign plantation owners have not re-invested in plantations and repatriated profits to their mother

(Ponnambalam, 1980). This was aggravated after implementation of the law, and created serious impacts on the yield. The decline in prices due to the process of nationalisation had a long-term impact on production. However, along with favourable tea prices in 1984, tea yields started to demonstrate an increasing trend — which declined tremendously with severe drought conditions in 1992. These changes in the average yield pattern demonstrate that, irrespective of the declining harvested area since 1984, the total production has increased — due mainly to the increasing yield per hectare in tea. Therefore, it is necessary to focus more on the ways by which the productivity of tea can be raised. Eventually, this will decrease the cost of production of primarily processed tea.

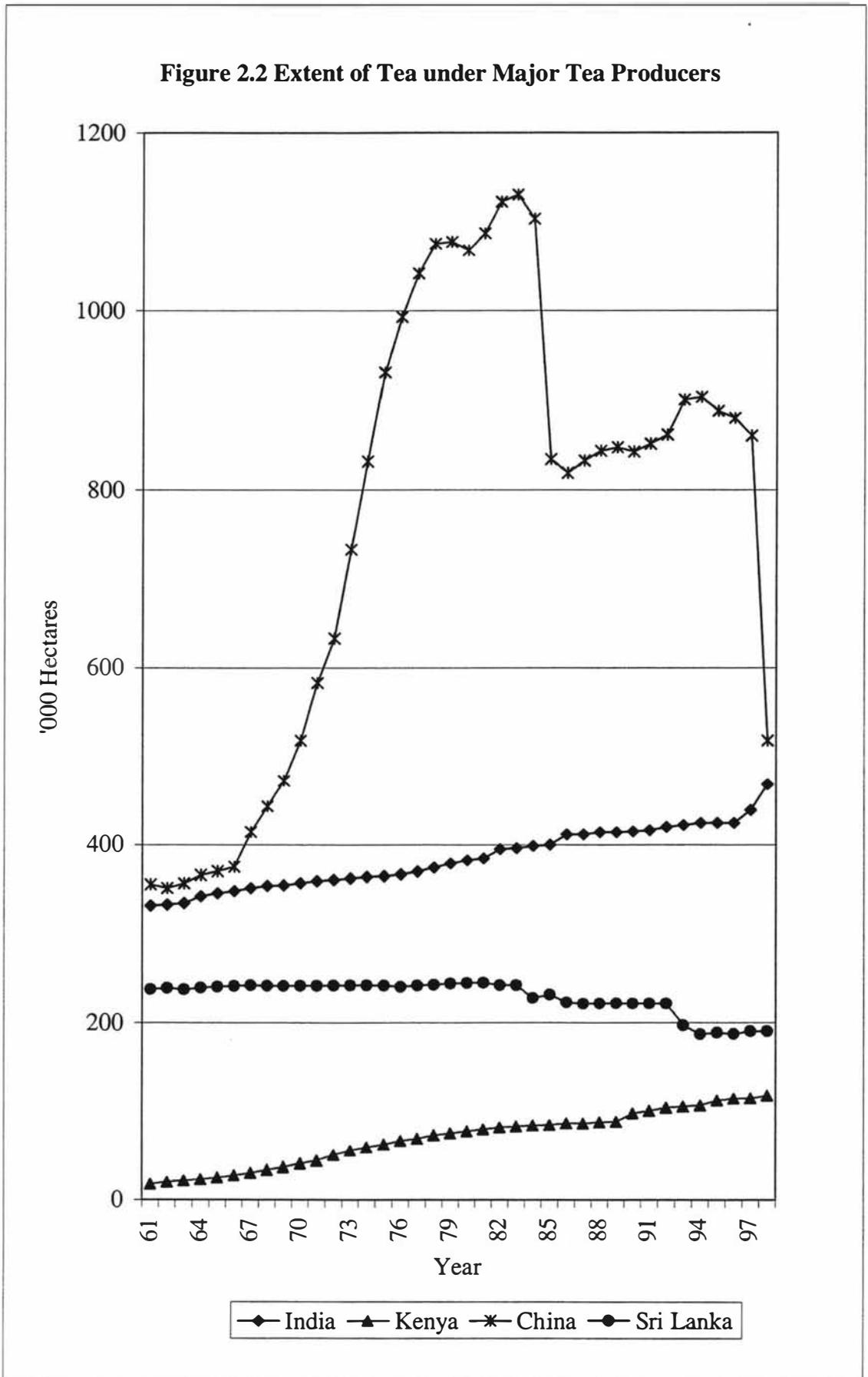
All the other major producers of tea demonstrated an increasing trend in the average yield level, with Kenya showing the greatest improvement. Sri Lanka and China demonstrated similar trends in average yield levels. However, the average yield level of China was the lowest. Sri Lanka's performance was comparatively lower than those of both Kenya and India, where these high average yield levels may have contributed to decreasing the unit cost of production. Unlike Kenya and India, the plantation-base of Sri Lanka is associated with a number of constraints that directly influence the lowering of the average yield level. According to Ali, Choudhry and Lister (1997) in 1991 state-owned estates had a yield level of 1,268 Kg per ha, whereas the private sector yield level was 2,442 Kg per ha. The lower yield level of state-owned estates has contributed to the lower average national yield level, which was 1,559 Kg per ha in 1998. This was comparatively lower than those of its major competitors in the industry, where Indian and Kenyan average yield levels were 2,284 and 1,850 Kg per ha respectively in 1998 (Central Bank of Sri Lanka, 1999). The lower productivity of the Sri Lankan tea estates is due mainly to its poor planting stock. More than 60 per cent of the area consists of old and seedling type tea bushes aged more than 70 years (tea bushes have a useful life of at least 80 years). Currently, around 45 per cent of the land area is cultivated with seedling tea leading to a lower yield level (Central Bank of Sri Lanka, 1998). In contrast to this, private sector tea plantations are almost all under vegetatively propagated tea, and bushes are in their productive stage. According to Betz (1989) in general the land

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countries. This was considered to be one of the main reasons why plantations became less productive (Ponnambalam, 1980).

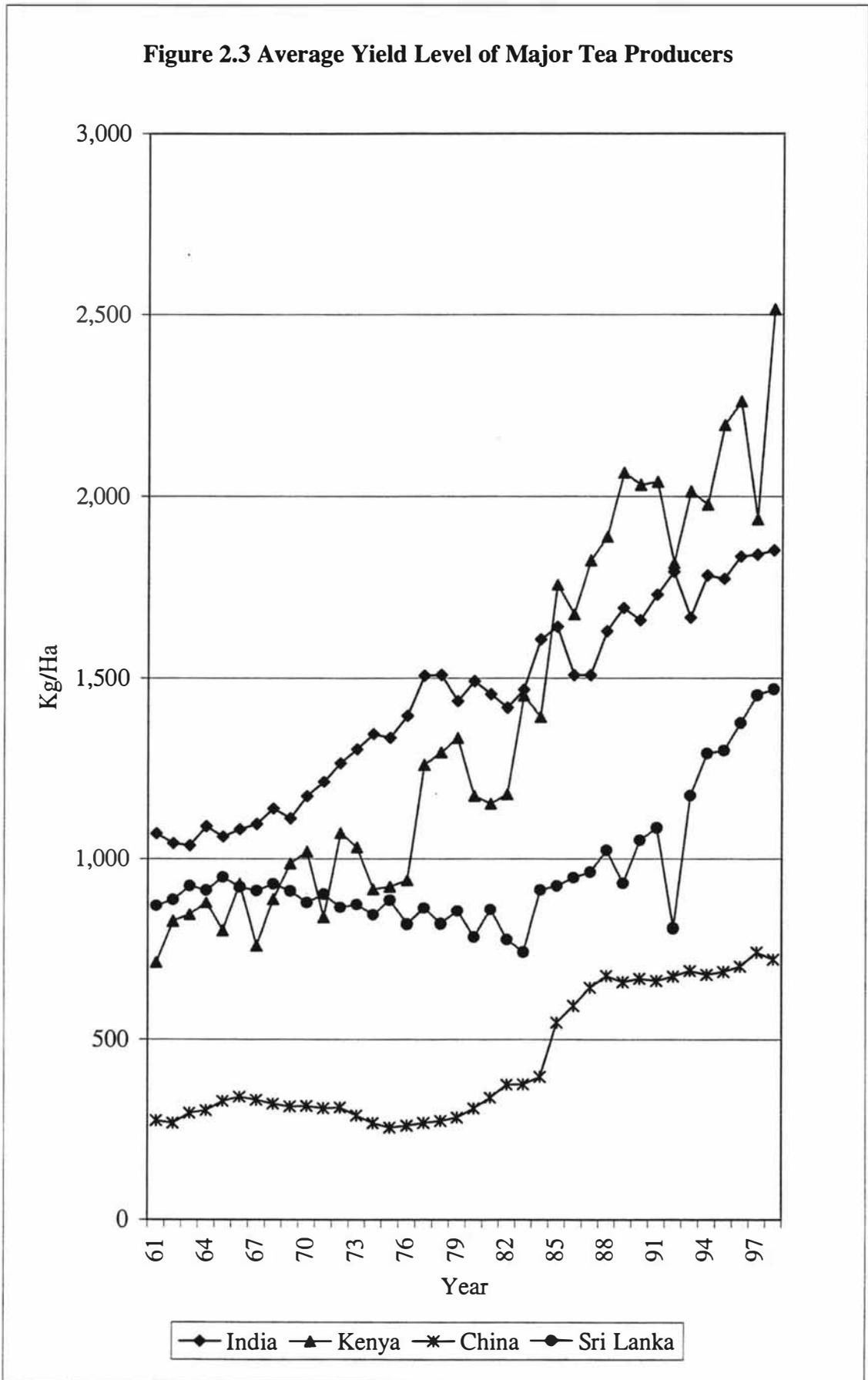
productivity is comparatively low, and this poor land productivity rate is also stagnating. He pointed out that this is due to cumulated investment backlog in the tea industry rather than to climatic factors. The nationalisation concept directly and adversely affected improvements in both land and factories, leading to lower productivity levels. Insufficient investments in factories have led to a decline in factory productivity. The impact of all these factors has adversely affected the cost structure of Sri Lankan primarily processed tea. The main competitor, Kenya, possesses a number of advantages over Sri Lanka: its tea is mainly vegetatively propagated, according to Ali, Choudhry and Lister (1997) nearly 71 per cent of its plantations are under small-holdings and are mostly privately owned, and furthermore, higher yield level and labour productivity in Kenya also contribute to a better position compared to Sri Lanka. Therefore, Sri Lanka is in a disadvantageous position for pursuing a lower cost strategy.

The other most important and negative drawback of the Sri Lankan tea industry is its high level of concentration on orthodox tea production. The industry has a very low CTC tea production capacity — 6 per cent in 1998. In comparison, both India and Kenya are more CTC tea production-oriented. In 1998, they produced 88 and 99 per cent respectively of the total tea production as CTC tea (ITC, 1999). CTC tea is considered to be more suitable for tea bag production. The main advantages of CTC tea as against orthodox tea are its small leaf grade sizes and higher extractability — that is, it is thicker in the cup and quickly brewed (Sambasivam, 1982). Due to its own inadequate CTC tea production, Sri Lanka has permitted CTC tea to be imported from any other country for blending and re-export. Although there is much concern about producing CTC tea, it has not yet been successful. Mainly the high capital requirement has become one of the constraints in enhancing CTC tea production. In addition, there are counter-arguments for the quality of the Sri Lankan CTC tea and the viability of converting orthodox to CTC tea production — along with the arguments for Sri Lanka's niche in producing quality orthodox tea (Chairman, Sri Lanka Tea Board and Director, Tea Promotion Bureau, Sri Lanka, personal communications, 5 January and 3 January, 2000). All these weaknesses associated with the plantation-base increase the cost structure of Sri Lankan primarily processed tea. This ultimately increases the cost of production of VAT and influences the performance of VAT producing firms.



Source: Based on data from the Food and Agriculture Organisation (1999)

Figure 2.3 Average Yield Level of Major Tea Producers



Source: Based on data from the Food and Agriculture Organisation (1999)

### **2.3 Tea Prices**

In the tea industry, prices are determined at two market transactions: one at the Colombo Tea Auctions and the other at the point of export. Tea is traded as a commodity at the Colombo Tea Auctions but the exports can be either in the form of a commodity or as value-added. Since the VAT producers act as intermediaries between the auction and the consumer, both prices play an important role in influencing VAT production and their profitability. Almost all the VAT producers buy tea at the auction — therefore, the price of tea at the auction acts as input price. These auction prices are greatly influenced by the cost of production of primarily processed tea, the internal economic environment and by the global tea industry.

According to the World Bank (1986) Sri Lanka had considerable scope for influencing the world prices for tea in the early 1960s. The main reasons were the high proportion contributed by its exports (which comprised nearly 33 per cent of world exports) and its long established niche in the market. However, with time the other major tea-producing countries have increased their proportion of exports due to implementation of favourable policies and comparative advantages which they possessed. At present, Sri Lanka shows a price taker situation in the world market — unlike in the past. Therefore, tea marketing as a commodity has been greatly influenced by dwindling prices and pressures from other tea producing countries. The overall influences on the commodity trade are clearly evident from the Colombo Tea Auction prices.

The Colombo Auction average tea prices demonstrated a very similar pattern of change in prices for teas coming from all three regions (Figure 2.4). During the 1960s, high-grown teas used to achieve high prices — whereas low-grown teas achieved the lowest. But at present, low-grown teas are fetching comparatively higher prices than the teas from the other two regions. Up until the mid-1970s, prices demonstrated a declining pattern — the main reason being the nationalisation concept of the tea industry. In 1978, prices went up due to a significant devaluation of the Rupee against the US\$. The highest prices were achieved in 1984, since then there has been a declining trend. This appreciable increase in prices was recorded mainly due to supply shortages in international markets, (Central Bank of Sri Lanka, 1984). Later, the improvements in production by other countries decreased the local prices to a significantly low level. In

1988, the improvement in tea prices was due mainly to the depreciation of the Rupee (Central Bank of Sri Lanka, 1989). Again in 1992, prices were increased due to the severe drought which prevailed in most of the producing countries, especially in Kenya. Therefore, the increase in the Colombo Auction prices are masked by the devaluation of the Rupee against the US\$ and changes in the international environment. A similar change in auction prices demonstrated that the impact of all these issues is common to teas from all of the regions.

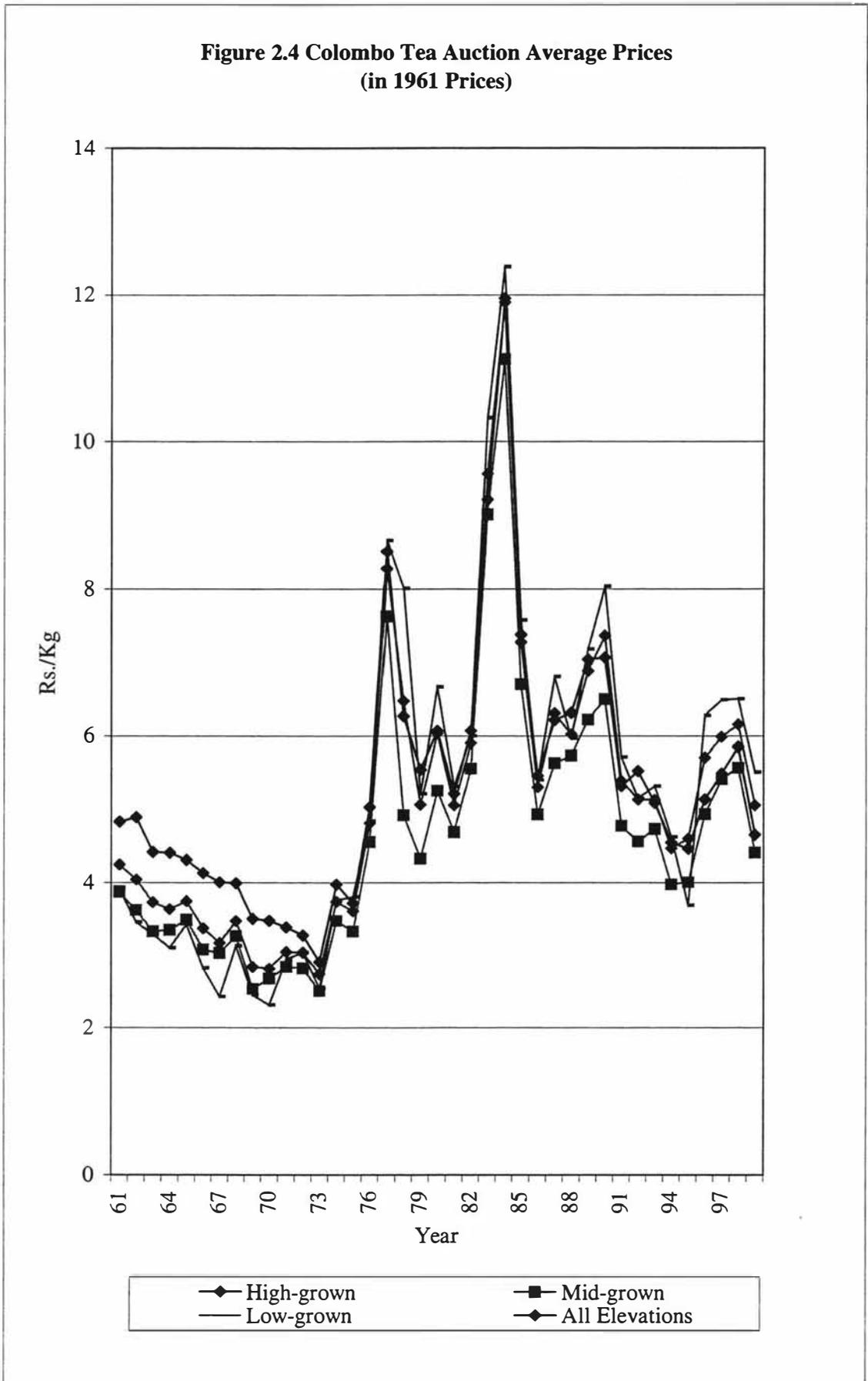
The FOB prices of different tea types also revealed fluctuations similar to those of the auction prices (Figure 2.5). Even though the price changes demonstrate some similarities, the level of value-addition has enhanced the achievement of a higher unit price. Bulk tea has fetched the lowest price over the years, followed by packeted tea. Instant tea is the highest priced tea type followed by tea bags. The other types of tea are also performing well in the market by showing an increasing trend in their prices. Table 2.1 illustrates tea prices converted to US\$ (current dollar terms) by using the relevant exchange rates. This conversion is important in eliminating the distortions created by the devaluation of the Rupee. It clearly demonstrates that VAT is fetching a higher price than bulk tea, and that it has increased nearly three times more than the price of bulk tea. Although the prices of packeted tea are higher than those of bulk tea, it revealed a relatively lower growth rate compared to all the other types of tea. For tea bags and instant tea, prices have risen significantly during the period 1977-1997.

**Table 2.1**  
**Tea Export Prices (US\$)**

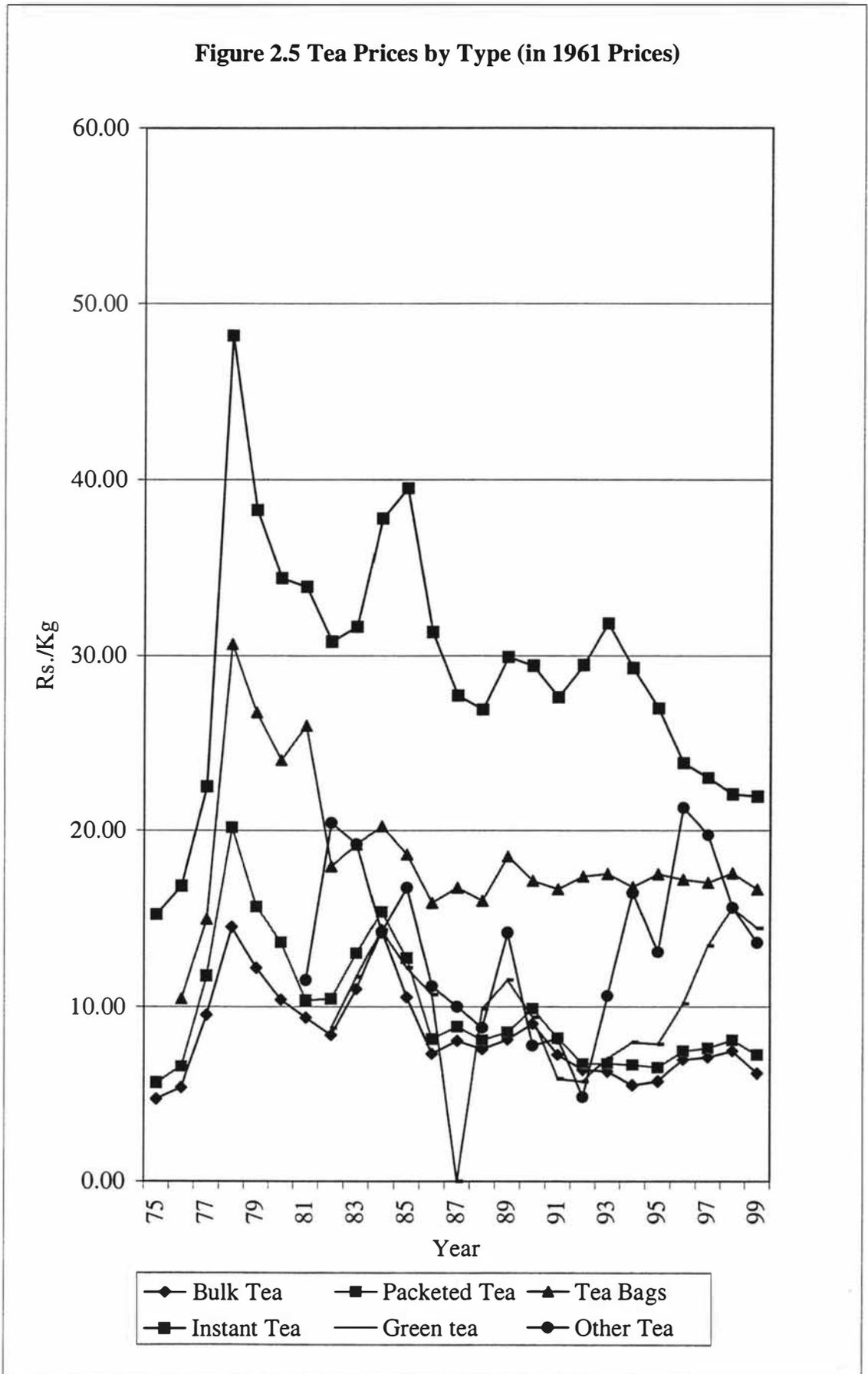
|                      | 1977 | 1987 | 1997 | Growth Rate<br>1977-1997 (%) |
|----------------------|------|------|------|------------------------------|
| Bulk tea             | 2.03 | 1.70 | 2.39 | 15.06                        |
| Packeted tea         | 2.50 | 1.88 | 2.57 | 2.72                         |
| Tea bags             | 3.19 | 3.54 | 5.76 | 44.12                        |
| Instant tea          | 4.80 | 5.87 | 7.77 | 38.22                        |
| All value-added teas | 1.85 | 2.80 | 3.90 | 52.56                        |

Source: Calculated based on the ITC (Various years) and Sri Lanka Tea Board Statistics (1999)

Figure 2.4 Colombo Tea Auction Average Prices  
(in 1961 Prices)



Source: Based on data from the Sri Lanka Tea Board (1999)



Source: Based on data from the Sri Lanka Tea Board (1999)

Devaluation of the Rupee is advantageous for exporters in that it makes their exports more competitive against those of their rivals, and thereby exports can be enhanced. But the impact of devaluation is common to both auction prices and prices of VAT. Therefore, the VAT producers have to buy primarily processed tea at higher prices from the auction for further value-addition, leaving them to gain less. But overall, the export prices clearly demonstrate that VAT producers could obtain better prices by adding more value to tea as opposed to exporting tea as a commodity. The higher growth of export prices of VAT over bulk tea also demonstrates better prospects for VAT producers in the country.

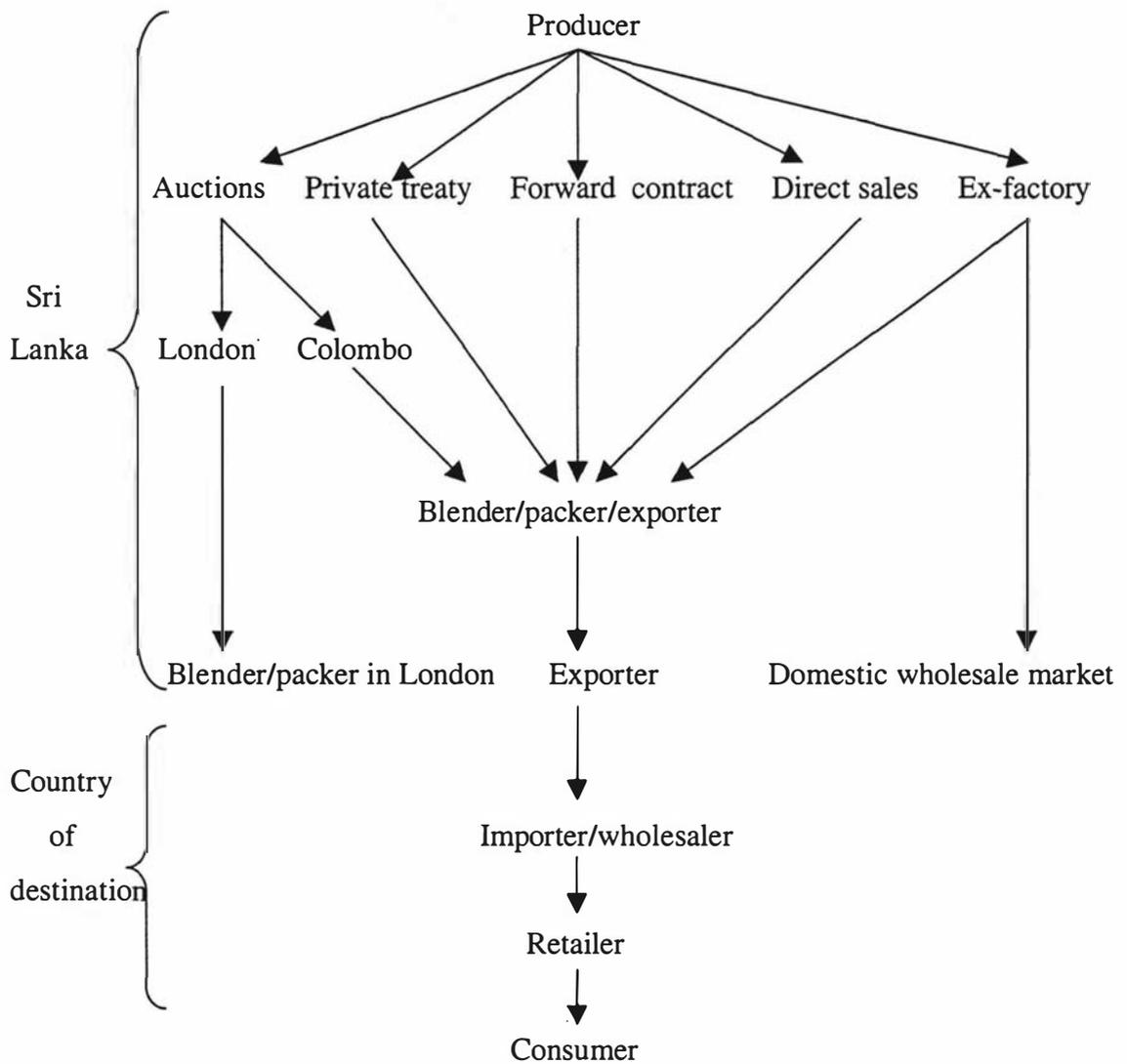
#### **2.4 The Tea Marketing System**

Like any other commodity, tea flows through several intermediate steps before reaching the final consumer. This flow of activities includes numbers of different industries and processors. Figure 2.6 shows the tea marketing network of Sri Lanka (United Nations, 1996). In this marketing channel the producer basically does the production of tea and the initial processing while the blender and packer convert the bulk tea into processed tea. A detailed picture of the individual production activities conducted within this system is provided in Figure 2.1. One of the main conclusions drawn by the UNCTAD report (1982, p. 43) was that it identified that, in the tea industry, the distribution channel is highly vertically integrated from production through selling to processing and retailing in the market economy countries, both developed and developing alike. Therefore, those firms that are protected with strong mobility barriers play a significant role in the global tea industry. The UNCTAD report further identified this situation as the focal problem for the developing countries in enhancing the performance of VAT production.

At present there are five marketing channels in Sri Lanka: the Colombo Tea Auctions, private sales, forward contracts, direct sales and ex-factory. The greater part of the tea production (nearly 95 per cent) is sold through the Colombo Tea Auctions and is the largest auction centre in the world since the closure of the London Tea Auction centre in 1998. The selling broker acts as the selling arm of the producer and receives a commission of 1 per cent (Managing Director, Forbes and Walker Tea Brokers (Pvt.) Ltd, Sri Lanka, personal communication, 14 January, 2000). In Sri Lanka, 8 brokers

handle the brokering and the auctions are held weekly at the Ceylon Chamber of Commerce, Colombo. Private sales enable producers to receive payments more quickly, reduce uncertainty over their earnings and avoid warehousing and other extra charges. Although private sales could provide more benefits for both parties, the proportion of private sales is very low in Sri Lanka (nearly 4.5 per cent of the production). According to Kelegama et al. (1995) the main reason for the small number of private sales is that both parties assume that they can capture a better price through the auction rather than from private sales, and are not willing to sell by this method. All prices reached by private sales are subject to ratification by a valuation panel appointed by the Tea Board in order to ensure that they were made at a fair market price.

Although the tea auctions were considered to be effective in determining prices, some argue that there are a large number of imperfections in the market system (UNCTAD, 1982; Ali, Choudhry & Lister, 1997). According to them, buying brokers representing the major multinational blenders and packers in the tea industry — especially Unilevers, Finlays, and Lyons-Tetley — have high bargaining power at the auctions and limit the number of potential buyers. However, although these conclusions were based mostly on the London Tea Auction, they are noticeable for the Colombo Tea Auction also. The impact of well-known multinational companies like Unilevers, Finlays and Van Rees (which is 100 per cent Netherlands owned and is the second largest exporter of tea in the country) plays a significant role at the auctions in that they purchase a higher quantity of tea and exercise higher bargaining power at the auction. The main effect of this on the VAT is that the high bargaining power can lead to their having a high cost advantage over the other VAT producers. In order to overcome these imperfections, Kelegama et al. (1995) have suggested a number of interventions at the auction. Even though some of the interventions such as implementing floor prices, providing concessionary credit, establishing buying houses and the like have some advantages, they have certain associated problems. Therefore, Kelegama et al. (1995) argued for a radical change from selling tea as a commodity through auctions to servicing foreign owned brands, to marketing tea as a branded consumer product of Sri Lanka.



**Figure 2.6 The Marketing Network of Teas in Sri Lanka**

Source: United Nations, 1996

## 2.5 Tea Trade

Both developing and developed countries play a main role in the tea trade — especially the major producers of developing Asian and African countries, who trade their tea as a commodity with a lower level of value-addition. But the non-producing developed countries take the main advantage of the tea trade by adding more value to the basic commodity. This type of trading pattern has developed along with colonisation, as a majority of the producing countries were once colonies of the UK, the largest VAT producing country in the world. However, Sri Lanka has taken a lead in breaking away from this colonial trade pattern and has given great emphasis to adding value to tea in

the producing country. But, as indicated above, increased multinational involvement in the tea industry negatively influences the developing countries by preventing them from gaining a reasonable share from the tea trade (the global scenario with respect to multinationals will be discussed in the next chapter). Therefore, the following sections briefly discuss the status of the Sri Lanka's tea trade with respect to other main players in the tea industry.

### **2.5.1 Tea Exports**

Throughout the world, four countries play a dominant role with almost 75 per cent of the world tea export share in 1998 (ITC, 1999). These are: Sri Lanka (21 per cent), Kenya (21 per cent), China (17 per cent) and India (16 per cent) (ITC, 1999). Among these leading exporters, Sri Lanka, India and Kenya act as black tea exporters, whereas China acts as a green tea exporter. The important feature in both India and China is a declining export volume due to increasing domestic consumption. In 1998, India and China consumed approximately 74 and 67 per cent respectively of the tea from their total production. However, both Sri Lanka and Kenya have a very low domestic consumption of tea and, in the same year, consumed around 9 and 4 per cent only of their total tea production respectively. This illustrates that the dominant role of India and China in tea exports will decline in the future. But similarly to Sri Lanka, the very low domestic consumption in Kenya will play a main role in world tea exports, and Kenya will become the main competitor for Sri Lanka.

During the period 1961-1997, the share of world exports demonstrated some similarities between major producing countries (Figure 2.7). India and Sri Lanka showed a steady loss of market share, whereas China and Kenya had a reverse. Sri Lankan exports increased until about the mid-1960s, and for the first time, in 1965 Sri Lanka became the world's largest exporter of tea. Afterwards a significant drop in quantity was discernible when the nationalisation of plantations exerted a significant influence over exports. According to Ponnambalam (1980), the take-over of British company-owned tea estates led to almost a boycott of Ceylon tea in the UK market, and the UK buyers transferred their allegiance from Ceylon tea to Kenyan and Indian teas. These unfavourable conditions, which prevailed in the world market, affected the local production level as well as the quantity exported. Later in 1992, unfavourable weather

conditions affected production and directly influenced exports from Sri Lanka. In 1993, improved production in most of the major producing countries increased the competition and indirectly affected local tea exports (*International Tea Yearbook*, 1994). However, from the mid-1990s, the Sri Lankan export share demonstrated a steady increase and it was clearly evident that this was at the expense of the Kenyan export share. The low supply of Kenyan tea due to severe drought could have been the main cause of the increasing Sri Lankan export share. This was further enhanced by Sri Lanka's price competitiveness in the world market due to its nominal depreciation of the Sri Lankan Rupee against the US\$ — along with the active participation of the Commonwealth of Independent States (CIS) countries (Central Bank of Sri Lanka, 1996). The increasing trend in production and continuing role of CIS countries maintained a high share of exports. But the favourable environment was again affected, starting from mid-1998, due mainly to economic problems in Russia after the Rouble crisis (Central Bank of Sri Lanka, 1999). Therefore, the favourable situation lasted for about 3 years only. Overall, Sri Lanka's declining market share was clearly evident. This justifies the view that, in order to sustain its place in the world market, Sri Lanka should undertake an alternative strategy. Even though the Chinese share demonstrated an increasing trend, its threat to the Sri Lankan tea industry is minimal — mainly because of its increasing domestic consumption and due to its high emphasis on green tea. This is a further reason why Kenya will become the major competitor for Sri Lanka in terms of black tea exports.

According to the Sri Lanka Tea Board Statistics, in 1998 Sri Lanka exported 265 million Kg of tea to more than 100 countries. During the past decade, the most important buyer has been the CIS, which has shown a steady and increasing demand for Sri Lankan tea. At present, Middle East countries occupy the second place in Sri Lanka's tea export market. Russia has been the leading market for bulk as well as for VAT, followed by UAE and Turkey. The role of Pakistan as a buyer represents a declining trend; its purchases decreased from 14 to 3 million Kg during the period 1986-1998. This was due mainly to the inability of Sri Lanka to provide CTC tea.

Even though Sri Lanka exports a higher proportion of tea as a commodity, its VAT exports have demonstrated a certain improvement over the years. According to Sri Lanka Tea Board statistics, in 1962 it exported 99 per cent of tea as bulk and the rest as

packets. However, in 1977 bulk tea exports dropped to 92 per cent and packeted tea exports increased to 8 per cent. In 1998, bulk tea exports declined further to 60 per cent, and packeted tea exports increased to 33 per cent. Along with that, tea bags captured a 5 per cent market share in 1998. The other tea category revealed a share of 2 per cent in 1998 — but it has significantly fluctuated over the years. Even though instant tea production was initiated in the country in 1967, it still contributes a relatively lower proportion of VAT. Instant tea production increased minimally from 0.1 to 0.3 per cent during 1977-1998. Exports of green and other tea types also showed an increasing trend over the same period, but their contribution was minimal — accounting for less than 1 per cent of the total tea exports in 1998. In terms of export share growth, other teas and tea bag exports showed a significant improvement over the period, capturing a nearly 100 per cent increase in exports (Table 2.2). Only bulk tea exports demonstrated a negative growth rate of 53 per cent. Although packeted and instant tea showed an increasing growth in their exports, packeted tea has performed comparatively well. As pointed out earlier, bulk or VAT exports from Sri Lanka are greatly influenced by the economic environment of the importing country. In addition, VAT exports are hampered by the initiation of VAT production in the importing country — which is particularly evident in Egypt. For these reasons, the Director of the Tea Promotion Bureau pointed out that Sri Lanka should undertake marketing and promotion activities much more aggressively. This can be enhanced by activities like establishing direct links with the consumer, promoting Sri Lankan-owned brand names and by seeking niche markets for VAT. All these activities play a significant role in increasing consumer loyalty.

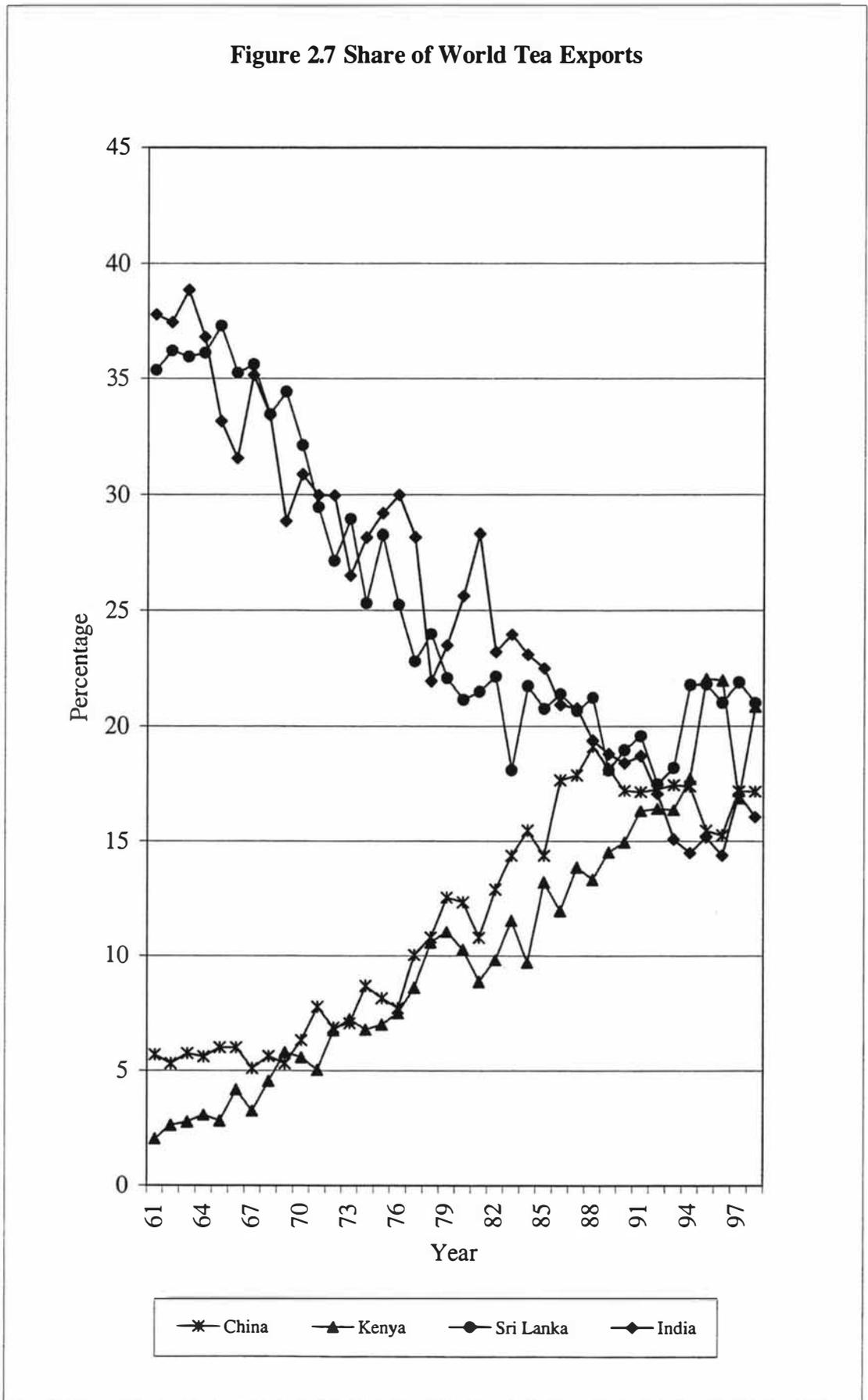
**Table 2.2**

**Proportion of Exports and Growth Rate by Type of Tea (%)**

|                | Proportion of Exports |       |       | Growth Rate |
|----------------|-----------------------|-------|-------|-------------|
|                | 1977                  | 1987  | 1998  |             |
| Bulk tea       | 92.25                 | 59.76 | 60.34 | -52.88      |
| Packeted tea   | 7.57                  | 38.61 | 32.70 | 76.85       |
| Tea bags       | 0.06                  | 1.21  | 4.50  | 98.67       |
| Instant tea    | 0.12                  | 0.17  | 0.32  | 62.50       |
| All other teas | 0.00                  | 0.26  | 2.13  | 100.00      |

Source: Calculated based on the Sri Lanka Tea Board Statistics (1999)

This export structure of Sri Lanka clearly signifies the changing export pattern of a developing country along with the developmental changes in the country. According to Todaro (1997), with development the export structure of an economy will shift from being a commodity exporter to a product exporter by adding more value to the product. Similarly in terms of the tea industry, the transformation process demonstrates that countries initially concentrate on bulk tea and then shift to packeted tea, to tea bags and to instant teas. The declining growth rate of its bulk tea and high growth rate of its VAT export share signify that Sri Lanka is moving away from a commodity exporter to a product exporter stage. But the main problem associated with VAT is its high proportion of VAT production under private brands. The associated disadvantages are explained in the next chapter.



Source: Based on data from the ITC (Various issues)

### **2.5.2 Tea Imports**

Tea is a commodity that is commonly imported throughout the world — both for consumption and for further value-addition. For decades, the UK acted as the leading importer in the world but it has shown a greater proportion of re-exports. According to international tea statistics, the UK re-exports nearly one-fourth of the tea that it imports. The main reason is that most of the multinational companies involved with tea are based in the UK. However, imports to the UK have shown a sharp decline over the years. In 1961, the UK imported 249 million Kg of tea, which decreased to 142 million Kg in 1990 — although there was a slight increase (to 150 million Kg) in 1998. This significant decline of tea imports to the UK may be attributed to the establishment of UK-based multinational companies in the tea producing countries where they have initiated VAT production activities. At present, Asia acts as the leading importer of tea — accounting for about 28 per cent of the total imports in 1998. Africa and CIS/Soviet Union act as the second and third most significant importers of tea in the world by importing 18 and 15 per cent respectively of the total imports in 1998. Among the Asian countries, Pakistan plays a leading role by absorbing 33 per cent of the region's imports. According to the Food and Agriculture Organisation, the import requirements of developing countries are predicted to increase rapidly to reach 850 000 tonnes, while the import demand in developed countries is projected to increase to 700 000 tonnes by the year 2005 (Chang, 2000). In volume terms, CIS (mainly the Russian Federation), Pakistan, UK, Egypt and USA were considered as the major importers of tea, accounting for 51 per cent of total tea import requirements.

In Sri Lanka, a certain level of protectionism has been evident with regard to tea imports. Only since 1981, has the government decided to permit the importation of foreign teas for blending and export (Sambasivam, 1989). These imported teas are essentially used for blending with local tea types, which increases the level of value addition. At present, tea import permits are issued in expectation of increasing the value of exported tea. Imports are allowed only with respect to CTC teas and speciality teas like Darjeeling, Assam and green tea. In 1981, 0.05 million Kg of tea were imported, which increased to 3 million Kg in 1990, and to nearly 5 million Kg in 1998 (Sri Lanka Tea Board, 1999). However, the quantity imported did not show a proper trend but has

fluctuated phenomenally over the period. This has been due primarily to the changing restrictions imposed on tea imports within the country.

## **2.6 Tea Consumption and Demand**

Tea is considered to be the second most important beverage in the world next to water (*The Tea Man*, 1999). Tea consumption is greatly influenced by the availability of other beverages such as coffee, cocoa, soft drinks and fruit juices. In addition, consumer demand for tea is influenced by a number of other factors, which show a significant difference between the developing and developed countries. In the developing countries generally, consumption is very much influenced by both increasing income and population (Ali, Choudhry & Lister, 1997). But in the developed countries demand is significantly influenced by the increasing sophistication of the consumer (Kelegama et al., 1995). Sophistication of consumption patterns can be represented by the consumers' increasing concern for convenience, health and consumption of natural products. Therefore, in terms of tea it is common that the type of tea consumed shifts from loose tea to packeted tea at the initial stages of development. With increased development, consumption will shift to more convenient forms like tea bags, and at a still higher stage of development it will be more for ready-to-drink (RTD) teas. This is illustrated by the comparatively higher proportions of bulk and packeted tea exports to developing countries and greater VATs such as tea bag and instant tea exports to developed countries. The recognition of these changes in tea consumption patterns and their trends is important in determining future opportunities for the Sri Lankan tea industry, especially with respect to VAT production.

Lack of data on tea consumption prevented the assessment of tea consumption patterns and their changes. Even the data available in the ITC bulletin of statistics represent only the tea import data for consumption and exclude consumption of locally produced tea. Therefore, the available data give a clear picture of the non-producing countries only. The data are not dis-aggregated by tea type. According to the ITC (1999), world tea imports for consumption grew by 26 per cent during the 1987-1997 period. The major contribution came from Europe (including the UK and CIS/USSR) which accounted for 39 per cent. CIS/USSR and the UK consumed 43 and 32 per cent respectively of the total imports to Europe. Among the Asian countries, Pakistan, (a non-tea producing

country) has the highest level of domestic consumption. It absorbs nearly 7 per cent of the total imports. The UK, one of the most important tea-consuming countries in the world, represents a declining consumption level, as its consumption dropped from 3.24-2.62 Kg per head during the 1987-1997 period.

In Sri Lanka, tea is the cheapest and most popular beverage, as the price of a cup of tea is half the price of a cup of coffee, and one-fourth of that of a soft drink. Most of the country's consumers use tea in loose form, and only 20 per cent of tea is consumed as packeted tea (*International Tea Yearbook*, 1994). Only a small portion of green tea is consumed within the country. Usually the inexpensive, poor quality dusts and off-grade tea are consumed locally. Even though Sri Lanka is one of the main producers of tea, all the best quality teas and instant tea leave the country as exports. According to the annual bulletin of statistics of the International Tea Committee, during the period 1996-1998 Sri Lankan per capita consumption of tea was only 1.29 Kg per year — whereas the highest per capita consumption of 3.23 Kg per year was recorded in Ireland (ITC, 1999). In general, the country's home demand is not well-specialised and the primary driving factors for tea consumption are price and income. The calculated price elasticity of demand indicates that tea is a highly price inelastic commodity with a value of -0.4209. The income elasticity is estimated to be 1.004 — showing that increasing income will lead to increasing domestic consumption (Bogahawatte, 1989). However, the steadily increasing per capita income of the country, along with changing life-styles can lead to an enhancement of the domestic consumption of VAT through sophistication of food consumption patterns. This is evidenced by firms' involvement in VAT sales, especially packeted tea and tea bags, within the country. Similarly, this type of changing consumption pattern can be expected even among other developing countries due to the rapid rate of growth in income.

The increasing sophistication of consumption patterns in developed countries has increased the demand for flavoured, gourmet, organic and ready-to-drink iced teas (Kelegama et al., 1995; Sambasivam & De Alwis, 1998). Simrany's analysis using the tea industry within the USA showed a better explanation for the changes common to developed countries (Simrany, 1999). According to him, consumer demand for tea can be influenced by both macro and micro demand forces. Some of the broad-based macro forces affecting tea demand are as follows:

1. healthy lifestyle patterns,
2. improved knowledge of nutrition,
3. greater reliance on natural homeopathic remedies to prevent diseases,
4. continuing appeal of natural products,
5. continuing desire for convenience foods, and
6. preference for quality products offering true value.

In addition to broad-based macro demand there are specific segments of micro demand factors. In the USA tea industry, these can be classified into four broad categories: supermarkets, RTDs, food service and speciality. Some of the micro demands affecting each category are as follows:

**Supermarkets:**

1. increasing appeal of small-sized, higher retail value packages,
2. demand for branded and generic tea types, and
3. heavy reliance on trade versus consumer marketing,

**Ready- to-drink:**

1. increasing demand for convenience, and
2. increasing demand for higher quality speciality brands,

**Foodservice:**

1. increasing demand for meals away from home and, with that, a high level of concern for the nutrition aspect, and increasing demand for tea,
2. increasing gourmet or speciality tea segment, and
3. the fact that tea is known to be the most profitable beverage item for foodservice operators.

**Gourmet or speciality tea:**

1. increasing demand for speciality tea through tea saloons, retailers, catalogue distributors, and
2. the growth of speciality tea which is enhanced by high profits in the industry.

Even though — at present — consumers in the developing countries do not show highly sophisticated consumption patterns, the fast rate of growth in income of those countries can lead to an increase in the demand for VATs like packeted teas and tea bags. This is clearly evidenced by the statistics relating to Sri Lankan tea exports. Overall, it is

apparent that VAT products have better prospects for the future than do tea as a commodity with a minimal level of value addition.

## **2.7 Policies Related to Value-Added Tea**

The Sri Lanka Tea Board is the apex body that establishes and supervises policy decisions for the betterment of the industry and trade. It was established in 1976 with the objectives of promoting and developing the tea industry in Sri Lanka. However, Sri Lanka does not have a national policy on tea (Director, Tea Promotion Bureau, 1998, p.12). Further, he has pointed out that the country has given greater emphasis to the small-holder sector as the dynamic segment of the industry, and has overlooked tea manufacturing.

Up until the mid-1970s, the country's tea sector policies were mainly targeted at the plantations or the basic cultivation side of tea. The marketing of tea was accorded only negligible importance, especially with respect to VAT. However, with liberalisation in 1977, a number of beneficial policies were implemented to enhance VAT exports. Even though the initiation of tea imports began in 1981 with a view to developing Sri Lanka as a centre for the tea trade, increasing VAT production and to provide fillers (low priced teas) for blends, the granting of permits has changed markedly over the period (Sambasivam, 1989). Further, a range of tax and duty rebates was implemented, and exporters of VAT obtained duty rebates on necessary imports including tea-bagging machines.

The tea export taxation policy was one of the most important policies that have affected the profitability of the industry. It was considered to be one of the main sources of government revenue in the country prior to 1993. The taxation consisted of an export duty, an ad valorem tax and, in addition, a Tea Board cess<sup>14</sup> (Sri Lanka Tea Board, 1999). Tax rates in Sri Lanka were the highest among all the major producers of tea — which had an extremely adverse effect on improvement in the industry (Betz, 1989).

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<sup>14</sup> Tea cess is a levy imposed on all teas exported from Sri Lanka to finance research, fiscal, regulatory, and marketing development — also promotional activities undertaken in the tea sector.

Therefore, the government abolished the export duty and ad valorem tax, starting from December 1992, in order to reduce the burden on the exporters of tea (Ministry of Public Administration, Home Affairs and Plantation Industries, 1997). Currently, the Tea Board collects a tea cess amounting to Rs. 2.50 per Kg from all exporters (medical aid is 0.35 cents, but this has not been payable on instant tea since July 1991). From 1999 onwards, 70 per cent of this cess fund has been allocated for the small-holder and research and development sectors, with a prime objective of decreasing the cost of production of tea (Director, Tea Promotion Bureau, 1998). Further, he indicated that the present policy totally neglects market research. Due to this higher level of allocation of funds to primary tea processing, marketing development and promotional activities will be greatly affected. This could have a serious negative impact on the performance of VAT, which even at present is hampered by the limited promotional assistance available.

The Tea Promotion Bureau<sup>15</sup> is the organisation which is solely responsible for promoting VAT. It undertakes promotional activities under three broad categories: uni-national<sup>16</sup>, brand and generic promotion. It subscribes to some elements of the advertising/promotion plan of the exporters, such as television, radio, press, cinema, posters and hoardings, direct mail, fairs and demonstrations, consumer promotion and in-store promotion of a branded tea where the Lion logo is featured prominently. However, the brand promotion policies of the Tea Promotion Bureau for the year 2000 gave a product priority as follows: high valued speciality teas, tea bags, tea packets and bulk off-takes. The highly prioritised product category was funded on a 50:50 basis by the Tea Board and exporters/importers. All the other categories of products were given a lower level of support under this policy. Even though none of these promotional policies has showed stability over the years, the favourable environment had a positive influence in raising VAT production.

In terms of the policies related to quality, Sri Lanka adheres the International Organisation for Standardisation (ISO) standard for tea approved in 1977 — ISO 3720.

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<sup>15</sup> The Tea Promotion Bureau is an operational division under the Sri Lanka Tea Board, which handles all matters connected with the promotion of Sri Lankan tea.

<sup>16</sup> The promotion of Ceylon tea as against teas sourced from other countries.

This is the minimum quality standard for tea at the Colombo Tea Auction or any other channels of sales and for exports. The Lion Logo is used as the symbol of quality. Permission for the use of the Lion Logo is granted only after checking the suitability of teas. In addition, the registering of such packs and monitoring of the same prior to shipment are undertaken as steps in the Lion Logo campaign. All these preliminary examinations are carried out by the Tea Tasting unit of the Sri Lanka Tea Board. However, at present only a very few packing plants have received ISO 9002 certification (Director, Tea Promotion Bureau, 1998). According to the Sri Lanka Standards Institution statistics, only the Quick tea, Maskeliya Plantations and Unilevers have received ISO 9000 certification from the Sri Lanka Standards Institution.

The privatisation of tea plantations is one of the most important policies that have been implemented to increase efficiency and to decrease the cost of production of primarily processed tea. Initially in 1992, 449 government-owned tea, rubber and coconut estates were detached from the state corporations and consolidated into 22 government-owned regional joint stock companies, each holding 20-25 estates (Ali, Choudhry & Lister, 1997). The management was done on a profit-sharing basis, and the land was leased for a 99-year period. Improper allocation of property rights created another problem in privatisation. The 22 companies were fully owned by the government, and the companies merely managed the operations on their behalf. Therefore, they were not directly responsible for financing capital development or for on-going operations. The state banks met the short-term capital requirements through overdrafts. For these reasons, the privatisation structure changed again. In 1995, 23 estate firms were privatised by selling 51 per cent of the shares of the firms through open bids. In 1997, 14 companies were sold and the stocks of 6 of these started to trade in the stock exchange (Ali, Choudhry & Lister, 1997). In addition to increasing efficiency, the links between the plantation-base and VAT producing firms have become an added advantage for VAT producers in promoting their VAT. Especially, the backward linkages with plantations and processing are used in assuring the quality of primary tea for quality concerned consumers and buyers.

In terms of the trade policies, bilateral and multilateral agreements made with the tea importing countries could play a greater role in influencing the future prospects of the VAT producers. The agreement made in the year 2000 with India can be considered as a

significant achievement because in the past, Sri Lankan tea had been considered as an excluded item among Indian imports. Even though the country intends to develop a similar agreement with Pakistan, the main drawback will be the lack of CTC tea production capability in Sri Lanka, because the Pakistan market is driven primarily by CTC tea. Further, India — a strong competitor for Sri Lanka in the Russian market — reportedly entered into an agreement with Russia to sell 100 million Kg of tea to Russia from 1999 to 2005 in December 1998 (Venugopal, 2000). Russia is the main export market for Sri Lankan tea, both bulk as well as VAT. Therefore, the development of a binding agreement with the countries of the former USSR could assure future prospects of tea marketing, especially VAT. Most importantly, the trade links developed through the Common Market for Eastern and Southern Africa (COMESA) free trade agreement between Kenya and Egypt will have significant negative influences on the Sri Lankan tea trade as Egypt is one of the largest Sri Lankan tea importing countries.

## **2.8 Summary**

It is evident that the plantation-base of Sri Lanka is facing severe competitive pressures from other major tea producers. Within this scenario, it is highly unlikely that Sri Lanka will be able to compete effectively on a cost basis. Although VAT production is more advantageous than a cost-based strategy, its performance is strongly linked with the plantation-base of the country. Improvements in the cost structure and CTC tea production will be crucial issues that are directly related to the plantation-base. Further, the competitive pressures were aggravated by the country's high level of focus on commodity-based trade. As a result, the Sri Lankan export market share started to decline after the mid 1960s. This decline was influenced by increasing competitive pressures from Kenya, a newcomer to the industry. All of these problems created an unfavourable position for the Sri Lankan tea industry. Therefore, shifting its emphasis from commodity to VAT production may provide better opportunities for the industry's survival. Since the future demand for tea most likely be in VAT, the change in emphasis could provide more security for the country's exports. Given this change, it is most important to assess how VAT production can be enhanced within Sri Lanka. Early exploitation of structural change could provide a number of added advantages vis-à-vis other major tea producing countries. Advantages such as establishing Sri Lankan-owned brand names, strengthening consumer loyalty, and experience curve effects could be

significant to achieve competitiveness. These advantages could provide a strong position for Sri Lanka to overcome the external threats with which the industry is presently faced. Ultimately, all of these factors may lead to overall improvement of the Sri Lankan tea industry.

## Chapter Three

### Value-Added Tea and the Globalisation of the Tea Industry

With ongoing globalisation, the most fundamental questions faced by an industry or business at present are how to achieve, and sustain, competitive advantage in the marketplace. In order to answer these questions, producing countries have to change their production patterns in line with changing global demand. Producers cannot depend only on the factor comparative advantage in making their economic decisions. As a further result of globalisation, competition among industries and businesses has intensified. This has created the necessity for developing a stronger basis of competitive advantage over competitors in order to survive in the market. Similarly, as pointed out earlier, in terms of Sri Lanka VAT production plays an important role in revitalising the present condition of the tea industry and in positioning it within the global tea industry. However, the enhancement of local VAT production is directly influenced by the ongoing globalisation process. Therefore, this chapter is designed to discuss the changing nature of the tea industry in the face of the globalisation process and its influences on VAT production strategy in Sri Lanka.

#### 3.1 Globalisation and Agribusiness

*Globalisation* means, basically, a country's economic integration with the global economy. Jilberto and Mommen (1998, p. 1) defined globalisation as *the multiplicity of linkages and interconnections between states and societies which make up the present world*. Frank (1995, p. 107) defined globalisation as *the need to extend the horizon of international negotiations from the liberalisation of strictly broader measures, to the co-ordination of various areas of domestic policy that substantially affect the ability of firms to conduct their operations world-wide*. Most importantly, Le Heron (1993, p.191), by discussing globalisation with respect to agriculture, pointed out that globalised agriculture is created due to forces channelled thorough capitalist tendencies to capitalise and industrialise agriculture. Further, he identified the integrated agro-production systems as the cornerstones of globalised agriculture. This globalised agriculture represents a very broad field of production activity, reflecting interplay

amongst global processes and local action. Consumer demand changes are playing a significant role in enhancing these global changes. Klein and Kerr (1995, p. 551) pointed out that globalisation means new markets as well as new competitors. Therefore, there is a continuing pressure on firms to be cost competitive and innovative both at home and in foreign markets.

According to Jilberto and Mommen (1998) globalisation creates wider markets for trade, expands the array of tradables, increases private capital inflows and improves access to technology. Therefore, the current concept of globalisation is becoming important to all countries as both producers and consumers. This concept has also created the necessity of aligning a given country's production with the changing global environment. Similarly, West and Vaughan (1995) pointed out that the process of globalisation is increasingly important with respect to world food and beverage processing industries. All these reveal the necessity of discussing the implications of the globalisation process on VAT production.

### **3.1.1 Globalisation and the Sri Lankan Tea Industry**

From its initiation in the 19<sup>th</sup> century, the Sri Lankan tea industry has maintained strong links with the outside world. Even though the concept of globalisation was not known at that time, foreign involvement in producing tea was very high. During the time that Sri Lanka was a British colony, the British invested in tea plantations in order to take added advantages from the country in producing tea. The total quantity produced was transferred and the value-addition was carried out in the UK. At present, as an independent state, Sri Lanka illustrates a liberalised economic framework and has a certain level of integration with the outside world. But in terms of its tea trade, the country has a number of barriers to importing tea designed especially to protect the plantation-base of the tea industry. With the liberalisation, some of the restrictions on tea imports were relaxed. But still, the imports of orthodox tea are prohibited and only CTC and speciality tea imports are allowed into the country.

According to the concept of globalisation it could be argued that VAT production is one of the responses which arose due to increasing global integration — especially in meeting changing consumer demands. Many have argued that the trade in processed

goods — rather than in agricultural commodities — is directly related to the globalisation process (Klein & Kerr, 1995; West & Vaughan, 1995). Therefore, the VAT production strategy provides a good opportunity for the Sri Lankan tea industry to broaden its global integration process. Further, it will be a useful strategy in gaining advantages from the globalisation of distribution. As pointed out by Klein and Kerr (1995) globalisation of distribution creates wider opportunities for an agribusiness producer by enabling it to reach a range of consumers with varying tastes. Therefore, there is a great potential for VAT producers to differentiate the product in order to cater for consumers with varying tastes. This can be enhanced by the country's ability to produce teas with varying tastes. Further value-adding stages like flavouring and packaging can also enhance the opportunities for VAT producers. For example, the brand *Mlesna* is gaining the added advantages of globalisation of distribution especially by adding value to tea. Its product range exceeds 1900 items and it produces more than 100 different gourmet blends of luxury tea in catering to varying tastes of people in over 42 different countries in the world. Therefore, the globalisation of the tea industry enables firms to capture more benefits through a VAT production strategy rather than a commodity-based strategy.

Even though one of the significant features of globalisation of agribusiness is the ability of firms to conduct operations world-wide, with respect to Sri Lanka this is relatively limited. Mainly it is the lack of capital that has put constraints on extending its production activities through foreign direct investment (FDI). The data from the present survey showed that only one fully Sri Lankan-based firm has extended its production activities through FDI. All the other firms involved in outward FDI were fully or partially foreign owned. This clearly demonstrates that VAT production through global integration of production activities is relatively low with respect to Sri Lankan-owned firms. However, with respect to inward FDI, the country is showing a high level of integration with other countries and has created a favourable environment for investment. The integration of production activities — at least by a few firms — reveals that the country's tea industry with respect to VAT is becoming globalised<sup>17</sup>.

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<sup>17</sup> However, trade plays a role in globalisation; trade is a form of internationalisation where it simply demonstrates an extension of activities across borders. A country is truly globalised

### **3. 2 Factor Comparative Advantage and Globalisation**

A *comparative advantage*<sup>18</sup> is an *added advantage of a country vis-à-vis other countries*. Traditionally, the comparative advantage phenomenon was referred to as a country's advantages in terms of basic factors. This is known as the *factor comparative advantage* and is associated with the added advantages of a country with respect to factors of production such as land, labour, natural resources and capital vis-à-vis other countries. In the past, the significance of the factor comparative advantage in trade was raised along with the Heckscher-Ohlin trade theory which emphasised the fact that resource endowments vary between countries and lead to comparative advantage rather than differences in productivity (Hill, 1994). The basic insight of the Heckscher-Ohlin model, that traded commodities are really bundles of factors and the exchange of commodities internationally conducted from locations where factors are abundant to locations where they are scarce (Leamer, 1995) has given a high prominence to the factor advantages of a country. Two fundamental hypotheses of this model stand out, namely, the factors of production are immobile between countries, and these factors are used in different combinations to produce different goods. Further, this model assumes that the export commodities of a country should be based on its abundant resources. Even though this model argues that factor-based comparative advantages are important in enhancing trade, the present concept of globalisation has downgraded this argument — especially by breaking the fundamental hypothesis that the factors of production are immobile between countries. Porter (1998b, p. 13) also pointed out that factor comparative advantage bears little resemblance to actual competition; therefore, it introduces a number of problems. These considerations show that factor advantage will not simply lead to higher productivity. Countries have to upgrade their factor advantages and try to convert comparative advantage into competitive advantage in the market place for superior performance (Hunt & Morgan, 1995; Porter, 1998b). The

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when it is functionally integrated with other countries in carrying out activities (Yip, 1995; Traill, 1997).

<sup>18</sup> Porter (1998b, p. 775) argued this as a loosely referred term in the present context as nations are sometimes said to have a comparative advantage in an industry if the industry is a successful exporter.

improvement of factors will enable countries to meet changing consumer demands as efficiently as possible, while meeting increased competitive pressures.

The importance of factor comparative advantage in both trade and competition has declined due mainly to the global availability of raw materials and accessibility of raw material sources through FDI. Petit and Gnaegy (1995) point out that the central aim of today's global economy, achieving a very high level of productivity, would not allow the nation-States to restrict themselves to national factor advantage only. Similarly, Fairbanks and Lindsay (1997, p. 23) argued that factor comparative advantage as an approach to wealth creation is one of the most fundamental problems facing the developing world. They noted that this high level of dependency on the factor comparative advantage is a non-viable strategy in the changing world due to the problems associated with it. Accordingly, there are three basic problems in using the factor-driven approach to wealth creation and competition:

1. it is all relative, as another country can always produce goods more cheaply,
2. cost competition from resource rich-countries creates pressure to keep costs low, and this creates an incentive for producers to keep wages low; the average worker, therefore, does not reap the benefits of growth, and
3. if countries export their natural resources at devalued exchange rates, there is a double loss: those resources become depleted, and wealthy foreign consumers, who can afford to buy those products at competitive prices, are able to buy them at subsidised, artificially reduced rates instead.

In terms of the Sri Lankan tea industry's competition, the first and third problems are apparent. The added advantages of Kenya that enabled it to make a significant improvement in production have enabled it also to be the main competitor for Sri Lanka. Even the country's commodity-based exports were exported at devalued exchange rates. This showed a double loss for Sri Lanka whilst producing great benefits for the wealthy multinational VAT producers. This illustrates the fact that dependency on factor advantages cannot be a viable tool in achieving competitiveness.

Although the factor comparative advantage has a declining importance on its own, in terms of FDI it has captured a high level of significance. Jilberto and Mommen (1998)

pointed out that FDI by multinational companies (MNCs) increased spectacularly and redeployed production on the principle of comparative advantage. The FDI in a country is governed by three main factors: ownership, location and internationalisation advantages (United Nations, 1993; Fukuda, 1996). The ownership advantage concerns the possession of intangible assets such as advanced technology, brand names, know-how, resources, or some other forms of income generating assets that competitors either do not possess or to which they do not have access. The location advantage means that a foreign firm finds it advantageous to locate some parts of its operations outside its home country because of its country's specific characteristics, such as its government policies, relative resource costs or market size and growth. The internationalisation advantage determines whether the specific advantages are sold to specific parties under licence or exploited by the original holder through FDI.

According to the United Nations (1993), general motives for FDI can be market-seeking, export seeking, resource-seeking, technology-seeking or efficiency-seeking. These motives reveal that the overall aims of MNCs who perform cross-border activities are to reduce production costs and increase sales, and thereby to increase profits. The comparative advantage in resources has become an important feature in attracting FDI from other countries which have disadvantaged positions in terms of relevant resources. Similarly, Traill and Da Silva (1995, p. 82), in considering foreign production of food, indicated that the main motives of MNCs are as follows:

1. natural resource seeking (requiring such products as bananas, tropical beverages, or engaging in primary processing),
2. market seeking (selling primary foods),
3. efficiency seeking (taking advantage of economies of scale and scope), and
4. strategic asset seeking (acquiring assets of long run strategic value, either in enhancing the firm's own portfolio or in preventing similar actions by a competitor).

All the MNCs who are involved in tea are based in non-tea producing countries. Therefore, they have high FDI in all the tea producing, developing countries and play a significant role within the tea industry. An UNCTAD report on areas for International Co-operation with respect to marketing and processing of tea has concluded that

multinational involvement is much higher in the tea industry than in any other industry. Thus these MNCs have either full or partial ownership of plantations, and ownership relations with brokers. They have also a high level of concentration in buying at auctions, ownership of processing facilities, and dominant market shares in major market areas. Moreover, they have increased market power through diversification into other product areas, and either possess well-known brand names, and other advertising techniques, or have established retail networks (UNCTAD, 1982). This was considered to be the main problem for the developing countries in upgrading their tea industry with respect to value-addition and marketing. It has become very difficult for the tea producers of developing countries to compete with well-known multinational producers. According to Ali, Choudhry and Lister (1997) the processing and distribution of tea is controlled by four vertically integrated UK-based Corporations: Unilever/Brook Bond, Cadbury Schweppes, Allied Lyons and Associated British Foods, which have around four fifths of the market share in most countries.

### **3.2.1 Factor Comparative Advantage and the Sri Lankan Tea Industry**

The Sri Lankan tea industry is a good example of an industry that is highly reliant on factor comparative advantages. Due to its high factor advantages vis-à-vis other major producers, the Sri Lankan tea industry has been able to play a significant role in the world tea trade. But the country has given a very low emphasis to upgrading its factor advantages. Along with that, past national policies created further negative influences where the nationalisation concept played a significant role. Newcomers to the industry from the African region, especially Kenya, expanded their production facilities and have outperformed the majority of the factor advantages held by Sri Lanka. With that, the Sri Lankan tea industry's competitiveness in the world market started to fade away. Its export market share demonstrated a significant drop after the mid-1960s (Figure 2.7). This was due mainly to the country's high level of dependency on factor advantages. Similarly, Porter (1998b) has pointed out also that a country which is highly dependent on its factor advantages can face the continual threat of losing competitive position.

Even though at present the majority of the comparative advantages formerly held by the Sri Lankan tea industry have diminished, it still has access to advantages like quality tea, and strategic assets such as the Lion logo and Pure Ceylon tea. These are significant

comparative advantages in terms of VAT production and in marketing. Possession of these advantages by the Sri Lankan tea industry, along with the free availability of low-cost and skilled labour in the country, has created a favourable environment for MNCs in undertaking FDI. Not all the MNCs based in developed countries possess resources in terms of tea manufacturing, hence they have opened up subsidiaries in resource-rich tea producing countries. Therefore, it could be argued that all MNCs in the tea industry have a resource-seeking motive. MNCs play a significant role in the Sri Lankan context, and the same applies to the other tea producing countries. These cross-border production activities of MNCs are performed in order to achieve a competitive edge in the global tea trade, especially with respect to VAT. In the past, all the MNCs purchased their semi-processed commodity from Sri Lanka and had it shipped to a different country for its final processing and packaging, from where it was transported all over the world for retail activities. But at present, almost all the subsidiaries of MNCs are directly involved in VAT production within the country in addition to shipping it as a commodity for further value-addition. In this process, Unilevers and Finlays are playing a significant role. Both have invested heavily in instant tea processing plants, and are the only instant tea producers in the country. Further, not only has Finlays extended their activities to producing tea but also they are one of the leading producers of speciality tea in Sri Lanka.

However, although the subsidiaries of MNCs can possess a number of advantages derived from Sri Lanka, these have a high associated risk due to uncertainty concerning policies. Nationalisation is one such policy implemented in the past, which had a serious impact both on the foreign owners of tea plantations and on the industry as a whole. At present, there is much uncertainty associated with the tea importation policy. This has greatly influenced the MNC activities, especially in extending their activities to VAT. As an example, Unilever's intention to build a processing plant in Sri Lanka was well supported by the added advantages of the Sri Lankan tea industry, but the project failed due to uncertainties with regard to the tea import policies. Later, the plant was built in Dubai due to its added advantages of free trade policies. Therefore, stability of policies plays a significant role in attracting FDI to the country. This will also directly affect the performance of VAT production by the MNCs in Sri Lanka. Overall, it is obvious that the globalisation process has created more benefits for MNCs by enhancing VAT production. The main implication of this for the enhancement of local-based VAT

production is increasing competition. Therefore, both the VAT producers and the country as a whole should seek opportunities to strengthen advantages over their rivals, especially MNCs.

The role played by the overseas intermediaries in the VAT production of Sri Lanka can be considered as another significant foreign involvement. Similarly to MNCs this has been enhanced by the increasing globalisation of the tea industry. In Sri Lanka, a major portion of the VAT production is produced under brand names of the overseas intermediaries. As pointed out by the Director, Tea Promotion Bureau, Sri Lanka (Personal communication, 3 January, 2000), nearly 40 per cent of the tea exports are branded — of which only 15 per cent or less goes out under Sri Lankan-owned brands. This demonstrates the prominence of overseas intermediaries in VAT production. Similarly to MNCs, the presence of overseas intermediaries is greatly encouraged by the comparative advantages held by the Sri Lankan tea industry. Whether a VAT production contract is established or not is determined largely by the added advantages gained by the overseas intermediaries. In this process, some of the overseas intermediaries are driven mainly by low-priced VAT, whereas some are driven by the quality of tea and other strategic assets such as Lion logo and Pure Ceylon Tea. Unlike the subsidiaries of MNCs, the overseas intermediaries are playing a role in VAT production only, hence this has a direct impact in enhancing VAT production. Even though this increases the overall VAT production, it will not lead to the development of consumer loyalty for Sri Lankan VAT products. Therefore, more emphasis needs to be given to strengthening VAT production under Sri Lankan-owned brand names.

### **3.2.2 The Impact of Foreign Involvement**

Foreign involvement in VAT production can have both positive and negative impacts both on the tea industry and on the economy as a whole. The main motives of a country for encouraging foreign investment are to achieve growth in industrial output, to provide capital, technology, managerial skills and to access foreign markets (Dunning, 1999; Lecraw, 1999). For these reasons, Sri Lanka also is encouraging increased foreign investments within the country as a whole as well as within the tea industry. In this process foreign investors bring additional resources and capabilities — especially capital, technology, management and marketing skills. Dunning (1999) pointed out a

number of other positive contributions of MNCs in addition to those mentioned above, and these are as follows:

1. provision of new entrepreneurship, management styles, work cultures and more dynamic competitive practices,
2. more efficient resource allocation, competitive stimulus and spill-over effects on suppliers and/or customers,
3. upgrading domestic resources and capabilities as well as the related and supporting industries,
4. contribution to the GDP through the above, and by providing tax revenue to the government,
5. improves the balance of payments, through export generation, and
6. links the host economy with the global marketplace.

The MNCs involved in the tea industry of Sri Lanka provide all the above positive contributions. Further, the presence of MNCs in the VAT production indirectly enhances the competitiveness and the innovativeness of the local participants in VAT production. Even though — at present — instant tea production is entirely in the hands of the MNCs, the present survey results revealed that 5 firms (12.5 per cent) have indicated that they are interested in investing in instant tea production in the future. This can be considered as one of the competitive responses by the local VAT producers. Dunning (1999, p. 71) pointed out that this is *the mentality of competitiveness*. In addition, the high quality and low-cost concerns of MNCs will have a direct impact on related and supporting activities, and will pave the way for raising competitiveness. Therefore, overall there will be a very beneficial impact on VAT production in the country in the foreseeable future.

The presence of MNCs can sometimes be costly to the host country due their higher negative contributions. According to Lecraw (1999) high profit repatriation, monopoly profits and the production of goods that are inappropriate to the income level of the majority of the population can create high negative contributions. Dunning (1999) observed that MNCs can provide too few, or the wrong kinds of resources, can cut off foreign markets, can limit the upgrading of indigenous resources and capabilities and thereby can restrict the growth of the GDP. Similarly, Tanner (1984) — by specifically

considering the involvement of Unilevers and Finlays in the tea industry in general — pointed out that MNCs rarely pass their profits on to their third world employees. The other main disadvantage associated with foreign involvement is their higher bargaining power at the auctions. However, these positive and negative contributions have not yet been assessed. In order to regulate the mobility of capital acquired by the MNCs, and to decrease any undesirable consequences of economic activities, some policies have been implemented within the country. The policy that prevents 100 per cent foreign-owned firms from managing tea plantations could be considered as an important policy. For example, this policy has restricted Unilevers in managing tea plantations. But at present, Finlays has high backward linkages with the plantations and manages around 23,000 ha of tea in the country. This has been possible due to the fact that 25 per cent of the subsidiary of Finlays is locally owned.

One of the positive contributions gained from the involvement of the intermediaries from overseas is its direct influence in enhancing VAT production. Among the VAT-producing firms, many are of the view that VAT production under private brands is a means whereby access to the VAT market can be achieved. Further, for the firms with low promotional budgets this provides better returns than concentrating on tea as a commodity. But there are a number of disadvantages associated with producing VAT under private brands. Mainly, these are that the contract is not guaranteed, there is no security for the future of the firm and the gains are less. In addition, the competitive price-cutting behaviour of the VAT-producing firms will create a greater disadvantage for the entire tea industry. This competitive price-cutting is done in obtaining an opportunity for producing VAT under private brands and is highly associated with the overseas intermediaries who are concerned very much with price — but not at all with quality. There can be a number of indirect impacts of the competitive price-cutting behaviour of VAT-producing firms on the overall performance of VAT. Low-priced VAT may lead to poor quality, which directly influences consumer loyalty. Further, it could negatively influence the overall quality reputation of Sri Lankan tea. The final benefit of competitive price-cutting is passed on to the overseas intermediaries. Therefore, the Sri Lankan VAT producers should pay more attention to overcoming this disadvantage.

### **3.3 Competitive Advantage, Competitiveness and Globalisation**

As explained above, globalisation is a complex phenomenon that integrates trade, production, and finance, as well as socio-cultural behaviours. This trend of globalisation increases global competition among countries, industries and firms. For this reason, countries cannot entirely depend on their factor endowments as the basis of production. The factor comparative advantage is considered to be insufficient and static both in the modern global economy and in the long-term viability of a country (Hopkins & Lewis, 1996). Therefore, researchers argue for the necessity of changing factor advantages and for the creation of new production possibilities by using the existing factor endowments (Hopkins & Cabalu, 1993; Porter, 1998b). Even though in the past, economists considered the factor comparative advantage as the way to create wealth, the present globalised world has placed certain restrictions on this concept in creating wealth. The present thinking has shifted towards an achievement of competitive advantage as a source of wealth creation.

#### **3.3.1 Competitive Advantage**

With the recognition of the non-viability of the concept of factor comparative advantage, many researchers have put forward differing views in explaining the sources of competitive advantage (Barney, 1991; Jaffee & Gordon, 1993; Hunt & Morgan, 1995; Porter, 1998b). They assume that the performance of firms, industries and nations at the global level is based purely on competitive advantage. The competitive advantage of a nation, an industry or a firm can be considered as the unique sources of advantages that allow it to compete more effectively than its rivals. Unlike a basis of factor comparative advantages, a high level of dependency on created advantages in competition can be considered as a competitive advantage. Primarily, this competitive advantage phenomenon pushes the factor comparative advantage logic further by incorporating created advantages. According to the competitive advantage theorist, Michael Porter, four broad attributes are important in creating the competitive advantage of a nation (Porter, 1998b). These four determinants, which are listed below, are considered to be the main attributes in creating, sustaining and promoting a suitable

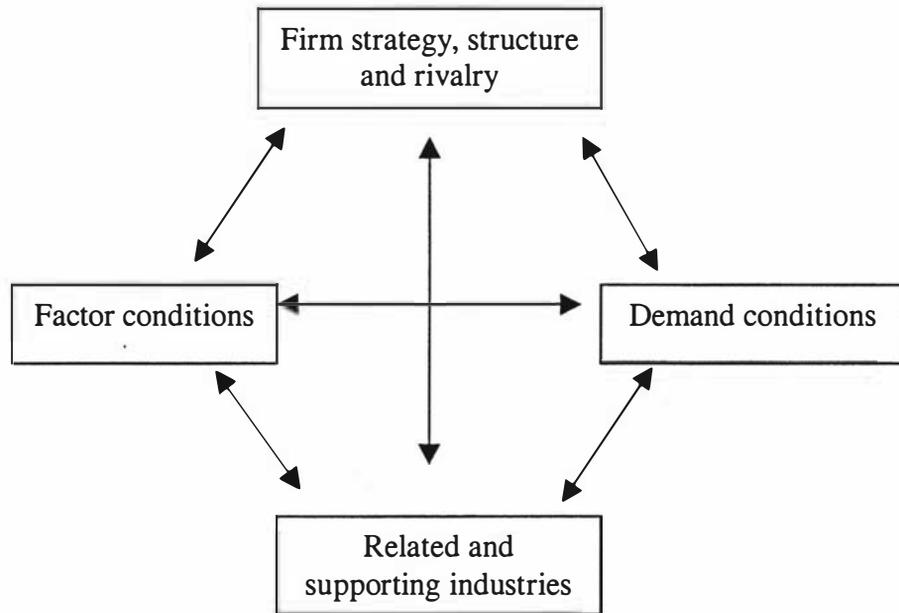
environment. Basically, he considered an industry cluster<sup>19</sup> to be competitive if all of these four factors are favourable. In addition, he identified *government* and *chance* as indirect factors that affect all of these. These four attributes are shown in Figure 3.1. This framework is popularly known as the *competitiveness diamond framework*.

1. Factor conditions – the nation's position in terms of basic and advanced factors,
2. Demand conditions – the nature of home demand for the industry's products or services,
3. Related or supporting industries – the presence or absence in the nation of the supplier and related industries that are internationally competitive, and
4. Firm strategy, structure and rivalry – the conditions in the nation governing how companies are created, organised and managed, and the nature of domestic rivalry.

In this framework, all the factor comparative advantages are considered under the factor conditions. But a greater emphasis has been given to created advanced factor advantages in driving a nation in achieving competitive success. Further, it could be pointed out that the competitive advantage phenomenon represents the broader advantages of a nation, industry or a firm over its rivals than the mere possession of factor comparative advantages.

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<sup>19</sup> Porter (1998b) defined a *cluster* as *a group of firms engaged in similar or related activities within a national economy* — whereas Altenburg and Meyer-Stamer (1999) defined a cluster as *local concentration of certain economic activities*. This concept is applicable to Sri Lankan VAT producers as they are all geographically concentrated in Colombo and are performing a similar activity.



**Figure 3.1 Determinants of National Advantage**

Source: Porter, 1998b

### 3.3.2 Competitiveness

Competitiveness is the final goal of a nation, an industry or a firm, and can be based on either factor comparative advantage or competitive advantage. Competitiveness is a dynamic concept where it is measured relative to some yardstick, which can be growth or dynamic performance (Traill & Da Silva, 1995). According to Porter (1998b) differences in national economic structures, values, cultures, institutions and histories contribute to the competitive success of a nation. In the past, researchers who based their arguments on the factor comparative advantage argued that nations compete with each other — but the new thinking based on competitiveness has identified the fact it is firms or industries which compete with each other, and not the nations (Fairbanks & Lindsay, 1997; Porter, 1998b). They actually compete for growth, market share and resources. Researchers have defined *competitiveness* by using several indices, and some of the definitions are presented in Table 3.1. Accordingly, a more general definition has been the relative market position. Broadly, it has been defined to cover the national productivity and per capita income. However, in discussing the Sri Lankan tea industry’s competitiveness, market share rather than income provides the most appropriate explanation. This is mainly because the per capita income of Sri Lanka is at

a higher level than those of all the other major tea producing countries. Therefore, this measure will capture the actual position of the Sri Lankan tea industry.

According to Porter's framework, an industry cluster can gain competitive success when all the four attributes are favourable within the home-base. Further, some previous studies based on industry clusters revealed that collective efficiency among the players in the cluster enhances the overall competitiveness of the cluster (McCormick, 1999; Nadiv, 1999; Rabellotti, 1999; Altenburg & Meyer-Stamer, 1999). Since competitiveness is not located at the individual firm level, inter-firm relationships within the cluster were considered to be important in enhancing competitiveness (Nadiv, 1999). These inter-firm relationships, or joint action, can be extended horizontally and/or vertically (McCormick, 1999). *Horizontal inter-firm relationships*, or joint action, refers to co-operation among firms that are operating within the same stage of the production. These inter-firm relationships can be extended between or among competitors due to the existence of mutual benefit. *Vertical joint action* refers to co-operation among firms that are operating at different stages of the production. However, Humphrey and Schmitz (1996) pointed out that the most common misconception of joint action is the denying of competition. But they showed that a combination of competition and co-operation drives the search for improvement. Therefore, the enhancement of competitiveness can be expected. Given the greater importance of joint action, many previous studies cited experiences from developing countries where they have extended joint action in a number of different areas such as joint purchasing, marketing, education, vocational training, hiring consultants, communication and information sharing, facilitating technological upgrading, increasing efficiency and contribution to the development of supportive institutions (Humphrey & Schmitz, 1996; McCormick, 1999; Altenburg & Meyer-Stamer, 1999). Similarly, these experiences can be considered to be important in enhancing the competitiveness of the Sri Lankan VAT industry segment.

**Table 3.1**  
**Definitions of Competitiveness**

| Source  | Definition  | Measure               | Essentials  |
|---|---|-----------------------|---|
| The Centre for Export Marketing, 1991                     | Internationally competitive enterprise as one which is capable of seeking its goods or services in overseas markets and/or defending its position in its own country market against overseas competitors.   | Market share          | No tariff protection benefits                                 |
| Arndt, 1993   | The ability of a firm or an industry to maintain or increase its market share relative to its foreign competitors.  | Market share          | Price, non-price competitiveness and internal competitiveness |
| Hopkins and Cabalu, 1993                                  | International competitiveness was considered as the capacity to sustain and increase a country's participation in international markets by being able to meet the standards of efficiency (in the use of factors of production and natural resources) and product quality of the rest of the world. | Market share          |   |
| Petit and Gnaegy, 1995                                    | The ability to produce goods and services for international markets while ensuring rising levels of real income.  | Market share          |   |
| Hunt and Morgan, 1995                                     | Constant struggle among firms for a comparative advantage in resources that will yield a marketplace position of competitive advantage and, thereby, superior financial performance.  | Market share          |   |
| J. E. Austin Associates, Inc. and Sri International, 1998 | Sustainable increase in productivity resulting from improvements in the standard of living of an average citizen.   | Productivity          |   |
| Porter, 1998b   | Competitiveness at national level as the national productivity, which fulfils the national economic goal of raising living standards.   | National productivity | International trade and FDI                                   |

### 3.3.3 Competitiveness and the Sri Lankan Tea Industry

In the global tea trade, Sri Lanka plays a significant role as an exporter. However, the country's relative position in terms of export market share demonstrated a significant drop after the mid-1960s. This clearly illustrates that the country is showing declining competitiveness compared to that of other major tea producers. It could be argued that the main reason for the Sri Lankan tea industry's declining competitiveness is its high level of reliance on its basic factor comparative advantages and price-based competition. But, as pointed out earlier, factor comparative advantages provide no sustenance for competitiveness. The added advantages of the newcomers, especially Kenya, which increased its exportable surplus at low prices have adversely affected the Sri Lankan tea industry. Given this scenario, the success of price-based competition for the Sri Lankan tea industry is highly unlikely. This illustrates the increased viability of non-price-based competition achieved through value-addition to tea.

Most importantly, the additional investments made in developing VAT production and marketing will enhance the creation of competitive advantage. These created advantages such as brand names, superior product quality, design innovations, skills and the like in VAT production can guide firms as well as the country as a whole in gaining an advantage over competitors. Similarly, many researchers have argued also that investments in non-primary industry will change the comparative advantage and the level of development of a country (Rana, 1988; Leamer, 1995; Song, 1996). Rana (1988, p. 5), by specifically considering NIEs, ASEAN and South Asian countries, pointed out that comparative advantage has declined in primary and crop and animal product groups, while it has increased in the manufacturing sector. This indicates that there could be a shift in comparative advantage with the development process. Finally, these added advantages — rather than a factor-based comparative advantage — will create sustainability for the tea industry in the future.

However, in the global tea trade MNCs play a significant role in terms of VAT production. As pointed out by the UNCTAD report, this is considered to be the main threat to the performance of the VAT production in developing countries. At present, Unilevers accounts for about 35 per cent of the world tea trade and it is the most significant player in VAT production (Fonseka, 1997). Its brands such as *Lipton*, *Brook*

*Bond*, *Red Label*, *Yellow Label*, and *Tazza* are some of the most well-known brands among the consumers. In addition, *Finlays* (*Finlays* brand, *Alwazah* brand<sup>20</sup>), *Lyons Tetley* (*Tetley* brand), *Twinnings* (*Twinnings* brand), *Cadbury Schweppes* (*Typhoo* brand) are some of the other main players in the tea industry with well-established brands. Their multimillion-dollar promotion budgets and high competitive price-cutting behaviour have greatly affected the performance of Sri Lankan VAT production. However, M.J.F. Group (*Dilmah* brand) is the only firm that competes directly with multinational brands and it is very evident in Australia. At present, *Dilmah* has a market share of around 14 per cent in Australia, whereas Unilevers has a share of about 17 per cent (M.J.F. Group, personal communication, 2 February, 2000). *Dilmah* is gaining brand popularity, and competes directly with Unilevers in the mass market through a differentiation strategy. Although *Dilmah* plays a significant role in the VAT industry segment in Sri Lanka by capturing more benefits from globalisation of the industry, others have not yet ventured for possible advantages. This is common with all the other tea producing developing countries, especially due to the lack of competitive power against MNCs.

Therefore, Chang (1995) identified niche marketing as a viable strategy for small business exporters in achieving a competitive edge. Most importantly, the market niche is of little interest to major competitors, hence firms can build skills and customer goodwill to defend themselves against any competitor reactions (Kotler & Armstrong, 1995). Even though a niche marketer serves a lesser volume than a mass marketer, it can achieve higher margins by adding more value to the final product. This is well proven with the *Mlesna* brand which is targeting an elite class of consumers especially in the UK. Similarly, some of the other brands like *Impra*, *Telon*, *Quick Tea* and *Qualitea* are already in the process of strengthening their niche markets. Therefore, the VAT producers of Sri Lanka should explore the possibilities of achieving a competitive advantage through niche markets.

As explained earlier, MNCs continually innovate in developing strong and unique competitive advantages over their rivals. This factor, along with the globalisation process, has brought extra pressure to bear upon the local VAT producers. MNCs have

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<sup>20</sup> The dominant brand of tea produced by the subsidiary of Sri Lanka.

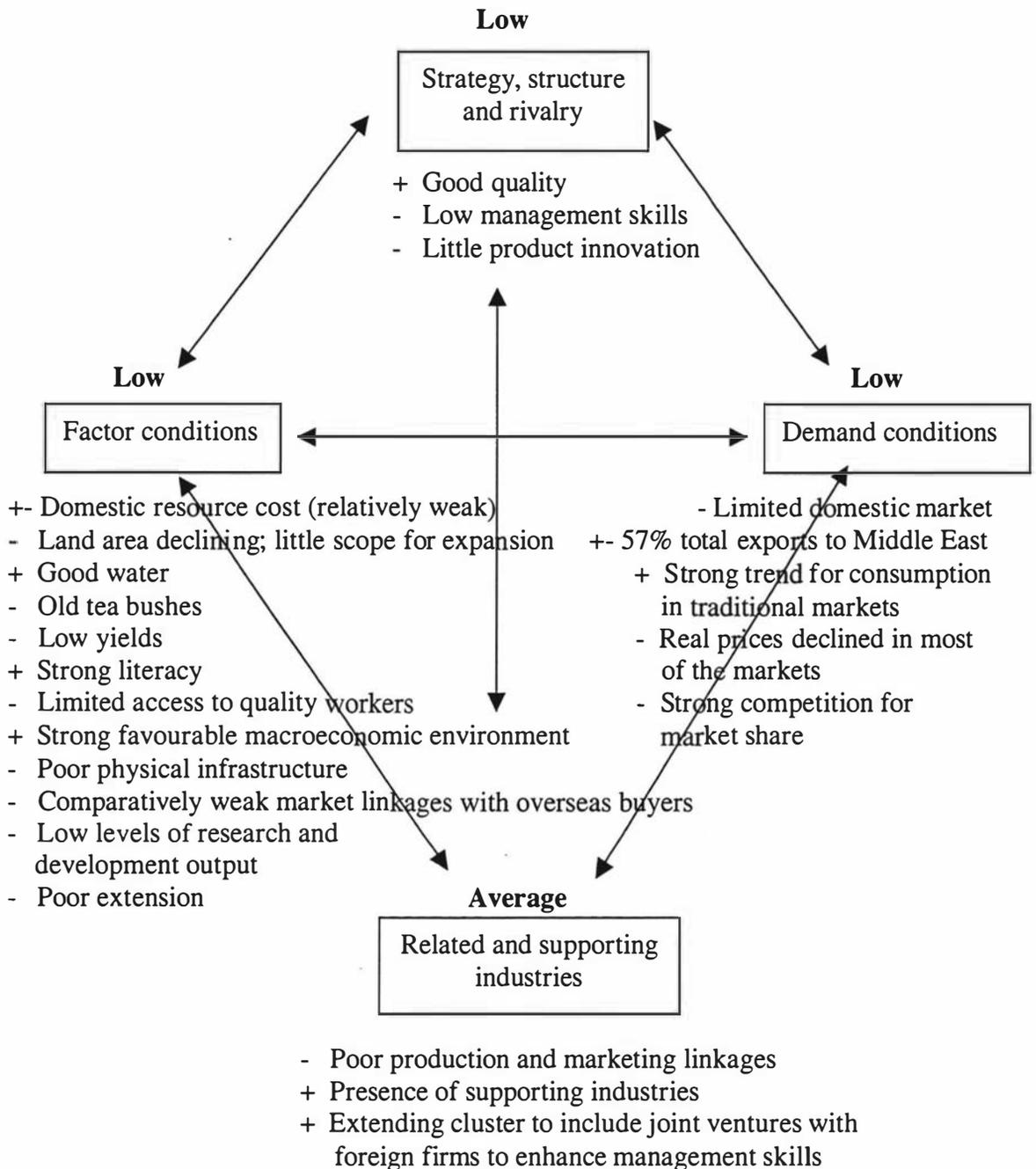
increased their production activities outside the domestic borders mainly by being cost-efficient and obtaining factors that are favourable to competitive success. In terms of tea, the increasing involvement of MNCs in producing VAT in low-cost tea producing countries, and a high level of integration with the plantation-base are carried out mainly to achieve a low-cost position against their competitors. Further, by locating production activities abroad, firms can identify the local needs of the consumers better than their competitors can, and thereby they try to achieve a high level of competitiveness over their rivals. Moreover, the initiation of VAT production in consuming countries will enable firms to gain high tariff benefits (almost all the tea importing countries have implemented high tariff rates for VAT compared to bulk tea). Simatupang (1998) explained also that these types of cross-border production activities through FDI contribute substantially to improving export performance, manufacturing competitiveness, product quality and labour productivity and thereby contribute to a high level of competitiveness.

Even though the leading brand holders play a more high-profile role in cross-border activities in achieving a competitive edge, the level of Sri Lankan VAT producing firms' involvement in cross-border activities is very low. In this respect *Dilmah's* role, whereby it has extended its production operations to Poland in catering for the European Economic Union region, is commendable. Other production centres are planned for the Russian Federation, Central Asia and India. *Dilmah* is playing a significant role in enhancing the competitiveness of the overall VAT industry segment in Sri Lanka. Similarly to MNCs, it has developed backward linkages with the plantation-base of the country as well as with the packaging and printing industry. Overall, it is evident that, along with increasing globalisation, competition for Sri Lankan VAT producers will also increase. Therefore, in order to enhance the performance of VAT production, producers should have a proper vision and innovation in developing added advantages over their competitors.

### **3.3.4 Competitiveness Diamond of the Sri Lankan Tea Industry**

The Porter's diamond framework that was illustrated above has been widely applied in assessing the competitiveness of different industries in a number of countries such as Sri Lanka, New Zealand, Canada, Norway, Finland (Crocombe, Enright & Porter, 1991;

Ali, Choudhry & Lister, 1997; J.E. Austin Associates, Inc. & Sri International, 1998; Porter, 1998b). Specifically Ali, Choudhry and Lister (1997) have used this approach to explain the Sri Lankan tea industry's competitiveness. Based on their estimations, J.E. Austin Associates, Inc. and Sri International (1998) have developed the Porter's diamond framework for Sri Lanka as shown in Figure 3.2 (+ denotes favourable and - denotes unfavourable factors). The competitiveness diamond has been developed based on the overall tea industry of Sri Lanka, and has given most emphasis to primary tea manufacturing. They have concluded that the Sri Lankan tea industry is in a poor competitive position vis-à-vis other major tea producers. Therefore, they pointed out that the country should move to a VAT production strategy in order to achieve a competitive advantage.



**Figure 3.2 Sri Lankan Tea Industry: Competitiveness Diamond**

Source: J.E. Austin Associates and Sri International, 1998

(+ denotes favourable and - denotes unfavourable factors)

Even though this competitiveness diamond was developed for the tea industry, it has given a lesser emphasis to VAT. Therefore, the development of a competitiveness diamond for the Sri Lankan VAT industry segment<sup>21</sup> is important in determining the advantages and weaknesses of the cluster that direct the firms in achieving competitive advantage. Since the Sri Lankan VAT industry segment is strongly linked with the plantation-base, it is vital to relate the diamonds of the plantation-base and the VAT industry segment. This is of the utmost importance as the country has many restrictions on tea imports. Thus there will be a direct, strong link with the demand conditions of the plantation-base and the factor conditions of the VAT industry segment. Therefore, it can be argued that there should be a *double diamond* framework in explaining the VAT industry segment of Sri Lanka, because the enhancement of the competitiveness of one industry segment is conditional upon the enhancement of the competitiveness of the other industry segment. That is, the achievement of competitiveness by the VAT industry segment is largely conditional upon the competitiveness of the plantation-base. Therefore, the present weaker competitiveness of the plantation-base of the Sri Lankan tea industry cannot be overlooked in the process of enhancing the competitiveness of the VAT industry segment.

The competitiveness diamond of the VAT industry segment was developed based on the information gathered from the present survey and is illustrated in Figure 3.3 (+ denotes favourable and - denotes unfavourable factors). The factor conditions reveal that it has moderate advantages in directing the overall VAT industry segment in achieving competitiveness. But, except for the created advantages like the Lion logo and Pure Ceylon tea, all the other favourable factors represent basic factor advantages. These basic factor advantages will not be strong advantages as imports and FDI can overcome the factor disadvantages of competitors. This has been the sole reason for UK-based MNCs in increasing their FDI in tea producing countries. Even though the VAT industry segment is linked with the plantation-base, it seriously needs productivity and cost improvement strategies to enhance its performance. Further, the Tea Research

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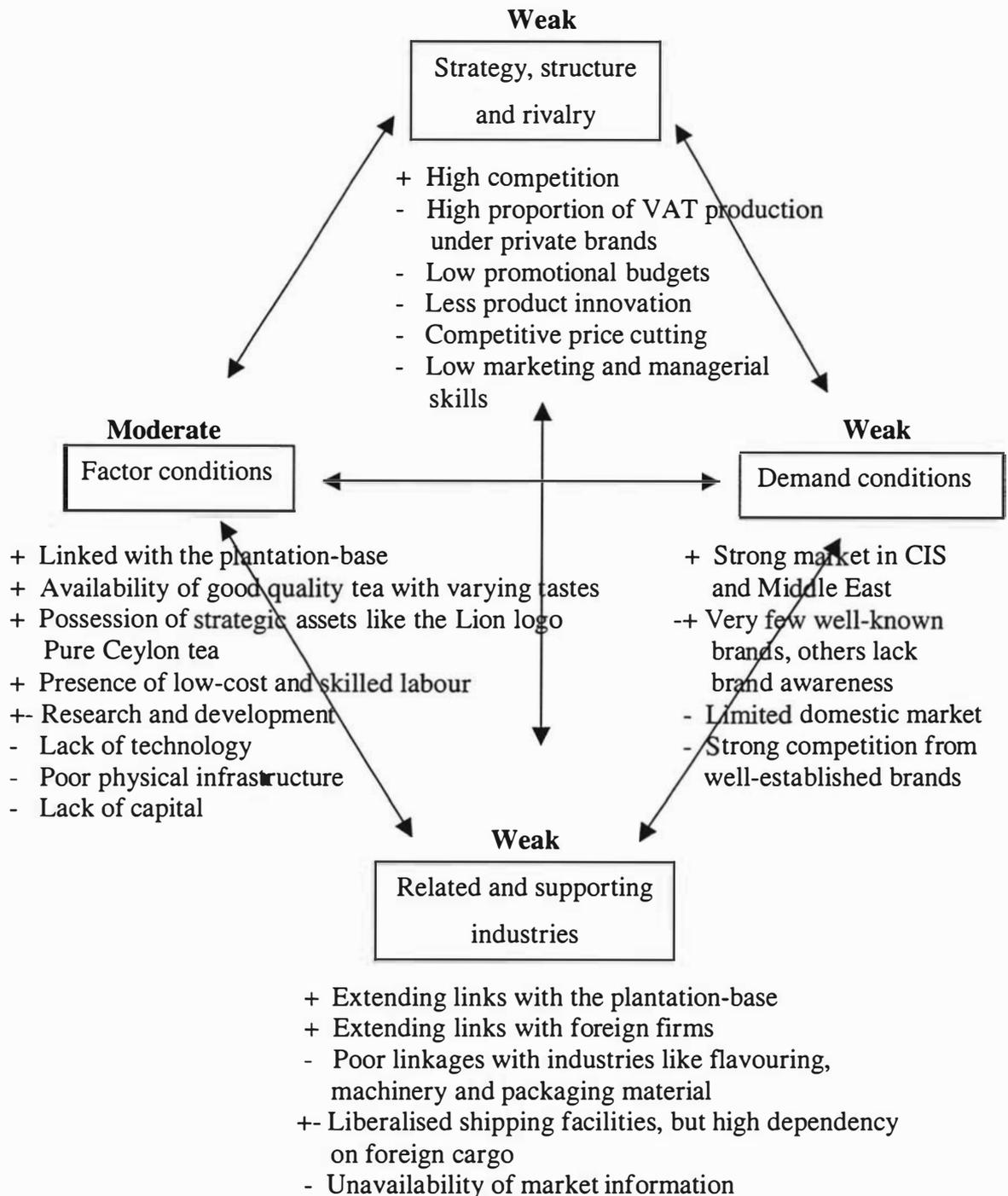
<sup>21</sup> The tea industry is a collection of tea plantations and firms that are involved in activities related to tea. But as both these segments illustrate great differences in terms of the nature of inputs utilised and output, in the study a collection of all firms involved in VAT production was referred to as the *VAT industry segment*.

Institute (TRI), which has contributed significantly in developing VAT products, needs to develop strong links with VAT producers. It was the pioneering research institute that invented processes for obtaining instant tea direct from green leaf (The Tea Research Institute of Ceylon, 1967). Similarly it has developed a liquid tea concentrate which is available for commercial exploitation. But at present its research is highly focused on the plantation-base and is not market-oriented. The present survey results revealed that only 3 firms (7.5 per cent) — of which one is a government organisation and another a subsidiary of an MNC — have obtained assistance from the TRI. This clearly reveals that the TRI could play a significant role in enhancing competitiveness by developing proprietary technology and by focusing on market oriented research. On the whole, the factor conditions raise the need to strengthen the advanced factors by developing more focused education, skills, infrastructure, and research and technology advancement programmes, along with strengthening its basic factor advantages.

Based on the present situation, it can be said that all the other three factors that influence the competitiveness of the VAT industry segment are not favourable — unlike the factor conditions. The presence of related and supporting industries within the country is very weak. Neither the required machinery, filter paper, packing materials, flavours, ink, threads, nor the aluminium wire that are important for VAT production are produced locally. The most widely used tea bagging machines, Constanta and Ima are imported from Germany and Italy. Similarly, more than 90 per cent of the local packing material demand is met by imports from Indonesia, Sweden, Norway, and India. The designing and printing industry is not sophisticated. Even though the shipping industry has shown a greater liberalisation compared to that of the other South Asian countries, firms are largely dependent on foreign cargo services for shipment of their VAT products overseas. All these factors significantly contribute to less favourable related and supporting industries of the VAT industry segment of the country. Limited promotional budgets of the firms have become one of the main barriers in developing brand marketing strength. Even though the Tea Promotion Bureau extends financial assistance in promoting VAT, the present budgetary allocation is inadequate. In 1999, approximately Rs. 39 million was allocated to brand promotion linked to the Lion Logo, covering only 10 brands in 10 different markets. In the same year, a total budget of approximately Rs. 40 million was allocated for uni-national promotion campaigns including trade fair participation (Sri Lanka Tea Board, 2000). However, while this

seems considerable in terms of Sri Lankan standards, it is negligible in terms of the multimillion dollar promotional budgets of MNCs (Kelegama et al., 1995; Director, Tea Promotion Bureau, 1998). Further, as discussed previously, the role of MNCs in VAT production greatly influences the demand conditions of the Sri Lankan VAT. Overall, it can be pointed out that the demand conditions and strategy, structure and rivalry are less favourable in strengthening the competitive advantage of the Sri Lankan VAT industry segment. These sections are explained further in chapters six and seven.

The other two indirect factors, government and chance, also have not played favourable roles in the VAT industry segment. Even though the government could play a significant role in strengthening competitiveness, it can be argued that, in the Sri Lankan context, the role of the government is relatively weak. Chance has exercised positive influences through drought in a number of major tea producing countries, whereas the Russian currency crisis has had a serious negative influence. Therefore, on the whole it can be pointed out that the determinants of the Sri Lankan VAT industry segment's competitive advantage are less favourable. Given this scenario, it is very important to build specific advantages with respect to all four attributes in order to enhance VAT production in the future. Specifically, more emphasis needs to be given to developing factors that are weak. Further, as pointed out by Porter (1998b), it is important to upgrade and innovate all the present advantages in order to sustain the competitive advantage.



**Figure 3.3 Sri Lankan Value-Added Tea Industry Segment: Competitiveness Diamond**

Source: Based on the information obtained from the survey, 2000

(+ denotes favourable and - denotes unfavourable factors)

Similarly to Sri Lanka, all the other major tea producing countries will also initiate their VAT production in order to capture more benefits in the future. Among them, India's intended entry into VAT production could be significant. A report prepared by Duff and Phelps Credit Rating (DCR) has recommended that the Indian tea industry should reposition its tea by changing the product form, packaging, delivery system and promotional policies to meet the challenges under the World Trade Organisation regime (Venugopal, 2000). Even though India has a declining exportable surplus of tea, it has a well-developed industry with respect to machinery, packing material and other necessary sources that are important in enhancing VAT production. Therefore, Sri Lanka needs to develop strong and unique bases of competitive advantage in meeting the competitive threats. Prior identification of present advantages and weaknesses will ensure greater potential in strengthening the competitiveness of the Sri Lankan tea industry in the future, especially by preparing it in competing against other major players in the global tea industry.

### **3.4 Role of Government in the Process of Globalisation of the Industry**

The government is a non-market organisation which generally carries out its duties on a large scale. It maintains law and order, supplies information and makes provision for basic public services, which are large in nature, and disadvantageous for the private sector to become involved in (Kruger, 1990). Government plays a significant role in almost all the developing countries. As countries develop, markets become more efficient in resource allocation and the role of government will be much smaller (Austin, 1990, p. 37). With increasing complexity and with development of the economy, the role of the government will shift from direct control to indirect control — or mostly it will act as a signaller for firms. The role of the government is an important factor in improving or worsening industry performance. Austin (1990, p.37) identified government actions as a *mega-force* in less developed countries, which is said to be a substitute for, and means of changing, the dynamics of the market forces in an industry. Accordingly, government actions — especially in less developed countries — can affect all the industrial actors and competitive forces, that is, they can affect the intensity of rivalry, barriers to entry, substitution pressures, supplier bargaining power and buyer bargaining power. Mainly, government policies affect the determinants of competitive advantage where anti-trust policies could affect domestic rivalry, regulation could affect

home demand, investments in education could affect factor conditions and government purchases could affect related and supporting industries (Porter, 1998).

Government actions, which are implemented through national strategies, directly affect industries and firms. Therefore, it is important to manage government relationships effectively in order to achieve a competitive edge. Government also plays a main role in acquiring skills in the learning process in achieving competitive advantage. For example, it affects the learning process of how to create new techniques of production, how to introduce cost reducing and quality improving innovations, and how to change the product mix quickly in response to a change in environment (Datta-Chaudhuri, 1990). A government can allocate resources, reduce friction in the economy and create a national platform favourable to competitiveness (J.E. Austin Associates & Sri International, 1998). As pointed out by Porter's stages of development of national competitive advantage, it can be argued that the Sri Lankan VAT industry segment is in the factor-driven stage where the government has a significant role to play. The government will function as an actor and a decision-maker in improving the level of competitiveness. Some of the government level strategies, which need more emphasis in enhancing the competitiveness of both the VAT industry segment and individual firms, are explained in chapter eight. However, although the government can play a greater role in strengthening competitiveness, firms are responsible for taking a leading role in investments, innovation, finally exporting, and creating wealth, which ultimately affect the level of government influence.

### **3.5 Summary**

The current globalisation phenomenon has created a number of influences on the global tea industry. Due to increasing competition, the development of unique and strong bases of competitive advantages has achieved a high level of significance in fostering competitiveness. Countries are increasingly involved in VAT production as one of the responses which arose due to increasing global integration — especially in meeting changing consumer demands. Therefore, it can be expected that all the tea-producing countries will expand their VAT production in order to be competitive in the global market. But with respect to VAT, MNCs will continue to play a significant role in the global tea trade. All these will create a continuing stimulus to the Sri Lankan VAT

producing firms to be cost competitive and innovative in achieving competitiveness in global trade. But considering the global scenario, the most advantageous approach to being competitive in the global market is to seek market niches.

In the process of enhancing the performance of VAT production, Sri Lanka — while utilising its comparative advantage to the maximum — should look for the development of more sustainable competitive advantage. The strongest competitive advantage for Sri Lanka may be the development of the Sri Lankan brand image in the minds of the consumers. In this regard, the small VAT-producing firms of Sri Lanka are far behind the promotional budgetary requirements compared to MNCs. Therefore, government support at the initial stages of brand promotion is mandatory. Further, government support should be extended in strengthening the overall competitiveness of the Sri Lankan VAT industry segment. However, the continued increasing performance of VAT production will depend on continuous innovation and upgrading of the competitive advantages that are created.

## **Chapter Four**

### **The Assessment of Firm Performance through Competitive Advantage**

As explained previously, globalisation of the tea industry has intensified the competition among nations and firms. In this process VAT producing firms can play a significant role. Porter (1998b, p. 33) clearly pointed out that firms — not nations — compete in international markets. Firms develop competitive advantages, which in turn improve their performance. Collectively, they will strengthen the competitive position of Sri Lanka within the global tea industry. Therefore, it is of utmost importance to explain the performance of firms using the competitive advantage paradigm. According to previous studies there are two prominent views in explaining firms' performance through competitive advantage which are based on the strategy and resource perspectives of a firm. Similarly, all previous research on VAT production strategy and both previous chapters of this thesis have stressed the importance of resources and strategies in enhancing the performance of VAT production in Sri Lanka. Therefore, this study has used the resource and strategy perspectives in explaining firms' performance. The theoretical background of the firms performance — along with resource and strategy perspectives — will be discussed in this chapter in order to develop a methodology for the assessment of VAT producing firms' performance.

#### **4.1 The Concept of a Firm**

A firm is a complex institution, impinging on economic and social life in many directions, comprising numerous and diverse activities, making a large variety of significant decisions (Penrose, 1995, p. 9). The main role of a firm is transformation of inputs into outputs, but its concept is broad and creates problems in defining it. Machlup (1967, p. 26) indicated that even within the literature of business and economics the concept of a firm shows a wide variation. It varies depending on the theory which it uses. The same argument was put forward by Penrose (1995) when she argued that a firm is an unambiguous clear-cut entity, which is not an observable object physically separable from other objects. Because of this complexity and diversity it was argued that a firm could be approached by many different types of analysis by choosing a

particular characteristic of a firm in which the analyst is interested. She defined the business firm both as an administrative organisation and as a collection of productive resources depending on her research interests. Even though, in the past, a firm was considered as a "black box" into which resources go and out of which goods come, more recently it has been given a predominant place in economic analysis due to the recognition of its importance in influencing overall performance.

The firm is the most important and basic unit in the business environment. Its strategies and operations are affected by the structure and the dynamics of the industrial environment, the strategies and policies of the national environment and market transactions, bilateral linkages, multilateral mechanisms and global industries of the international environment (Austin, 1990). Therefore, a business organisation cannot be isolated from its business environment. Its behavioural responses are partly determined by the business environment and partly by the nature of the firm. Similarly, the strategies of the VAT producing firms, their operations and performance are influenced by the local as well as the global tea industry. As explained in the previous two chapters, it is clear that the actions of the Sri Lankan VAT producing firms are partly determined by the environment surrounding them. Further, in the business environment, the activities and performances of individual firms also contribute to the performance of the environment surrounding them. These contributions by the firms are significant both to the industry to which they belong and to the national economy as a whole. Van Tongeren (1995) concluded also that there is an impact made by individual business organisations on the macro level units (industry and the national economy) as well as a reverse impact made by the macro level units on the micro level units, which are the firms. Further, according to Caves, Ward, Williams and Wright (1987) many of the general goals of the economy are either gained or lost due to the actions of these individual firms. The questions such as whether they have utilised factors of production efficiently, produce the best combination of outputs and contribute to the economy within their ability are important problems for overall economic growth. This diversity of firm behaviour is expected to be an important determinant of the direction and speed of development of the industrial sectors and the economy at large (Friedman, 1984).

## **4.2 Firm Performance**

Performance is the final outcome of a firm that results from a number of internal activities. It is an indicator of the technical and allocative efficiency of a firm. The performance of a firm is varied and complex, reflecting various interrelationships with the rest of the economy. According to the industrial organisation paradigm, firm performance (profit) is greatly influenced by the structure of the market (Bain, 1959). Following this paradigm Porter (1980) argued that the fundamental determinant of firm performance is industry attractiveness. He considered that five competitive forces collectively determine the profitability of a firm. These five forces are: bargaining power of suppliers, bargaining power of buyers, entry of new competitors, threat of substitutes and rivalry among existing competitors. However, Barney (1991, p. 100) argued that this assesses only environmental conditions that favour high levels of firm performance. He also pointed out two weaknesses of the model. Accordingly, this model assumes that firms within an industry are identical in terms of the strategically relevant resources they control. Secondly, it assumes that the resources that firms use to implement their strategies are highly mobile across firms. He argued that these assumptions are not realistic, and supported the researchers who argue internal resources as the key to firm performance. Further, Grant (1991) pointed out that a firm's ability to earn a rate of profit in excess of its cost of capital depends upon two factors. They are the attractiveness of the industry in which it is located and its establishment of competitive advantage over its rivals. Therefore, according to previous research, two main effects that influence firm performance can be identified — industry- and firm-effects. The arguments behind these effects are explained in the next section.

In the past, the main goal of a firm was considered to be the maximisation of its performance, commonly known as *profit maximisation*. But this is associated with a number of limitations that prevent firms from maximising profits. Most importantly, imperfect markets, costly information about product markets, production techniques and resource markets can be shown as major limitations to the profit maximisation goal of a firm (Machlup, 1967; Hunt, 1999). However, with the recognition of the importance of competition and competitive advantage, a firm's primary goal is now considered to be maintaining a superior performance over a benchmark (Barney, 1986; Porter, 1998a; Hunt, 1999). This benchmark can be the firm's own performance in a previous time

period, the performance of rivals, an industry average, or a stock market average, among others (Hunt, 1999). The achievement of a superior firm performance is considered to be highly positively dependent on the firm's competitive advantage (Porter, 1980; Barney, 1991; Peteraf, 1993; Bharadwaj, Varadarajan & Fahy, 1993; Wright, Kroll, Pray & Lado, 1995; Porter, 1998a; Hunt, 1999; Ma, 2000). According to Barney (1991, p. 102) a firm is said to have a competitive advantage when *it is implementing a value creating strategy not simultaneously being implemented by any current or potential competitors*. According to Ma (2000, p. 53) *competitive advantage is the asymmetry or differential among firms along any comparable dimension that allows one firm to compete better than its rivals*. Competitive advantage enables an enterprise or a group of businesses within an industry to achieve a superior business performance (Wright, Kroll, Pray & Lado, 1995) and is the basis of superior business performance (Ma, 2000). Therefore, the performance of firms is closely related to the concept of competitive advantage. Furthermore, many have argued that achieving competitive advantage and superior performance are the primary goals of almost all firms (Barney, 1991; Bharadwaj, Varadarajan & Fahy, 1993; Amit & Shoemaker, 1993; Hunt & Morgan, 1995; Porter, 1998a; Hunt, 1999).

#### **4.2.1 Firm-Effects, Industry-Effects and Firm Performance**

The importance of industry-effects in explaining firm performance was popularised along with the structure-conduct-performance (SCP) paradigm<sup>22</sup>. This has been widely applied to different industries as well as to different countries in explaining performance. To name a few, Bain (1959); Scherer (1980); Connor, Rogers, Marion and Muller (1985); Caves et al. (1987) and Scherer (1996) carried out detailed analysis by applying the SCP paradigm. By following this, Porter (1981, p. 610) pointed out that the essence of this paradigm is that a firm's performance in the market place depends critically on the characteristics of the industry environment in which it competes. But

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<sup>22</sup> The SCP paradigm provides the classical industrial organisation approach of assessing firm performance which was popularised with Bain's extensive work on American industrial organisation (Bain, 1959). According to this paradigm, industry structure determines the conduct of firms, whose joint conduct then determines the collective performance of the firms in the market place.

the SCP paradigm uses industry as the analytical unit. Performance is assessed as a collective industry performance, rather than as one firm's performance. Further, firms are considered to be homogeneous — which ignores the internal organisation of the firm (only the scale of a firm is considered to be heterogeneous and is used in assessing seller concentration). But in reality, firms are heterogeneous and this heterogeneity is important in their competing with each other, which results in a superior performance. Therefore, many researchers consider that it is necessary to open up the "black box" and assess how the internal organisation of a firm affects both company and economy-wide performance (Caves & Pugel, 1980; Porter, 1981; Rogers & Caswell, 1988, Hunt, 1999).

Caves and Pugel (1980, p. 9) indicated that analysis of intra-industry differences is important for two reasons. Firstly, it provides the only means for testing a number of hypotheses. Secondly, the research methods customarily used in industrial organisation have not achieved a constant posture towards intra-industry differences. Even though Michael Porter has given a high level of emphasis to industry-effects, he pointed out that Bain's view (which showed that strategic choices do not have an important influence) is not valid for present day analysis (Porter, 1981, p. 615). By extending his arguments of industry-effects on firm performance, he pointed out that industry as the unit of analysis ignores the individual firm's unique strengths and problems and is not suitable in sorting out different performances of different companies. By assessing contributions of industrial organisation to strategic management, he updated the SCP paradigm and indicated that there are feed-back effects of firm conduct (strategy) on market structure. Further, Rogers and Caswell (1988) pointed out that, in understanding the food distribution system, it is necessary to link the strategic management paradigm that focuses on firm level capabilities, strategy organisation and performance in the context of the structure, conduct and performance of markets. They expanded the SCP model in industrial organisation theory and represented the firm's internal organisation as the link between strategy and performance. Their argument was that the addition of the strategic choices of a firm would widen the scope for addressing its performance. Hunt (1999) argued that in the SCP model, financial performance diversity is represented as a result from firms colluding within industries that are protected from competition by barriers to entry. He pointed out also that this model implies industry-effects should explain most of the variance in firms' performance and firm-effect should

explain very little. Therefore, he raised the necessity to incorporate firm-effects in explaining firm performance.

Due to these conflicting arguments a number of researchers have assessed the significance of industry- and firm-effects on firm performance (Schmalensee, 1985; Rumelt, 1991; Nelson, 1991; Powell, 1996; Mauri & Michaels, 1998). Even though Schmalensee (1985) — by assessing industry- and firm-effects for the first time — concluded that industry-effects play a greater role, later Rumelt (1991) disproved his conclusions. Rumelt (1991) by extending the analysis, concluded that the business unit effect strongly out-weighed the industry- and corporate-effects on profitability. He pointed out that the classical focus on industry analysis is mistaken because firm performance is associated not with industry, but with the unique endowments, positions and strategies of individual businesses. Nelson (1991), by considering firm differences and their importance, has pointed out that individual organisational differences are important in assessing economic performance. Powell (1996), by taking a different methodological perspective, has assessed the industry-effects on performance. His results supported the previous conclusions where he concluded that industry-effects explain only 20 per cent of the firm's performance. The rest were considered to be explained by shared and firm-specific factors. Mauri and Michaels (1998) concluded that industry level effects are much higher on firms' core strategies of research and development and advertising investments — whereas firm level effects are much higher on firm performance. Hunt (1999) reached three conclusions due to the dominance of firm-effects over industry-effects. These are as follows:

1. the neo-classical SCP view relies on an inadequate theory of competition as industry-effects explain a small percentage of variance in financial performance,
2. the argument that the strategy is anti-competitive and anti-social because superior performance must result from industry factors is empirically false, and
3. the strategy can be pro-competitive and pro-social because firm factors are determinative.

Given the greater importance of firm-effects in explaining firm performance, the strategic management theorists have raised two views— strategy-based and resource-based — in explaining firm performance through the competitive advantage paradigm.

Many researchers argue that both these approaches fit comfortably within the conversation of industrial organisation economies and are a refinement of the SCP paradigm (Porter, 1981; Caves, 1982; Barney, 1986; Connor, 1991; Mahoney & Pandian, 1992; Amit & Schoemaker, 1992; Hyvönen, 1995; Teece, Pisano & Shuen, 1997). Both these approaches will be explained after discussing the determinants of firm performance that are important in assessing the performance of VAT producing firms.

#### **4.2.2 The Performance Indicators of a Firm**

The performance of a firm is a broader concept which can be measured by using different indices. Venkatraman and Ramanujam (1986), by developing a classificatory scheme for the measurement of business performance, pointed out its three domains. These are: financial, financial and organisational performance and organisational effectiveness. The narrowest domain was considered to be financial performance. Typical indicators under this domain are sales growth, profitability and earnings per share. The profitability indicators are reflected by the ratios such as return on investment (ROI), return on sales (ROS) and return on equity. Non-financial or operational performance can be measured by using market share, new product introduction, manufacturing value-added, measure of technological efficiency and marketing effectiveness. Firm performance can be measured by using the financial indicators, non-financial indicators or both. However, the financial performance indicators have been the most widely applied performance indicators in the past especially with respect to American-based studies. This has been enhanced due to the availability of computerised databases like COMPUSTAT® in America for research on firm strategy. But studies based on primary data have commonly used non-financial measures as performance indicators due to problems in accessing accounting data. Similarly, a number of researchers have pointed out the problems in obtaining financial data from privately-held firms (Dess & Robinson, 1984; Venkatraman & Ramanujam, 1986). Therefore, Dess and Robinson (1984) emphasised the need to utilise subjective measures of firm performance in order to overcome the problems in obtaining objective measures of performance indicators. Further, due to these limitations in accessing financial data, many studies tend to use market share as an indicator of firm performance.

Market share provides a good approximation for firm profitability. Szymanski, Bharadwaj and Varadarajan (1993) pointed out that market share can represent two different measures; either absolute or relative. *Absolute measure* reveals the ratio of a business' sales to total sales in the market served and the *relative measure* reveals the ratio of a business' market share to the combined market share of its three largest competitors or largest competitor. They demonstrated that the absolute measure of market share is appropriate for studies that consider specific industries, whereas the relative measure of market share is appropriate for studies that consider a number of different industries. As pointed out in Rowe, Mason and Dickel (1986) one of the major conclusions of the profit impact of market strategy project (PIMS) was that both market share and relative market share were strongly related to return on investment. Further, many researchers have indicated that market share has a high positive correlation with profitability (Mancke, 1974; Buzzelle, Gale & Sultan, 1975; Ravenscraft, 1983; Schmalensee, 1985; Szymanski, Bharadwaj & Varadarajan, 1993). According to Ravenscraft (1983), the positive correlation is due to any, or all, of the following three reasons:

1. businesses with a larger market share may have higher quality products or market power, enabling them to charge higher prices than their smaller rivals,
2. businesses with larger shares may be more efficient because of scale economies or because they tend to grow rapidly, and
3. businesses with larger market share may be more innovative or better able to develop innovations.

Ravenscraft argued also that larger market share should measure market power stemming from product differentiation as it captures advantages unique to businesses. Mancke (1974) confirmed that profit rates are a positive function of their size and past growth, and that profits are a positive function of market share. Day and Wensley (1988) argued market share as a good outcome that can be interpreted to profitability. Therefore, market share has been used widely as an alternative to profitability in assessing performance (Day & Wensley, 1988; Bharadwaj, Varadarajan & Fahy, 1993; Davies & Geroski, 1997). But according to Bharadwaj, Varadarajan and Fahy (1993) the main disadvantage in using market share is that, with time, firms can develop new customers who are more expensive than the existing customers — particularly in mature

markets. This can lead to an increase in the profitability, but not in the market share. But – as illustrated by Venkatraman and Ramanujam (1986) — both financial and operational indices of firm performance are associated with a number of benefits and limitations. Therefore, they stressed the need to measure business performance using a wider array of operationalising schemes based on data sources which are primary, secondary or both. This research uses market share as a proxy for firm profitability. It is assumed that there is a high positive correlation between profitability and market share for the Sri Lankan tea industry. The market share of firms will be assessed based on both primary and secondary data.

### **4.3 Strategy-Based View**

Michael Porter's (1998a) generic competitive strategy view gave the most substantial contribution to the strategy-based view (SBV). It is considered to be the dominant paradigm in the literature on corporate strategy (Miller & Dess, 1993; Campbell-Hunt, 2000). He considered a firm as a collection of discrete, but inter-related economic activities (Porter, 1991) and that its positioning within the industry gives rise to competitive advantage. Accordingly, there are two basic types of competitive advantage: low-cost and differentiation (Porter, 1998a). These two broad strategies can be defined as follows:

**Differentiation:** Is the ability to produce unique and superior value for the buyer in terms of product quality, special features or after-sales service. This allows firms to have premium prices, which lead to superior profitability, provided costs are comparable to those of competitors.

**Lower-cost:** Is the ability of a firm to design, produce and market a comparable product more efficiently than its competitors. The prices can be at, or near, those of competitors.

In addition to these two broad strategies he added another strategy called a *focused strategy*. This focused strategy can be of two types: cost focus and differentiation focus. These three strategies (referred to as *generic strategies*) are helpful for a firm to achieve an above average performance in the industry (Porter 1998a). Figure 4.1 demonstrates the three generic strategies of a firm. The broad target of lower-cost strategy is cost leadership, where a firm produces many commodities but not of superior quality. The narrow target of lower-cost is cost focus, where a firm produces standard commodities

— even at lower-costs for a particular market. Differentiation is the broad target of the differentiation strategy where a firm produces a wider array of high quality products at premium prices. Focused differentiation is the narrow target of the differentiation strategy where a firm produces a limited array of specialised products that can be sold at premium prices. According to Porter (1991), competitive scope considers a number of dimensions including an array of products and buyer segments served, geographic locations in which the firm competes, its degree of vertical integration, and the extent of related businesses in which the firm has a co-ordinated strategy.

|                   |               | Competitive Advantage |                         |
|-------------------|---------------|-----------------------|-------------------------|
|                   |               | Lower-Cost            | Differentiation         |
| Competitive Scope | Broad Target  | Cost Leadership       | Differentiation         |
|                   | Narrow Target | Cost Focus            | Focused Differentiation |

**Figure 4.1 Generic Strategies**

Source: Adapted from Porter, 1998a

The competitive advantage achieved through a lower-cost strategy is considered to be unsustainable if it is based on factor comparative advantages (Fairbanks & Lindsay, 1997; Porter, 1998a). This is mainly because it could be overtaken by technological development, which provides a low-cost position for the competitors. Unlike lower-cost, the differentiation strategy of a firm is considered to be more sustainable. Therefore, differentiated products with high value-addition have captured more significance in enhancing firm performance. Products differentiated through brand names, design, technology, service, features, or other dimensions will enhance the value of the product. The created value should be accepted by the buyer, and should be rewarded with a premium price. Similarly, in the Sri Lankan tea industry all these aspects have been given a high level of prominence in enhancing the performance of VAT production. This reveals the necessity of explaining firm performance through the SBV.

According to Porter (1998a) low-cost and differentiation strategies are basically incompatible due to the inherent nature of high cost attached to producing a unique

product. In differentiating a product, a firm will have to utilise better manufacturing and management techniques, along with high promotional and advertising expenditures. Therefore, the attached cost in producing a unit will be higher. However, Phillips, Chang and Buzzell (1983) proved that higher relative quality requires no significant trade-offs in terms of cost position and, in fact, facilitates the achievement of a low-cost position. But according to Porter, simultaneously pursuing all strategies is the worst strategic error of a firm, and is referred to as being *stuck in the middle* (Porter, 1998a). Other researchers also have supported this *stuck in the middle* hypothesis (Dess & Davis, 1984; Kamalesh, Subramanian & Yauger, 1997). But Miller (1992) argued that there are a number of dangers associated with pursuing a single strategy and indicated a mixed strategy: one that combines aspects of differentiation with cost effectiveness has a number of advantages over a single strategy. Although there are different arguments about the best strategic path for competition, all the researchers have identified the importance of cost and differentiation based strategies in achieving competitiveness. Either one, or both, of these strategies reveal how a firm could achieve a superior performance over others by pursuing an advantageous path vis-à-vis its rival firms.

Porter also considered the activities of a firm as being important in determining how it achieves a competitive advantage. The activities performed in competing in a particular industry were categorised and were represented by the value chain. Inbound logistics, operations, outbound logistics, marketing and sales and services were considered as primary activities. Firm infrastructure, human resource management, technology development and procurement were considered as supporting activities. The identification of all these activities enables a firm to recognise areas in which it can reduce costs or differentiate. Thereby firms can co-ordinate and carry out strategically important activities better than their competitors. Hergert and Morris (1989) also pointed out that value chain analysis provides several distinctive characteristics. It emphasises identifying the sources of sustainable competitive advantage, the importance of complex linkages and interrelationships, and identification of generic strategies which must be pursued in different value-creating activities.

Porter's SBV has been widely applied in explaining firm performance (Miller & Dess, 1993; Campbell-Hunt, 2000). Similarly, in terms of the Sri Lankan tea industry, Ali, Choudhry and Lister (1997) and Fonseka (1997) have applied Porter's models in

explaining the overall industry performance. Most importantly, Miller and Dess (1993) — by assessing Porter's (1980) model in terms of its generalisability, accuracy and simplicity — have used it not as three generic strategies but rather as three dimensions of strategic positioning. They drew three conclusions regarding Porter's model based on their analysis, and these are as follows:

1. even though it is a simple framework, it captures a great deal of complexity,
2. it does not provide a completely accurate portrayal of strategy-performance relationships or of the ability and desirability of combining strategic advantages, and
3. the generalisability of the generic strategies is questionable.

Despite strong support for Porter's SBV, many researchers have criticised it for its conceptual limitations. Although the differentiation and cost-based strategies were considered as viable routes for competitive success, many questioned its mutual exclusiveness (Phillips, Chang & Buzzell, 1983; Hendry, 1990; Miller, 1992). Faulkner and Bowman (1992) argued that the generic strategy concept is associated with a number of theoretical and practical problems leading to a high degree of confusion. They concluded that the generic strategy view gives a false choice between a cost and differentiation orientation. By considering the value chain analysis, Hergert and Morris (1989) pointed out that a lack of equivalence between accounting techniques and the value chain analysis has created several difficulties in obtaining data. Further, Collis (1994) argued that it is essential for firms to compete on capabilities rather than to choose a product market position, as it explains nothing about the future sustainability of competitive advantage. Some have argued that this approach of achieving competitive advantage is an external analysis which considers a firm's opportunities and threats (Barney, 1991; Collis & Montgomery, 1995). Some researchers have pointed out that low-cost strategy considered purely internal aspects of the firm where it seeks to reduce costs through economies of scale, efficiencies in buying and the experience cost curve (Govindarajan, 1989; Faulkner & Bowman, 1992).

### **4.3.1 Strategy-Based View Beyond the Generic Strategies**

Porter's SBV considered only two broad strategies: low-cost and differentiation in achieving a superior performance, and they were considered to be mutually exclusive. However, as explained earlier, a number of studies have pointed out that generic strategies are not mutually exclusive. They have argued that consideration of a wider array of strategies would provide much explanation of the strategy-performance linkage. Many studies have pointed out the empirical evidence for the existence of multiple generic strategies in practice (Lynn, Chang & Buzzell, 1983; Miller & Dess, 1993; Wagner & Digman, 1997).

The identification of elements of competitive strategy at the value chain level provides an understanding as to how a firm can direct itself in achieving a competitive advantage. Further, it will provide a wide range of strategic options and is considered to be good as it provides more flexibility in planning and reaching the goal (Faulkner & Bowman, 1992; Miller & Dess, 1993). Faulkner and Bowman (1992) also supported this by pointing out that carrying out organisational analysis at the value chain level enables firms to mitigate apparent problems. Further, by assessing Porter's generic strategies Miller and Dess (1993) advised one should not take a too simplistic view of strategy-performance relationship as there is a greater variation to be explained in performance than can be captured by labelling strategies as generic strategies. By proving these arguments many studies have used a wider array of strategies at the value chain level in explaining the strategy-performance relationship. This was clearly evident from the meta-analysis carried out by Campbell-Hunt (2000). Therefore, in order to capture a wider explanation in VAT producing firms' performance, this study considered a number of elements of competitive strategies at the value chain level. Even though there can be a number of strategies at the value chain level, only the strategies that can act as sources of competitive advantages were considered in the analysis. These strategies will be referred to as the *core strategies* of a firm. If a firm can conduct these individual strategies or strategy combinations in a unique way and more efficiently than its rivals, it will create a competitive position for the firm which, in turn, will enhance its performance.

### **4.3.2 Core Strategies of a Firm**

Strategy concerns the act of aligning a company or an industry in its environment. According to Porter (1998b) there is no universal competitive strategy. Only the strategies tailored to the particular industry and to the skills and assets of a particular firm succeed. Strategy can also be considered as the managerial perspective of major determinants of business performance (Harling & Funk, 1987) and the match an organisation makes between its internal resources, skills, opportunities and the risks created by its external environment (Grant, 1991). Further, Govindarajan (1989) pointed out that strategy is intended to determine not only which products to produce and in which market they should participate, but also involves the choices about how to compete within the chosen industry. This shows that strategies that firms undertake vary from industry to industry. However, some of the strategies that are common to the majority of industries can be identified from previous research. These common strategies can be discussed with respect to six broader dimensions: production, marketing, promotion, product innovation, quality and competitive strategy. All these dimensions are clearly evident from the meta-analysis of Campbell-Hunt (2000). Similarly, for this analysis, strategies have selected from the tea industry in Sri Lanka to represent these broad dimensions of strategies. These will be discussed along with the analytical model in the next chapter.

**Production strategy:** How the inputs are obtained, what products — and in what proportions — to produce and how they are produced are important production strategies of a firm in achieving a given goal. Thus, many previous studies considered procurement, new, refined and speciality products, product breadth and modern plant as elements of competitive strategies (Campbell-Hunt, 2000). Broad range of products, procurement of raw materials, capability of manufacturing speciality products (Dess & Davis, 1984) also range of products offered and production method (Katsikeas, 1994) were considered as important elements of competitive strategies that represent production. Katsikeas (1994), who based his research on the Greek food exporting manufacturers, showed that the factors of production capability and product superiority are positively related with the degree of export involvement and perceived export competitive advantage. Hyvönen (1995) considered the number of products launched, manufacturing of speciality products, depth of product range, emphasis on new

production processes and economies of scale based on mass production techniques as important production-related strategies. Hyvönen's analysis based on Finnish food manufacturing showed that a broad product range has positively contributed in gaining access to, as well as maintaining, a favourable bargaining position. Further, by considering competitive advantage in international industries, Fahy (1996) demonstrated that FDI in production creates the greatest potential — not only for control but also for the effective integration of resources across national boundaries.

**Marketing strategy:** Whether to market the product as manufacturers' brands, or as private brands<sup>23</sup>, what proportions to market under different brands and which markets to cater for are important strategies with respect to marketing. Previous studies have used different proxies to represent marketing strategies. Dess and Davis (1984) considered servicing special geographic markets and Hooley, Lynch and Jobber (1992) considered market focus as proxies for marketing strategies. Hyvönen and Kola (1995) and Hyvönen (1995) considered brand marketing as an important dimension of marketing differentiation. In addition, focus on different market segments, manufacturing distributors' brands and brand marketing were considered as marketing strategies. These studies showed that, in larger firms, differentiation based on fewer but stronger brands to focused market segments would be more profitable than widening the product range. Further, by considering export competitive advantages, Katsikeas (1994) concluded that degree of export involvement and perceived export competitive advantages are positively related. Katsikeas's results revealed that the lower-involvement exporters are in a better competitive position than the group of higher-involvement exporters.

**Promotion strategy:** Any firm that focuses on either the domestic or the export market uses promotional strategies. Depending on the firm's capabilities the strategies used vary. Generally, advertising expenditure or intensity has been used as the most common proxy in representing the promotion strategy (Caves & Pugel, 1980; Ravenscraft, 1983; Hyvönen & Kola, 1995; Davies & Geroski, 1997). Porter (1998a) pointed out that advertising expenditure captures brand reputation and represents a firm's intangible

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<sup>23</sup> A *private brand* is a brand that is owned by an intermediary. It is also known as a *retailer brand*, *distributor brand*, or *store brand* (Kotler & Armstrong, 1995).

assets. Seifert and Ford (1988), by considering the performance of exporting firms, revealed that the bigger the firm and/or the more experience the firm has, the greater the promotional budget for exporting. They also revealed a positive relationship between promotional strategies and performance. Davies and Geroski (1997) pointed out that advertising has a significant effect in changing market share, and that the effect of research and development is considered to be much less. Further, Nakos, Brouthers and Brouthers (1998) considered participation in trade missions and fairs as an important strategy in determining export competitive advantage. They showed that participation in trade missions and fairs has a positive impact on a firm's performance.

**Product innovation:** Commonly, research and development expenditure or intensity is used as a proxy for product innovation. Werenerfelt (1984) indicated that research and development expenditure represents a technological lead and produces advancement ahead of followers. De Vasconcellos and Hambrick (1989) used research and development expenditure to represent activities directed towards modifying, improving, adding new features to, and developing, new products. They demonstrated that process and product research and development are highly positively correlated with performance. Cohen and Klepper (1996) used research and development expenditure as a proxy for level of innovation. They viewed research and development as creating a variant of a product that embodies new or improved features which yield monopoly rents until they are imitated. Porter (1998a) pointed out that research and development expenditure represents the creation of tangible and intangible assets and leads to possession of unique knowledge. Many researchers see this as an important strategy for a firm (Caves & Pugel, 1980; Ravenscraft, 1983; Hyvönen & Kola, 1995; Davies & Geroski, 1997). In order to represent technological superiority and new product development, Wolff and Pett (2000) considered in-house research in foreign markets as an export competitive pattern that influences export performance. Further, Giannakas and Tzouvelekas (1998), by assessing the impact of strategies on the Greek processed meat industry, indicated that product development strategies adopted by large firms have a significant influence on their fast growth rate relative to small competitors.

**Quality strategy:** Quality of the final product plays a significant role in the process of competition and is considered to be an important strategy in almost all industries. Porter (1980) identified quality control as an important process in firm operations that can lead

to development of competitive strengths over rivals. The meta-analysis by Campbell-Hunt (2000) revealed that product and service quality were two of the common elements of competitive strategies that were considered in previous research. Similarly, a number of previous studies have considered quality control as a competitive strategy (Dess & Davis, 1984; De Vasconcellos & Hambrick, 1989; Hyvönen, 1995; Beal, 2000). Hooloey, Lynch and Jobber (1992) specifically identified quality relative to major competitors as important in terms of competitive positioning. Further, Wagner and Digman (1997) considered customisation, product quality, service quality and company reputation in order to represent the quality strategy of a firm.

**Overall competitive strategy:** Harling and Funk (1987) defined *competitive strategy* as *the choices the manager makes about how his business competes in a particular environment*. Porter (1998a) identified low-cost and differentiation as the two broad competitive strategies, and these constitute the most commonly applied overall strategy of a firm. Many studies have used both these strategies as competitive strategies of a firm (Phillips, Chang & Buzzel, 1983; Harling & Funk, 1987; Govindarajan, 1989; Bharadwaj, Varadarajan & Fahy, 1993). Most commonly, perceived measures have been used as proxies due to difficulties in assessing the competitive strategies of a firm. Hyvönen and Kola (1995) considered continuing concern for lowest cost per unit as a broader competitive strategy. Further, the empirical analysis of Dess, Lumpkin and Covin (1997) showed that marketing differentiation and innovative differentiation strategies were significant and positively related with performance indicators.

#### **4.4 Resource-Based View**

Many researchers identified the work done by Penrose in 1959 as the beginning of the resource-based view (RBV) of a firm (Wernerfelt, 1984; Nelson, 1991; Mahoney & Pandian, 1992; Petreraf, 1993; Enright, 1998, Hunt, 1999, Kor & Mahoney, 2000). Penrose defined a *firm* both as *an administrative organisation* and as *a collection of resources* (Penrose, 1995). A high prominence was given to the ownership of productive resources where she viewed the growth of a firm through the resource aspect. This approach was later strengthened by the work done by many researchers after the 1980s. Almost all of these studies have portrayed a firm as a bundle of

resources and capabilities (Wernerfelt, 1984; Barney, 1991; Grant, 1991; Peteraf, 1993; Collis, 1994).

According to Barney (1991) this RBV is based on two basic assumptions:

1. firms within an industry (or a group) may be heterogeneous with respect to the strategic resources they control, and
2. these resources may not be perfectly mobile across firms, and thus heterogeneity can be long-lasting.

A firm's resources and capabilities, which form the key in the RBV, can be identified as follows:

**Resources:** *Resources* can be defined as *anything which could be thought of as a strength or weakness of a given firm* (Wernerfelt, 1984). A broader array of possessions that is held by a firm can be classified as resources. To name a few: brand names, in-house knowledge of technology, employment of skilled personnel, trade contracts, machinery, efficient procedures, and capital can be identified as being the resources of a firm. Researchers have classified these resources into broad categories. Some are classified broadly, based on their tangible — or intangible — nature. According to Haanes and Fjeldstad (2000) *tangible* resources are concrete and tradable and include physical entities like factories, technology, capital, raw material and land. *Intangibles* include skills, knowledge, relationship, reputation and the like. They noted that intangible resources are more difficult to transfer than tangible. Grant (1991) classified resources into six categories: financial, physical, human, technological, organisational and reputation.

**Capabilities:** *Capabilities* can be defined as *socially complex routines that determine the efficiency with which firms physically transform inputs into outputs* (Collis, 1994). Although resources and capabilities are considered separately it can be argued that ownership of particular capabilities is a category of resource. These organisational capabilities are considered to be of three categories where all concern the ability of firms to perform an activity (Collis, 1994). These capabilities are as follows:

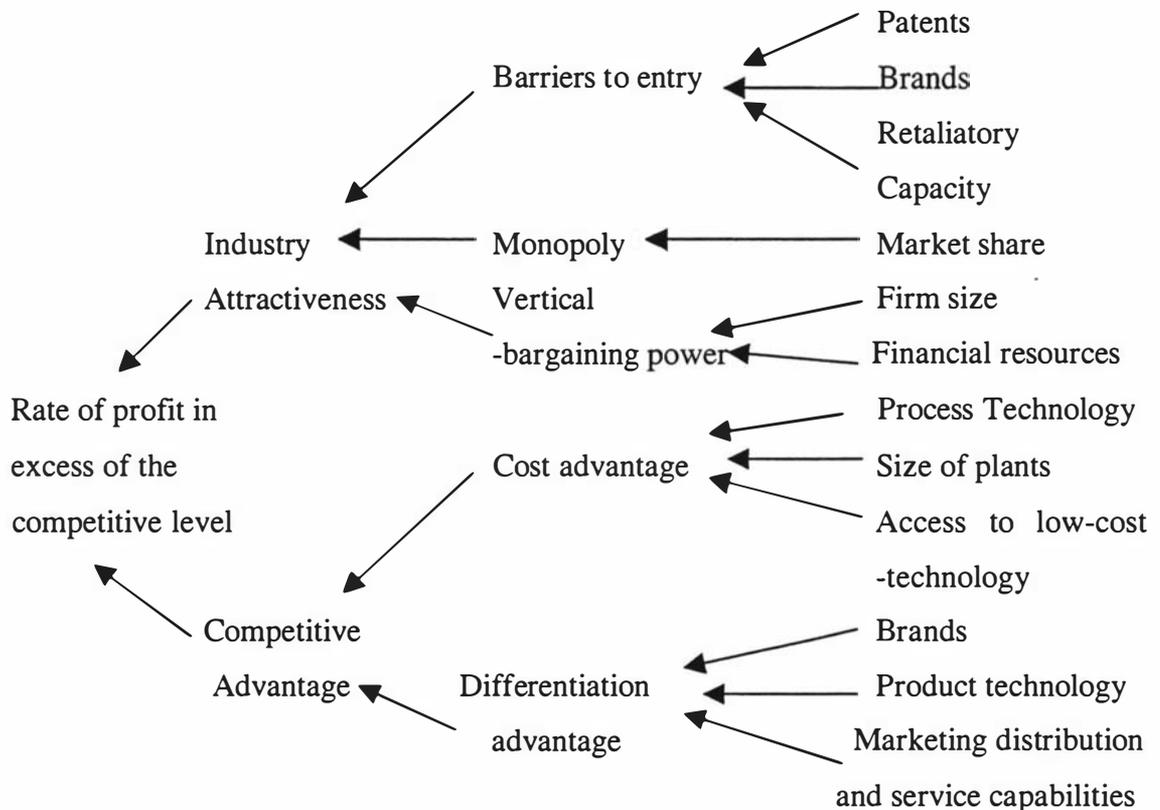
1. static capabilities – reflect an ability to perform the basic functional activities of the firm, such as plant layout, distribution logistics and marketing campaigns, more efficiently than competitors,
2. dynamic capabilities – capabilities that dynamically improve the activities of the firm, and
3. creative capabilities – capabilities that are more metaphysical, strategic insights that enable firms either to recognise the intrinsic value of other resources or to develop novel strategies before competitors.

Grant (1991) pointed out that returns to a firm's resources and capabilities depend upon two factors. Firstly, on the sustainability of competitive advantage<sup>24</sup> which resources confer upon the firm. Secondly, on the ability of a firm to appropriate rents earned from its resources and capabilities. These resources possessed by firms are heterogeneous. This implies that some firms possess superior productive factors, which are in limited supply, and which can act as entry barriers for other firms. This heterogeneity also implies that firms of varying capabilities are competing in the market place at different levels (Peteraf, 1993). According to this RBV, if a firm could acquire or develop superior resources or a superior mix of resources, it could achieve a superior performance over another. But in order to sustain performance, these superior resource ownerships and their heterogeneity should be preserved. However, Peteraf (1993) argued that heterogeneity alone is not sufficient to sustain performance. According to her, ex-post limits to competition is an additional requirement needed to sustain performance — thus she referred to ex-post limits to competition as "the competition that prevents rents from being competed away". Sustainability of these strategic assets depends on how easily they can be replicated by rivals. According to Dierickx and Cool (1989) substitution by different asset stocks is more threatening than imitation because the original asset stock will become obsolete and no longer create a value for the buyer. Therefore, innovation and upgrading of the strategic assets owned have become important in order to sustain the competitive advantage position.

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<sup>24</sup> A firm is said to have a sustained competitive advantage when it is implementing a value-creating strategy not simultaneously being implemented by any current or potential competitors and when the other firms are unable to duplicate the benefits of this strategy (Barney, 1991).

Based on the RBV, many researchers developed frameworks in explaining the competitive advantage and performance of a firm. Grant (1991) indicated resources as being the key to performing a task or an activity. Also, these resources were considered to be the sources of a firm's capabilities that enable it to achieve a competitive advantage over another. Finally, the achievement of industry attractiveness and competitive advantage will lead to a high level of performance. The relationship between resources and profitability is explained in Figure 4.2.

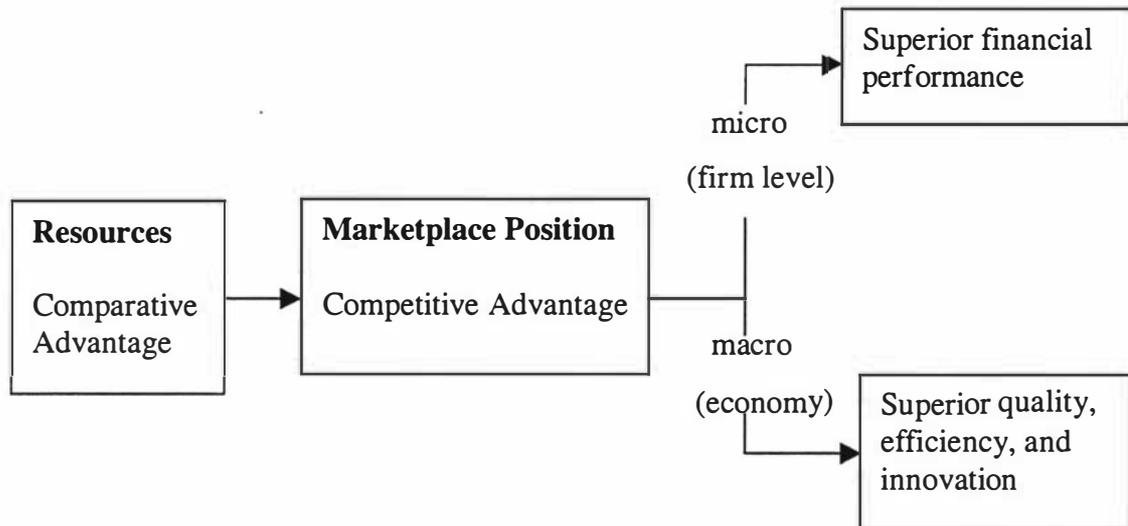


**Figure 4.2 Resources as the Basis for Profitability**

Source: Adapted from Grant, 1991

Hunt and Morgan (1995) argued that the ownership of unique resources and capabilities would provide a comparative advantage position for a firm. They identified comparative advantage as the main determinant in achieving a competitive advantage. Finally, a superior performance is achieved at either micro or macro level. They argued that this aspect of competitiveness would lead to the efficient use of existing resources and creation of new resources, which would provide a comparative advantage for firms. As a broad category, resources have been identified as both intangible and tangible entities. If these resources are immobile then competitors will start to innovate — and, if the

competitive advantage is to be sustained through time, there should be a continuous upgrading of available resources. They have explained the relationship between resources and performance as follows (Figure 4.3).



**Figure 4.3 Comparative Advantage Theory of Competition**

Source: Adapted from Hunt and Morgan, 1995

The RBV has placed a high level of emphasis on the internal resource strength of a firm, and addressed how the resources of a firm are applied and combined in order to achieve a sustainable competitive advantage. According to Dierickx and Cool (1989), the RBV framework — especially asset stock accumulation — has important implications for empirical strategy-performance research, as it tries to link a firm's internal characteristics and performance. The RBV is also considered to be adding an important dimension to the concepts of activities and the drivers of a firm (Porter, 1991) and was recognised as a powerful and important strategy in the 1980s (Collis & Montgomery, 1995). Some researchers have pointed out that the main significance of this RBV is that it focuses attention on the internal resources and capabilities of a firm as opposed to its external environment and product positioning as determinants of firm performance (Barney, 1991; Enright, 1998). Similarly, Peteraf (1993) pointed out that a major contribution of RBV is that it explains long-lived differences in firm profitability that cannot be attributed to differences in industry conditions. According to Barney (1991) RBV pushes the value chain logic further by examining the attributes that value chain analysis must possess in order to be sources of sustained competitive advantage. However, some researchers consider that SBV and RBV are complementary (Enright,

1998; Haanes & Fjeldstad, 2000). Further, Grant (1991) indicated that RBV is not clear, for two reasons. Firstly, these various contributions lack a single integrating framework, and secondly, little effort has been made in respect of practical implications.

#### **4.4.1 Core Resources of a Firm**

Firms possess a diversified and wide range of resources and capabilities. But the strategically important resources and capabilities upon which firms can base their competitive advantage can be few. Barney (1991) identified the fact that a resource should have four attributes in order to claim its competitive advantage. Accordingly, resources must be valuable, rare, imperfectly imitable and there cannot be strategically equivalent substitutes. Similarly, Amit and Shoemaker (1993) categorised these strategically important assets as strategic assets. They defined *strategic assets* as *a set of objects difficult to trade and imitate, scarce, appropriable and specialised resources and capabilities that bestow a firm's competitive advantage*. This clearly reveals that not all the resources and capabilities will contribute to competitive advantage. Some researchers have considered these strategically important resources as competencies (Ma, 2000), core competencies (Hamel, 1993), and superior skills (Bharadwaj, Varadarajan & Fahy, 1993). However, in this study strategically important resources will be considered as *core resources* (this term was used in order to have a consistency with the term *core strategies*). Similarly to core strategies, a number of previous studies have identified a common set of core resources upon which a firm can base its competitive advantage. These core resources can be identified under six broad dimensions: scale, skills, brand equity, managerial talent, experience effects and vertical integration. However, Campbell-Hunt (2000, p.137), by conducting a meta-analysis pointed out that several elements of competitive strategies are now distinguished as elements of the firm's resource portfolio rather than as strategies. Accordingly, the use of firm's resource portfolio may be justified as proxies for the strategies. This reveals that there is no clear-cut definition in identifying which variable should be classified under which perspective. In order to avoid this confusion, in this study *core resources* were considered as being "what the firm has" whereas *core strategies* have been considered as being "what the firm does" or the activities of a firm. The core resources identified for analysis, which were selected specifically from the tea industry in Sri Lanka, will be discussed — along with the analytical model — in the next chapter.

**Scale:** The size of the firm is commonly used as a proxy for scale economies (De Vasconcellos & Hambrick, 1989; Katsikeas, 1994; Bharadwaj, Varadarajan & Fahy, 1993; Ma, 2000). From a marketing perspective, size can have a psychological impact — since a large firm can better project the image of a firm (Harling & Funk, 1987) and bigger firms typically indicate a strong market position (Ma, 2000). According to Bharadwaj, Varadarajan and Fahy (1993) firm size is an important indicator in determining the implications of the cost and differentiation advantages of a firm. Further, they pointed out that firm size relative to competitors can be a major determinant of the economic viability of investing in certain different features that can lead to the achievement of a competitive advantage. By supporting this view, Cohen and Klepper (1996) concluded that larger firms have a greater advantage in research and development as they can apply the results and spread costs over a larger output than can small firms. Similarly, Wagner and Digman (1997), by considering five industries, concluded that organisational size explains a significant amount of the variance associated with return on assets and sales growth. Even though Wolff and Pett (2000), by considering small businesses, concluded that larger organisations possess a more broadly developed resource-base, their performance was not different from that of the very small firm group.

Previous researchers have used different parameters to capture firm size. Many studies used employee level (Zoltan & Andresch, 1987; Katsikeas, 1994; Hyvönen & Kola, 1995) and sales (Seifert & Ford, 1989; Cohen & Klepper, 1996) to represent the firm size. Some studies used a combination of indicators. Nakos, Brouters and Brouters (1998) considered both total number of employees and a firm's annual sales as firm size. Further, Porter (1980) pointed out that the multibusiness nature of a firm could also be used as an indicator of scale. According to him, the multibusiness nature of a firm will reduce costs if it is able to share operations or functions with other businesses in the company. Firms that engage in multibusinesses can also become highly involved in price retaliatory activities of a given product, as the profits of other products can be used to overcome temporary losses. This can provide a highly competitive position over rivals. Further, Harling and Funk (1987) indicated that offering a complete product line would help to attract customers to achieve a competitive position. Their empirical analysis, based on USA business, strongly suggested that businesses diversified in terms of product and services are successful measured in terms of return on assets. However,

Hyvönen (1995) showed that, in larger firms, differentiation based on fewer but stronger brands to focused segments would be more profitable than widening the product range.

**Skills:** Many researchers used employee skill to represent the expert skills of a firm. Porter (1998a) specifically pointed out that skilled employees reveal the pool of specialised knowledge of a firm and act as an important determinant in achieving competitive advantage. Day and Wensely (1988) considered superior skills owned by a firm as a superior resource of a firm, and Hyvönen and Kola (1995) considered skilled sales force as an important dimension of marketing differentiation. Further, technical skills and level of expertise of workforce in the manufacturing plant (De Vasconcellos & Hambrick, 1989) and employees in the export area (Nakos, Brouthers & Brouthers, 1998) were considered in previous studies to represent the superior skills of a firm. The empirical analysis of De Vasconcellos and Hambrick (1989) revealed that both technical knowledge of sales and work force and the marketing knowledge of sales force are highly positively correlated with performance. Further, the analysis of Nakos, Brouthers and Brouthers (1998) showed that well-trained employees in the export area are positively related with firm performance.

**Brand equity:** According to Aaker (1991) *brand equity* consists of *brand loyalty, name awareness, perceived quality, strong brand associations* and other assets such as *patents, trademarks, and channel relationships*. Although a brand with strong brand equity is a valuable asset, the actual measurement is difficult (Kotler & Armstrong, 1995). According to them, high brand equity provides a company with many competitive advantages. Similarly, Liyanage (1997) illustrated that branding creates several benefits. A brand name makes it easier for sellers to process orders and track down problems, it provides legal protection of unique product features, gives the seller the opportunity to attract a loyal and profitable set of consumers and helps the seller to segment the market. Therefore, a brand name can be considered as being a superior resource of a firm (Day & Wensely, 1988) and its image is one of the approaches that leads to product exclusivity (Govindarajan, 1989). Bharadwaj, Varadarajan and Fahy (1993) considered brand equity as a potential source of competitive advantage. In addition, a number of studies have considered brand name as a strategic asset of a firm (Wernerfelt, 1984; Collis & Montgomery, 1995; Haanes & Fjeldstad, 2000).

**Managerial talent:** According to Ma (2000) superior managerial talents create better value for customers and shareholders, and are considered to be important in co-ordinating, integrating and reconfiguring multiple streams of competencies and deploying them strategically to exploit changing market opportunities. Specific managerial talent was considered as a capability (Amit & Shoemaker, 1993) and as a unique resource of a firm (Penrose, 1995). Previous research has used different managerial characteristics as proxies among which experience and education are prominent. Gupta and Govindarajan (1984) raised the matter of the importance of managerial characteristics in implementing strategies. They concluded that greater marketing sales experience, willingness to take risks and tolerance for ambiguity contribute to effectiveness in the firms whose desire is to increase their market share. Management characteristics — among which experience and industry familiarity are considered to be beneficial in strategic decision-making (Govindarajan, 1989) — are considered to be extremely important in organisational performance. He was of the view that there are no clear-cut theoretical arguments to say that age, education and organisational familiarity affect strategic decision-making behaviour. Castanias (1991) pointed out that a manager has a greater influence in pricing, product form, promotion and other related activities in differentiated product industries rather than in commodity industries. He indicated also that such influence may be necessary for a firm to compete effectively in these industries. Nakos, Brouthers and Brouthers (1998) considered education level, international experience, foreign language skills, age and commitment to international expansion as proxies for managerial talent in determining firm performance. They showed that foreign language skills, education level and perceived commitment of a firm in international markets are positively related with firm performance. However, the age of the manager was shown to have a significant negative relationship.

**Experience effects:** According to Porter (1980) the unit cost of production tends to decline as the firm gains more cumulative experience in producing a product. Similarly, industry familiarity as judged by the length of experience in current and closely related industries is an important determinant of firms' performance (Govindarajan, 1989) and this production experience supports experience curve strategy (Wenerfelt, 1984). However, Ma (2000) pointed out that it is not only which stage of the experience curve a firm has reached, or what the firm has learned but how quickly it can learn and adapt

to a changing environment which is important. In contrast to these studies, Katsikeas (1994), by considering export competitive advantages, pointed out that the length of export market experience is not associated with the perceptions of competitive advantage. The author raised the point that regular exporting activities of the firms surveyed might be the main cause that has facilitated the attainment of sufficient knowledge. Similarly, Nakos, Brouters and Brouters (1998) considered a firm's age as a proxy for experience, and considered it to be important in determining the export competitive advantage. But firm age revealed a significant negative relationship with firm performance.

**Vertical integration:** A firm's integration can be either forward or backward. Porter (1980) considered that vertical integration is an important strategy in developing strengths over competitors. He pointed out that backward integration could allow the firm to enhance differentiation by gaining control over the production of key inputs. Control of inputs enables a firm to receive the inputs with correct specifications and can improve the final product over its competitors. Similarly, Cartwright (1991) revealed that in land-based industries, linkage back to the land resource is an important source of competitive advantage and innovation. According to Buzzell, Gale and Sultan (1975) high market share businesses are, on average, somewhat more vertically integrated than those with smaller market shares. Further, many researchers have identified vertical integration as being an important factor that affects performance by acting as a mobility barrier (Porter, 1977; Harrigan, 1985; McGee & Thomas, 1986).

#### **4.5 The Need to Bridge both Views**

According to the dominant SBV, a firm can gain a competitive advantage by positioning itself within the industry by pursuing either a low-cost, or a differentiation, strategy. Although these are considered as two broad strategies, some raised the importance of explaining firm performance through a number of strategies upon which firms can base their competitive advantage. But according to the RBV, firms can achieve a competitive edge by having strategically important resources. Even though the final outcome, superior performance, is the same from both perspectives, they view it from these two aspects — the strategies and resources of a firm. Similarly, these two perspectives have captured a higher emphasis along with the recognition of dominant firm-effects in

explaining firm performance. Table 4.1 details a number of previous empirical studies that have used either of these perspectives in explaining firm performance. These studies, which were primarily based on a number of different industries in developed countries, have strengthened the SBV and RBV in explaining firm performance. However, none of these studies has assessed the relationship between these perspectives.

In this study, core resources are considered to be "what the firm has" whereas the core strategies are considered to be "what the firm does" or the activities it pursues. Therefore, similarly to the two direct relationships mentioned above, there could also be an indirect relationship between core resources and performance via core strategies. That is, there could also be a relationship between the two perspectives: RBV and SBV. Accordingly it can be argued that the ability of a firm to pursue a particular strategy is dependent on what resources that firm has. That is, the choice and the ability to perform a particular strategy can be highly dependent on the resource strength of a firm. If these two perspectives are closely related, then the strategy-performance relationship will provide a broader understanding about the firm's competitive position and its influence over performance.

In previous research a similar argument was raised by Day and Wensley (1988) when they pointed out that sources of advantage are important in determining positional advantage. Performance outcomes are considered to be a consequence of relative superiority in the skills and resources a business deploys due to positional advantages. Further, they suggested an integrative multiple measures perspective of sources, positions and performance (SPP) framework in assessing competitive advantage. Similarly, Bharadwaj, Varadarajan and Fahy (1993), by developing a contingency model of sustainable competitive advantage for service industries, argued that superior skills and resources do not automatically give a business a competitive advantage. They indicated that they provide only an opportunity for it to leverage its skills and resources to achieve competitive cost and/or differentiation advantage. Therefore, development of the product, along with positioning it among competitors, is important in achieving a competitive advantage over its rivals. This model of sustainable competitive advantage was explained by using resources and skills along with the characteristics of service industries. Recently, Haanes and Fjeldstad (2000), by explaining the pharmaceutical

industry based on RBV and SBV, pointed out that the essence of strategy is to combine both in order to understand how to create an appropriate value with scarce resources. They argued that both perspectives are complementary, and concluded that it is essential to incorporate both views — since value creation results from the activities in which the resources are applied. They have also pointed out that strategic management has a shortcoming when those intangible resources, such as competencies and relationships, are not yet linked to how firms create value and how they compete in their industries.

**Table 4.1**  
**Previous Empirical Studies on Firms' Performance Based on the Strategy- and Resource-Based Views<sup>25</sup>**

| Study                                  | Country and industry  | Sample size | Paradigm used | Performance indicator/s                              | No. of variables from the SBV/RBV        | Method of analysis                          |
|--|---|-------------|---------------|--|--|---|
| Dess and Davis, 1984                   | USA<br>Paint and allied products industry                       | 22          | SBV           | Annual sales growth and ROA                          | 21 variables                             | Factor and cluster analysis                 |
| Holey, Lynch and Jobber, 1992          | UK<br>Sample was based on the SIC but excluding small companies | 616         | SBV           | Profit, ROI, sales and market share                  | 15 variables under four broad dimensions | Cluster and discriminant analysis           |
| Wright et al., 1995                    | USA<br>Motor vehicle parts and accessories industry             | 79          | SBV           | Average level of ROI                                 | 5 variables                              | Factor and cluster analysis                 |
| Wagner and Digman, 1997                | USA<br>Based on 5 industries                                    | 84          | SBV           | ROA and sales growth                                 | 17 variables                             | Factor, cluster analysis and ANOVA          |
| Dess, Lumpkin and Covin, 1997          | USA<br>Heterogeneous and non diversified firms                  | 34          | SBV           | Sales growth, ROI and overall performance            | 6 variables                              | Factor and hierarchical regression analysis |
| Kamalesh, Subramanian and Yauger, 1997 | USA<br>Health care industry                                     | 159         | SBV           | Growth in revenue, return on new services/facilities | 12 variables                             | Cluster analysis, MANCOVA and ANOVA         |

<sup>25</sup> For a further survey of empirical research see Campbell-Hunt, 2000

Table 4.1 Cont....

| Study                               | Country and industry   | Sample size | Paradigm used | Performance indicator/s                              | No. of variables from the SBV/RBV       | Method of analysis                    |
|-------------------------------------|--|-------------|---------------|--|---|---------------------------------------|
| Kamalesh and Subramanian, 1998      | USA<br>Health care industry  | 159         | SBV           | Growth in revenue, return on new services/facilities | 10 variables under 2 dimensions         | Cluster analysis, MANCOVA and ANOVA   |
| Pelham, 1999                        | USA<br>56 four-digit SIC industries  | 229         | SBV           | 10 variables to represent 3 dimensions               | 13 variables to represent 7 dimensions  | Factor, regression analysis and ANOVA |
| Beal, 2000                          | USA<br>Small firms   | 101         | SBV           | Perceptual measures of performance                   | 23 variables under 5 dimensions         | Factor analysis                       |
| Parker, 2000                        | Telecommunications industry in Europe, USA, Asia, Middle East and Africa       | 78          | SBV           | Sales growth and ROI                                 | 6 dimensions                            | Cluster analysis                      |
| De Vasconcellos and Hambrick, 1989  | 6 industries   | 117 & 73    | RBV           | ROA  | 34 variables                            | Multiple regression                   |
| Harrison, Hall and Nargunskar, 1993 | USA<br>203 different 4-digit and 55 different 2-digit SIC industries (LB data) | 96          | RBV           | ROA  | 2 variables to represent two dimensions | GLM                                   |

Table 4.1 Cont....

| Study                         | Country and industry                      | Sample size     | Paradigm used | Performance indicator/s                                  | No. of variables from the SBV/RBV      | Method of analysis                                |
|-------------------------------|---|-----------------|---------------|--|--|---|
| Hyvönen and Kola, 1995        | Finland<br>Food industry                  | 65              | RBV           | Self reported scale of profitability                     | 19 variables                           | Factor and cluster analysis                       |
| Hyvönen, 1995                 | Finland<br>Food industry                  | 65              | RBV           | Objective and self related objective measures            | 19 variables                           | Factor and cluster analysis                       |
| Markides and Williamson, 1996 | USA<br>SIC codes 0-40                     | 136             | RBV           | Returns on sales   | 14 variables                           | Regression analysis                               |
| Miller and Shamsie, 1996      | USA<br>Film Industry                      | 7 Studios       | RBV           | 5 financial performance indicators                       | 5 variables                            | Regression analysis                               |
| Majumdar, 1998                | USA<br>Telecommunications Industry        | 39              | RBV           | 3 sets resource utilisation scores                       | 8 variables                            | Data envelopment analysis and regression analysis |
| Fahy, 1997/1998               | Ireland<br>Automotive components industry | 42              | RBV           | Market share, return on total assets and return on sales | 16 variables to represent 5 dimensions | ANOVA   |
| Rangone, 1999                 | SME's in different industries             | 14 case studies | RBV           | Manufacturing, new product development and marketing     | 14 variables                           | Numerical weightings                              |
| Wolff and Pett, 2000          | USA<br>Small firms                        | 157             | RBV           | Export intensity   | 9 variables                            | Factor analysis and ANOVA                         |

#### **4.6 Strategic Groups and Firm Performance**

An industry is a collection of firms that produce close substitute outputs. These firms are assumed to be homogeneous or not, depending on the theory under which they are assessed. According to the SCP paradigm, firms are assumed to be homogeneous except with respect to size. But the SBV and RBV assume that firms are heterogeneous. Similarly, in reality firms show significant differences with respect to vertical integration, branding, distribution channels used, global integration and the like. For example, in the Sri Lankan VAT industry segment there are a number of different types of firms which can be subsidiaries of MNCs like *Unilevers*, large firms like *Dilmah* and small firms like *Telon*. Their ownership of resources and the strategies they adopt are different from one another. Based on such differences within an industry, groups of firms with similar characteristics can be identified. These existing groups within an industry are referred to as *strategic groups* where these group differences create different performance outcomes. Porter (1979) identified this explanation of performance differences among firms based on strategic groups, and mobility barriers as a supply side concept, which rests on the structure within industries.

Porter (1979) defined a *strategic group* as a *cluster or group of firms where each group consists of firms following similar strategies in terms of the key decision variables*. His classification of strategic groups was based only on the strategies. But according to the literature review on strategic groups by McGee and Thomas (1986), a number of previous studies have used a mix of variables, including mobility barriers, as the basis for forming strategic groups. They showed that the most natural way to assign firms to groups is by reference to the characteristics of their strategies, and where differences between groups are relatively sharp. Further, some researchers have pointed out that a group definition based on mobility barriers rather than on strategies provides important clues regarding the performance differences among groups (Harrigan, 1985; Mascarenhas & Aaker, 1989; Dranove, Peteraf & Shanley, 1998). Mascarenhas and Aaker (1989) argued that a firm's mobility barriers are usually driven by its skills and assets, and hence these should be given primary consideration in identifying strategic groups. However in this study, strategic groups will be formed based on a mix of variables that act as sources of competitive advantage. Formation of strategic groups based on strategies as well as resources will provide a broader explanation of these

groups and their performance differences. It will also allow a systematic integration of differences in skills, resources and strategic choices of member firms in an industry.

These strategic groups within an industry are protected by mobility barriers which restrict the movement of firms from one group to another. These mobility barriers are basically the structural features of firms within the group that prevent other firms from entering into it. This concept is similar to the entry barriers in the SCP paradigm, but acts within an industry — rather than for an industry. According to McGee and Thomas (1986) these mobility barriers fall into three broad categories: market-related strategies, characteristics of supply in the industry and features specific to the ownership and management of an individual firm (Table 4.2). According to Barney (1991) strong mobility barriers among strategic groups may obtain sustained competitive advantage vis-à-vis other firms that are not in the same strategic group. This will lead to sustained superior performance over the other firms. Further, he pointed out that mobility barriers exist only when competing firms are heterogeneous in terms of the strategically relevant resources they control. This leads them to pursue different strategies — unlike firms in the other groups.

**Table 4.2**  
**Sources of Mobility Barriers**

| <b>Market-related Strategies</b> | <b>Industry Supply Characteristics</b> | <b>Characteristics of Firms</b>          |
|----------------------------------|--|--|
| Product line                     | Economies of scale                     | Ownership                                |
| User technologies                | - Production                           | Organisation structure                   |
| Market segmentation              | - Marketing                            | Control systems                          |
| Distribution channels            | - Administration                       | Management skills                        |
| Brand names                      | Manufacturing processes                | Boundaries of firms                      |
| Geographic coverage              | Research and development -             | - Diversification                        |
| Selling systems                  | Capability                             | - Vertical integration                   |
|                                  | Marketing and distribution systems     | Firm size                                |
|                                  |  | Relationships with -<br>influence groups |

Adapted from McGee and Thomas, 1986

The existence of strategic groups is important in explaining competition and performance in an industry. According to Porter (1979), three factors influence the level of competition among the strategic groups in the industry. They are the number and size distribution, the strategic distance between groups and the market interdependence among groups. The greater the number of groups and the more equal their shares, the greater the rivalry among them. The greater the strategic distance in terms of key strategy decision variables, the greater the rivalry. The greater the market interdependence (the degree to which groups target the same customers), the greater the rivalry. All these three will interact and determine the extent of inter-group rivalry in an industry. Further, Caves and Porter (1977) pointed out that these group differences systematically affect industries' performance. According to Porter (1979) the concepts of strategic groups and mobility barriers provide explanations for both stable differences in competitive strategies and persistent intra-industry profit differences among firms within an industry. Given the greater importance of intra-industry differences in addressing firm performance, many previous studies have used the concept of strategic groups in examining performance differences within an industry (Hyvönen, 1995; Hyvönen & Kola, 1995; Wright et al., 1995; Wagner & Digman, 1997; Kamalesh & Subramanian, 1998; Parker, 2000).

#### **4.7 Summary**

The primary objective of this chapter was to provide a theoretical background of firm performance, in order to develop the methodology for assessing the performance of the VAT producing firms in Sri Lanka. In this process, firm performance was viewed in the light of the competitive advantage paradigm. This is considered to be important in meeting competitive challenges in the process of globalisation. The competitive advantage of a firm can be developed either through specific resources or through strategies. The resources upon which a firm can base its competitive advantage were identified within the resource-based perspective. Similarly, a wider array of strategies at the value chain level was identified within the strategy-based perspective. The incorporation of a number of strategies detracts from the dominant SBV but it is argued to provide a broader explanation for the strategy-performance linkage. Further, by extending the theories on competitive advantage, the importance of assessing firm performance through strategic groups and mobility barriers was also discussed.

## **Chapter Five**

### **Methodology for Assessing Firm Performance**

The previous chapter provided the theoretical background for the development of the methodology. As explained, the study uses the competitive advantage of a firm and incorporates the resource and strategy perspectives in explaining firm performance. Similarly, earlier studies also pointed out the importance of some core resources and strategies in enhancing the performance of VAT production in Sri Lanka. Therefore, the analytical model was developed based on both perspectives. Even though these two perspectives individually address firm performance, the need for integrating them has been raised in this study. Therefore, in this study the relationship between resource and strategy perspectives is also considered in addressing firm performance. This will provide a good opportunity to test the applicability of both SBV and RBV and their relationship to an agribusiness of a developing country, specifically the VAT industry segment of Sri Lanka. Therefore, this chapter sets out the analytical framework, research process and methods of analysis in order to assess the performance of VAT producing firms.

#### **5.1 Analytical Framework**

Broadly, strategy is concerned with answering two basic questions; "where do you want to go?" and "how can you get there?". As indicated in the previous chapter, many researchers consider that a firm's main goal in a competitive environment is to achieve a superior performance over a benchmark. This answers the first question of strategy – that is, "where do you want to go?". Once the goal has been established, the firm should answer the second question, that is, "how can you get there?". In order to reach the goal, firms can undertake different procedures crucial to its achievement. Porter's SBV answered this question by using only two broad and mutually exclusive competitive strategies: low-cost and differentiation — which represent how effectively and how uniquely a firm's activities are performed compared to those of its rivals. Due to the limitations of this method, a number of previous studies considered the importance of pursuing a combination of strategies in reaching a goal. The identification of strategies

that can act as either sources of competitive advantages or the elements of competitive strategies can be considered as the best approach in addressing how a firm can reach its goal. These elements of competitive strategies that are crucial in achieving the goal of a firm can be identified at the firm's value chain level. These elements of competitive strategies that are important in achieving a superior performance can be represented as core strategies. A firm can develop competitive advantage by executing these core strategies better than their rivals and thereby achieve a superior performance.

Similarly to the elements of competitive strategies, researchers suggest also the importance of resources in reaching the firm's goal, and these are explained by the RBV. Accordingly, the RBV answers the question "how can you get there?" through the ownership of unique, imperfectly imitable and rare resources and capabilities. These strategically important competencies or unique endowments can be considered as the core resources of a firm. According to the RBV, possession of these core resources will create a basis of competitive advantage over rivals. This shows a direct link between the core resources and the performance of a firm. Further, as explained earlier, it can be argued that there is an indirect link between core resources and performance via core strategies. Accordingly, core resources can determine the ability to implement a given core strategy which leads to superior performance, and the effectiveness of doing so. This shows the necessity of linking both core resources and strategies in explaining firm performance. If the core resources explain a greater proportion of the variance of core strategies, than a strategy-performance link will suffice to explain firm performance. Therefore in the study, in order to assess the strength of these resource and strategy perspectives, the link between core resources and strategies was established. Figure 5.1 shows the analytical framework that links both the resource and strategy perspectives of a firm where core resources and strategies are viewed as sources of competitive advantage in the market place, which results in a superior firm performance.

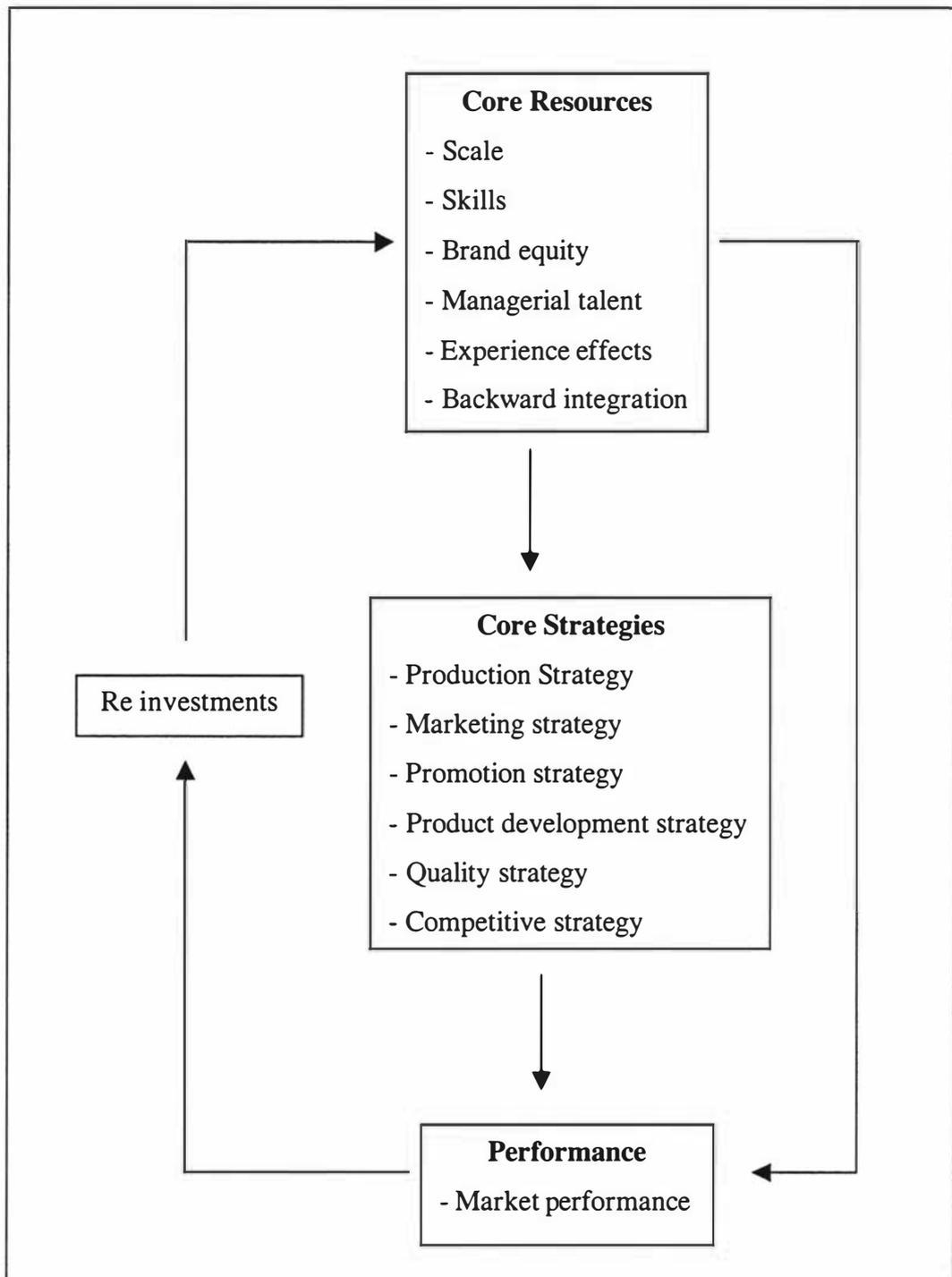


Figure 5.1 Analytical Framework

### **5.1.1 Variables Representing Core Resources**

As pointed out in the previous chapter, six broad dimensions of core resources were identified within the RBV. The relevant variables that are specific to the VAT industry segment of Sri Lanka were selected to represent the broad dimensions: scale, skill, brand equity, managerial talent, experience effects and vertical integration. The variables selected under each dimension and the way by which they were operationalised are explained below.

In a given firm, total tea production was considered to be a summation of bulk tea and VAT where the VAT was considered to be a summation of packeted tea, tea bags, instant tea, green tea and other tea. All tea types were converted into monetary terms by multiplying the production by the relevant unit FOB price.

Value of firm *i*'s total tea production (Rs. Million) = Value of firm *i*'s bulk tea production + Value of firm *i*'s VAT production

Value of firm *i*'s total VAT production = (Packeted tea production x Unit FOB price of packeted tea) + (Tea bag production x Unit FOB price of tea bags) + (Instant tea production x Unit FOB price of instant tea) + (Green tea production x Unit FOB price of green tea) + (Other tea production x Unit FOB price of other tea)

#### **Scale**

1. Total number of employees in tea
2. Involvement with businesses other than tea

Two variables were selected to represent the dimension scale. The total number of employees working in tea was considered as a proxy for firm size. Further, a firm's involvement with businesses other than tea was considered in order to capture the impact of the multibusiness nature of a firm. The scale of measurement was considered to be nominal. A value of 1 was assigned to firms that are involved with businesses other than tea, and 0 was assigned to firms that are involved only with tea.

### **Skill**

3. Number of skilled employees in secondary processing
4. Number of skilled employees in packaging

As explained earlier, secondary processing and packaging are the two most important activities in the VAT industry segment. Therefore, the total numbers of skilled employees working under these two categories were selected to represent the unique skills owned by the firm. Skilled employees in a given category were considered to be employees above the supervisor level and were determined from the pre-survey.

### **Brand equity**

5. Ownership of a brand name/s
6. VAT production under own brand name/s (Rs. million)

Although brand equity can be represented by a number of variables, due to measurement problems only two variables were selected in the study. These are *the ownership of registered brand name/s by a firm*, and *its level of brand name awareness*. The scale of measurement of the variable ownership of registered brand name/s by a firm was considered to be nominal. A value of 1 was assigned to firms with registered brand name/s and 0 was assigned to the others. Even though a firm owns brand name/s the amount of power and value they have in the market place vary. Brand name/s awareness was considered in this study in order to account for the position of a firm's brand/s in the market place. Given the positive relationship between brand name awareness and production, brand name awareness was measured by using the total VAT production under a firm's own brand name/s and was operationalised as follows:

$$\text{VAT production under firm } i\text{'s own brand name/s} = \text{Value of firm } i\text{'s total VAT production} \times \text{proportion of VAT production under firm } i\text{'s own brand name/s}$$

### **Managerial talent**

7. Managerial experience in years
8. Managerial education in years

Managerial talent was measured by using two variables: *managerial experience with respect to tea* and *a manager's total education in years*. The variable managerial education in years was created by re-specifying the responses from the questionnaire to the question concerning highest level of formal education achieved by the manager. Years were allocated for each level of formal education based on the following criteria: General Certificate of Education (Ordinary Level) = 10 years, General Certificate of Education (Advanced Level) = 13 years, diploma = 14 years, graduate degree = 16 years and postgraduate degree = 18 years.

### **Experience effects**

#### 9. Years in VAT

The total number of years in VAT production was used as a proxy for firms' experience effects. This variable was selected due to its strong association with VAT production, and is further discussed in chapter six.

### **Vertical integration**

#### 10. Backward integration

Firms' ownership of tea plantations and/or primary tea processing facilities was considered as backward integration. The scale of measurement was considered to be nominal. A value of 1 was assigned to firms with backward integration and 0 was assigned to the others.

## **5.1.2 Variables Representing Core Strategies**

In the previous chapter, six broad dimensions of core strategies were identified at the value chain level. The relevant variables that are specific to the VAT industry segment of Sri Lanka were selected to represent the broad dimensions: production, marketing, promotional, product development, quality and overall competitive strategies. Individual variables selected under each dimension and the way by which they were operationalised are explained below.

### Production strategies

1. Outward foreign direct investments in VAT production
2. Total tea imports (Million Kg)
3. VAT production intensity
4. Perceived importance attached to secondary processing in achieving a competitive advantage over other firms
5. Perceived importance attached to packaging in achieving a competitive advantage over other firms

Outward foreign direct investments by a firm in terms of secondary processing or packaging were considered as an important core strategy, and the scale of measurement was considered to be nominal. A value of 1 was assigned to firms with outward foreign direct investments and 0 was assigned to the others. Tea imports were considered to be an important variable as the imported tea is especially used in VAT production. Therefore, the volume of total tea imports by a particular firm was considered in the analysis. VAT production intensity was selected especially to represent the extent to which the firms' production strategies are targeted in producing VAT. Further, this variable was used as a proxy in order to represent the individual firm's unique capabilities in producing VAT. This was also considered to be an important variable in identifying the heterogeneity within the VAT industry segment and was operationalised as follows:

$$\text{Firm } i\text{'s VAT production intensity} = \frac{\text{Value of firm } i\text{'s total VAT production}}{\text{Value of firm } i\text{'s total tea production}} \times 100$$

Further, two variables were used to represent managerial perceptions of the importance of secondary processing and packaging in achieving a competitive advantage over rivals. The degree of importance attached to secondary processing and packaging was measured on a scale of one to five, where one was the *least important* and five was *extremely important*.

### Marketing strategies

6. Proportion of low-grown tea used in VAT production
7. Proportion of high-grown tea used in VAT production

8. Proportion of brand marketing
9. Proportion of tea exports

Four variables represent the dimension *marketing*, namely: targeted consumers in marketing VAT, brand marketing and exports of a firm. The targeted consumers in marketing VAT were proxied through the type of tea used in producing VAT. In Sri Lanka, the low-grown tea is strong and dark in colour and is usually marketed in countries where there is a high preference for strong tea. Such countries are Russia, U.A.E., Turkey, Egypt and Libya. But high-grown tea is mild and lighter in colour and is usually marketed in countries where there is a preference for mild teas. Such countries are the U.K., U.S.A., Canada, Australia and New Zealand. Therefore, the type of tea used in producing VAT was considered as the best approach in measuring the targeted consumers in marketing VAT.

#### **Promotional strategies**

10. Advertising intensity
11. Trade fairs for promotion and seeking new markets

Advertising intensity, the most commonly used indicator in measuring the promotional strategies of a firm, was operationalised as follows:

$$\text{Firm } i\text{'s advertising intensity} = \frac{\text{Firm } i\text{'s advertising expenses}}{\text{Firm } i\text{'s total sales revenue}} \times 100$$

In the tea industry, trade fairs provide the best opportunity for firms to promote their VAT and to seek new markets, hence it was considered as one of the promotional strategies. The variable *trade fairs for promotion and in seeking new markets* was created by combining the responses from the questionnaire to the two questions concerning methods used in promotion and methods used in sourcing new markets. The scale of measurement was considered to be nominal. A value of 1 was assigned to firms that use trade fairs in promotion and seeking new markets and 0 was assigned to the others.

### Product development strategy

#### 12. Research and development intensity

The research and development intensity was operationalised as follows:

$$\text{Firm } i\text{'s research and development intensity} = \frac{\text{Firm } i\text{'s Research and development expenses}}{\text{Firm } i\text{'s total sales revenue}} \times 100$$

### Quality strategy

#### 13. Adoption of the Lion logo

The adoption of the Lion logo was considered as a proxy for quality. In Sri Lanka, the Tea Board allows printing of the Lion logo only if the quality of tea meets certain standards. Therefore, this provides the best approximation for the quality of VAT. The scale of measurement of this variable was considered to be nominal where 1 was assigned to firms that use the Lion logo in their VAT and 0 was assigned to the others.

### Overall competitive strategy

14. Emphasis on low-cost in producing VAT (overall low-cost strategy)
15. Emphasis on differentiation in producing VAT (overall differentiation strategy)
16. Brand name and product innovation as the perceived bases of competitive advantage (high perceived competitive advantage)

Three variables were selected to represent the overall competitive strategy of a firm. The variables *low-cost* and *differentiation* were created based on the responses to the question concerning overall strategy in producing VAT. The scales of measurement of these two variables were considered to be nominal where a value of 1 was assigned to firms that pursue a low-cost or a differentiation strategy. A value of 0 was assigned to the others. Further, because it was assumed that brand name and product innovation provide a stronger competitive advantage for a firm, this was considered as one of the overall competitive strategies. A value of 1 was assigned to firms that consider either brand name or product innovation as the perceived base of competitive advantage, and 0 was assigned to the others.

### 5.1.3 Variables Representing Performance

This study used only non-financial market-based measures as performance indices mainly due to problems in accessing financial data. Three performance indices were considered in the study and were calculated based on both primary and secondary data. These indices of performance were operationalised as follows:

$$1. \text{ Firm } i\text{'s VAT production share} = \frac{\text{Value of firm } i\text{'s VAT production}}{\text{Value of total industry VAT production}} \times 100$$

The main limitation encountered in calculating a firm's VAT production share was the non-availability of statistics related to total industry VAT production. The Sri Lanka Tea Board does not gather data on total VAT production but only on the exporting of tea. Therefore, the total industry VAT production was calculated based on the data on tea exports and total tea production.

#### Calculation of total industry VAT production

Total tea production = domestic consumption of tea + exports of tea

Total tea production in 1999 = 284 million Kg

Proportion of tea exports = 93%

Domestic consumption of tea = 19.88 million Kg

As pointed out by the *International Tea Yearbook* (1994) the proportion of domestic packeted tea consumption is 20%. By assuming that the rate of consumption was the same in 1999, the domestic packeted tea consumption was calculated based on the total domestic consumption of tea.

Domestic consumption of packeted tea = 3.976 million Kg

Assuming the exports of tea packets to tea bag ratio of 6: 1 is the same for domestic tea consumption, the domestic consumption of tea bags was calculated based on the total domestic consumption of packeted tea.

Domestic consumption of tea bags = 0.663 million Kg

The domestic consumption of all other VATs — instant, green and other teas — was assumed to be zero. Finally, the total industry VAT production (VAT used in domestic consumption and exports) was calculated in Rupee terms by multiplying each type of VAT by the relevant unit FOB prices.

In addition to the above indicator related to VAT production, two additional indices were selected to represent performance with respect to VAT exports. These were individual firm's export market share and its growth during the period 1998-1999.

$$2. \text{ Firm } i\text{'s VAT export market share} = \frac{\text{Firm } i\text{'s total value of VAT exports}}{\text{Value of total industry VAT exports}} \times 100$$

Where,

Firm *i*'s value of total VAT exports = Value of packeted tea exports + Value of tea bag exports + Value of instant tea exports + Value of green tea exports + Value of other tea exports

$$3. \text{ Firm } i\text{'s VAT export share growth} = \frac{\text{Firm } i\text{'s VAT export share in 1999} - \text{Firm } i\text{'s VAT export share in 1998}}{\text{Firm } i\text{'s VAT export share in 1999}} \times 100$$

Two of the performance indicators, VAT production share and VAT export market share were selected to represent firm performance in 1999. The performance indicator, VAT export market share growth, was selected to represent the performance growth of a firm.

## 5.2 Research Hypotheses

In the study, statistical analyses were conducted in order to test the following null hypotheses ( $H_0$ ) against alternative hypotheses ( $H_1$ ). The alternative hypotheses were developed based on the theoretical expectations and previous empirical work that were

discussed in the previous chapter. Significance was considered at the probability level of 0.05.

1. **H<sub>0</sub>**: Identifiable resource patterns do not exist within the VAT industry segment.  
**H<sub>1</sub>**: Identifiable resource patterns exist within the VAT industry segment.
2. **H<sub>0</sub>**: Identifiable strategy patterns do not exist within the VAT industry segment.  
**H<sub>1</sub>**: Identifiable strategy patterns exist within the VAT industry segment.
3. **H<sub>0</sub>**: There is no significant intra-industry heterogeneity.  
**H<sub>1</sub>**: There is significant intra-industry heterogeneity.
4. **H<sub>0</sub>**: There are no significant differences across the strategic groups in terms of their resource and strategy patterns.  
**H<sub>1</sub>**: There are significant differences across the strategic groups in terms of their resource and strategy patterns.
5. **H<sub>0</sub>**: The strategic groups do not possess significantly diverse mobility barriers.  
**H<sub>1</sub>**: The strategic groups possess significantly diverse mobility barriers.
6. **H<sub>0</sub>**: There is no significant relationship between the resource and strategy patterns.  
**H<sub>1</sub>**: There is a significant relationship between the resource and strategy patterns.
7. **H<sub>0</sub>**: There are no significant differences in firm performance across the strategic groups.  
**H<sub>1</sub>**: There are significant differences in firm performance across the strategic groups.
8. **H<sub>0</sub>**: Resource patterns do not explain a significant portion of the variation in firm performance measured in terms of VAT production share and VAT export market share.  
**H<sub>1</sub>**: Resource patterns explain a significant portion of the variation in firm performance measured in terms of VAT production share and VAT export market share.
9. **H<sub>0</sub>**: Resource patterns do not explain a significant portion of the variation in firm performance growth measured in terms of VAT export market share growth.  
**H<sub>1</sub>**: Resource patterns explain a significant portion of the variation in firm performance growth measured in terms of VAT export market share growth.

10. **H<sub>0</sub>**: Strategy patterns do not explain a significant portion of the variation in firm performance measured in terms of VAT production share and VAT export market share.  
**H<sub>1</sub>**: Strategy patterns explain a significant portion of the variation in firm performance measured in terms of VAT production share and VAT export market share.
11. **H<sub>0</sub>**: Strategy patterns do not explain a significant portion of the variation in firm performance growth measured in terms of VAT export market share growth.  
**H<sub>1</sub>**: Strategy patterns explain a significant portion of the variation in firm performance growth measured in terms of VAT export market share growth.
12. **H<sub>0</sub>**: The integrated model based on the resource and strategy patterns does not explain a significant portion of the variation in firm performance measured in terms of VAT production share and VAT export market share.  
**H<sub>1</sub>**: The integrated model based on the resource and strategy patterns explains a significant portion of the variation in firm performance measured in terms of VAT production share and VAT export market share.
13. **H<sub>0</sub>**: The integrated model based on the resource and strategy patterns does not explain a significant portion of the variation in firm performance growth measured in terms of VAT export market share growth.  
**H<sub>1</sub>**: The integrated model based on the resource and strategy patterns explains a significant portion of the variation in firm performance growth measured in terms of VAT export market share growth.
14. **H<sub>0</sub>**: The model based on the integrated resource and strategy perspectives does not explain a greater portion of the variation in firm performance than do models based on the individual resource or strategy perspectives.  
**H<sub>1</sub>**: The model based on the integrated resource and strategy perspectives explains a greater portion of the variation in firm performance than do models based on the individual resource or strategy perspectives.
15. **H<sub>0</sub>**: Resource and strategy patterns show consistent relationships with firm performance across the strategic groups.  
**H<sub>1</sub>**: Resource and strategy patterns do not show consistent relationships with firm performance across the strategic groups.

### **5.3 Research Design**

As explained above, the analytical model and the variables to be considered in the analysis were identified within the resource and strategy perspectives of a firm. The next important step in the study is research designing in order to collect relevant information. In the study the research was designed by using the steps explained by Malhotra (1999). The need of a cross-sectional study to collect primary data was identified due to the unavailability of secondary data at the individual firm level. Therefore, the following two important steps were taken:

1. a questionnaire was constructed and pre-tested, and
2. the sampling process and sample size were specified.

As explained by Malhotra (1999) there can be several potential sources of error that can affect the research design, especially in conducting both these stages<sup>26</sup>. Therefore, efforts were made to minimise the possible errors that could have affected the research design process.

### **5.4 Questionnaire Development**

Two questionnaires were developed for the survey: one for the experts in the tea industry and another for the firms that are involved in VAT production. It was decided to have in-depth personal interviews with the experts in the tea industry. Therefore, four broad open-ended questions were included in the questionnaire (Appendix 2). This questionnaire was developed primarily to obtain an understanding of the tea industry, especially with respect to VAT production and exports in Sri Lanka.

The second questionnaire was intended to be used for the VAT producing firms in Sri Lanka. This was the most important questionnaire in the research designing process and was used to obtain primary data. It was developed chiefly to obtain details of firms' involvement in VAT production, exports and related activities. As the initial process of

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<sup>26</sup> Potential sources of error can be sampling and/or non-sampling where the non-sampling error can be response and/or non-response errors (Malhotra, 1999, p. 98).

questionnaire development, the information which it was necessary to collect was specified by conducting a literature review. Personal interviews were considered as the best method of obtaining information. These enabled the researcher to have a lengthy questionnaire with varied questions. The question content and type of questions to be included were also decided. Mainly, structured questions were used in the questionnaire. It is generally recognised that behavioural type responses that measure an attribute indirectly need to prove their validity as a measure before data collection (Churchill, 1979). Therefore, in order to maintain high levels of validity and reliability, the questions were designed as direct measures, where the variables were categorised as nominal or ratio variables<sup>27</sup>. Only two questions were included to obtain managers' perceptions on secondary processing and packaging in ascertaining firms' basic objectives. In addition, Figure 2.1 was incorporated in the questionnaire to capture the extent of firms' involvement in the overall tea industry. At the end of the questionnaire four open-ended questions were included to obtain respondents' overall opinions about the VAT industry segment. The intention was to gather sensitive information, such as the net profit of the firm and the net profit from tea through six different profit ranges.

The knowledge gathered through in-depth interviews with experts in the tea industry, along with the comments obtained from academicians who are familiar with the tea industry, was used to effect further improvements to the questionnaire. The final version of the questionnaire contained questions under 10 broad areas, and consisted of 12 pages plus a cover sheet (Appendix 3).

#### **5.4.1 Pre-Testing**

The questionnaire designed for experts in the tea industry was not pre-tested as it was basically developed as a guideline for a discussion. The second questionnaire developed to obtain primary data was pre-tested in two stages. Firstly, a pre-test was conducted with three firms which had been involved in VAT production in the past (this was mainly due to the limited number of firms in the sample frame). These three firms were

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<sup>27</sup> Nominal variables simply name the different categories (e.g. involvement — or no involvement — in exporting tea) and the ratio variables allow the eliciting of more precise information and include a true zero (e.g. proportion of tea exports from the total).

not included in the analysis. The pre-test was conducted by personal interviews. Following the pre-test a term was changed in order to avoid confusion between primary and secondary processing and a some modifications were made to Figure 2.1. Two of the sensitive questions relating to pricing and capital structure were removed, as none of the firms was willing to reveal this information. Secondly, the corrected questionnaire was again pre-tested with 2 firms in the sample. No corrections were made after the second pre-test.

### **5.5 Sampling Process**

Since the study uses two different questionnaires, the sampling designing process included two different processes. The specification of the target population for the first survey was as follows:

**Elements:** Experts in the tea industry

**Sampling units:** Individuals

**Extent:** Sri Lanka

**Time:** 1999

The sample was selected purposively based on the knowledge of the researcher. Respondents were selected mainly from government organisations and from tea brokers. Experts from the firms were excluded from this survey because the open-ended questions in the second questionnaire provide their views on the tea industry. Experts who are involved in the tea industry were selected from the following government organisations: Sri Lanka Tea Board, Tea Promotion Bureau, Tea Research Institute and Sri Lanka Export Development Board. Forbes and Walker Tea Brokers (Pvt) Ltd. was selected as one of the brokering firms.

The specification of the target population for the second survey was as follows:

**Elements:** Value-added tea producers

**Sampling units:** Firms

**Extent:** Sri Lanka

**Time:** 1999

The target population should have included all firms involved in producing VAT during 1999, but a lack of complete and up-to-date lists of VAT producers in the country created problems in obtaining the total population. Therefore, this study was based on all the firms (90 in total) registered in 1999 under the category *tea* at the Ceylon Chamber of Commerce<sup>28</sup>, Sri Lanka. Prior to the survey, all the executives of the 90 firms were contacted over the telephone and asked to advise whether or not they had been involved in the production of VAT during 1999. Fifty-eight firms indicated that they were involved in the production of VAT during the year 1999. Therefore, all the 58 firms (64 per cent of the total firms registered at the Ceylon Chamber of Commerce, Sri Lanka) were taken as the initial sampling frame<sup>29</sup> for the study (Appendix 1). Table 5.1 shows details of the firms that were registered at the Ceylon Chamber of Commerce under the category *tea*. Seventeen firms indicated that they were not involved in tea during 1999. The reasons for maintaining the membership varied from firm to firm, but the common ones were future expectations of entering into the industry and non-participation due to either lack of orders or low profitability compared with that of other businesses.

**Table 5.1**

**Details of the Firms Registered at the Ceylon Chamber of Commerce (n=90)**

| Type of Firm   | Number of Firms |
|--|-----------------|
| Firms engaged in VAT production                              | 58              |
| Firms engaged in bulk tea exports and tea related activities | 15              |
| Firms not engaged in tea during 1999                         | 17              |

Although the target population was specified as VAT producers in Sri Lanka during 1999, only 58 firms who confirmed that they were involved in VAT production were considered as the sampling frame for the study. This could have led to a sampling frame

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<sup>28</sup> Colombo tea auctions are held at the Ceylon Chamber of Commerce, Colombo. The registered members of the Chamber can bring any number of participants to the auction but non-members have to obtain a letter from an auction broker if they want to participate in the auction.

<sup>29</sup> A sampling frame is a representation of the elements of the target population (Malhotra, 1999, p. 330).

error<sup>30</sup>, if there had been any VAT producers who had not been registered at the Ceylon Chamber of Commerce during 1999. Malhotra (1999), pointed out that it is essential to recognise the existence of any sampling frame error and to know the treatment required to overcome the problem. Further, he pointed out that sampling frame error can be treated in three ways, and these are as follows:

1. by redefining the population in terms of the sampling frame,
2. by screening the respondents in the data collection phase to ensure that they satisfy the criteria for the target population, and
3. by adjusting the data collected by a weighing scheme to counter-balance the sampling frame error.

Before the data collection, respondents were screened by contacting the nominated executives and inappropriate elements were eliminated from the sampling frame. However, the main weakness of the sampling frame is that there can be a non-representation due to non-membership at the Ceylon Chamber of Commerce. This was overcome by redefining the population in terms of the sampling frame. Although this is a simple approach it does prevent the researcher from being misled about the actual population being investigated (Malhotra, 1999, p. 331). After redefining, the target population can be represented as follows:

**Elements:** Value-added tea producers registered at the Ceylon Chamber of Commerce

**Sampling units:** Firms

**Extent:** Sri Lanka

**Time:** 1999

The other components of the sampling design process, that is, sampling technique, sample size and executing the sampling process, were not adopted due to the limited

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<sup>30</sup> *Sampling frame error* may be defined as *the variation between the population defined by the researcher and the population implied by the sampling frame (list) used* (Malhotra, 1999, p. 100).

number of firms engaged in VAT production in 1999. All the 58 firms included in the sampling frame were selected for empirical exploration.

## **5.6 Data Collection Process**

The first questionnaire was used mainly in obtaining an understanding of the tea industry and the present status of VAT production and exports in Sri Lanka. It was not intended to gather any data. Personal interviews were conducted with the following officials; Chairman, Sri Lanka Tea Board; Director, Tea Promotion Bureau; two Senior Research Officers at the Tea Research Institute; Director, Export Agriculture; Managing Director, Forbes and Walker Tea Brokers (Pvt) Ltd. A discussion was held based on the questions contained in the first questionnaire. All personal interviews were tape-recorded and lasted for about half an hour to one hour.

Data collection by using the second questionnaire can be explained as follows. Although 58 firms were involved in VAT production in 1999 these included a number of subsidiary firms. Those subsidiary firms coming under a main company were considered as part of the main company in conducting the survey. Therefore, the initial sampling frame was further reduced to 47 firms. The primary discussion with the contact executive was extended after confirming that the company was involved in VAT production in 1999. Along with that a brief description about the study was given and efforts were made to develop an assurance of confidentiality of information. Afterwards, their consent to participate in the survey and the preferred method of contact were obtained.

### **5.6.1 Assurance of Confidentiality**

Prior to the data collection, the researcher tried to give assurance of confidentiality to the contact executive of the firm. The main reason was to establish the fact that she is not a participant in the tea industry. Assurance was given by indicating that the researcher is an academician from a university in Sri Lanka, and that the survey was being done primarily for an academic purpose. Some contact executives were greatly concerned about the confidentiality of information, especially with respect to financial details. Therefore, a general description of the information needed was provided.

Further, an assurance was given that collective information only — and not individual firm information — would be disclosed in the report. A number of contact executives requested a copy of the questionnaire prior to the interview. Although every effort was made to give assurance of confidentiality to the executives, there were a few firms who directly indicated that they were unable to participate or disclose some of the information, especially the financial indicators.

### **5.6.2 Data Collection**

Of the total 47 firms, 23 expressed their willingness to have direct personal interviews. The remaining 24 firms requested the questionnaire prior to a personal interview. Among these, 4 firms requested the questionnaire by post, while the others requested it to be sent via e-mail. All the questionnaires were sent along with a covering letter (Appendix 4). Of the 24 firms, 4 returned their questionnaires by post and 2 via email. Due to time restrictions, personal interviews were not conducted. These firms were contacted again over the telephone and a brief discussion was held to clarify unclear answers and to obtain answers for questions which had not been answered. Personal interviews were conducted after arranging prior appointments with the contact executives of the rest of the firms. All these interviews were conducted during working hours, and lasted around one hour. Before going through the questions a copy of the questionnaire was given to the respondent. Then the relevant data were gathered by reading each question. Questions that were not understood were repeated and explained. A majority of the respondents expanded, clarified and gave their views whenever the questions were applicable. All these explanations were noted in the questionnaire. Good and interesting discussions were conducted, using the four open-ended questions. In giving their views in reply to the open-ended questions, they expanded on what they had said in reply to the earlier questions.

Although there were 47 firms engaged in VAT production, only 40 firms responded to the survey leading to a response rate of 85 per cent. Seven firms were not interested either in arranging an appointment or in returning the questionnaire during the data collection period of three months. Table 5.2 shows the methods by which the responses were obtained. In addition to the above primary data, secondary data on tea exports were collected from the Sri Lanka Tea Board during the period 1998 and 1999.

**Table 5.2****Method of Data Collection (n=40)**

| Method             | Number of Responses |
|--------------------|---------------------|
| Personal interview | 34                  |
| Post               | 4                   |
| E-mail             | 2                   |

**5.7 Sample Characteristics**

The most important characteristic of the sample was that it included all the leading brand marketers of tea, leading subsidiaries of MNCs engaged in tea, all instant tea producing firms and the only government-owned organisation that manages tea plantations in Sri Lanka. Firms in the sample were further assessed by using the tea export statistics in 1999 in order to determine their contribution to the total tea exports. Firms in the sample contributed 69.36 per cent to total export revenue from tea in 1999 (including bulk and VAT exports). Their contribution to the total export revenue in terms of VAT was 74.79 per cent in 1999. This shows that these firms have contributed a significant portion to VAT. According to Table 5.3, the contribution of these firms to packeted tea, tea bags and instant tea exports in 1999 also was significant. In the sample there were three firms that produce VAT for the domestic market only, and they were not represented in the proportion of contribution to tea exports. The main disadvantage in the sample is its lack of representation of speciality tea producers in the country. Although there were a number of green tea exporters in the sample they were not involved in the production of green tea. Only *Finlays* has been involved in both producing and exporting green tea. Although the inadequate representation of speciality tea producers in the sample was a weakness, this was unavoidable due to lack of maintenance of registries in the country.

Table 5.3

Contribution to Total Tea Exports ( $n=37$ )

| Category of Exports | Percentage |
|---------------------|------------|
| Bulk Tea            | 70.27      |
| Tea Packets         | 79.49      |
| Tea Bags            | 78.98      |
| Instant Tea         | 99.56      |
| Green Tea           | 28.42      |
| Others              | 42.38      |

## 5.8 Data Preparation

Even though a majority of the interviews were done as personal interviews by the researcher, all the questionnaires were re-checked for completeness. Great emphasis was placed on incomplete and inconsistent responses in the six questionnaires that were completed by other methods. All these six firms were re-contacted and questionnaires were completed satisfactorily. Responses from all the 40 firms were entered in the computer by using the package SPSS<sup>®</sup>. Codes were assigned for multiple-choice and dichotomous-type questions. Before the statistical analyses were carried out adjustments were made to compensate for missing values, also variable re-specification and data validation were performed.

Values were missing from some of the sensitive questions like net profit, equity, sales revenue, advertising and research and development expenditure. Due to the high number of missing values, the variables *net profit* (10 in total) and *equity* (15 in total) were not considered in the analysis. Five missing values for both advertising and research and development expenditure were adjusted by comparing these firms with similar sales revenue and proportion of VAT marketed under the firms' own brands. Two missing values in total sales revenue were adjusted by using the secondary data on individual firms' exports and proportions of tea exported. Twelve firms omitted production figures for some categories of production. These were adjusted by using the secondary data on individual firms' exports and by using the proportion of tea exported. The adjustment process is explained below, along with data validation.

### **5.8.1 Data Validation**

Data validation is an essential step after the data collection process. Wind and Learner (1979, p. 41), comparing survey versus purchase diaries, pointed out that it is essential to validate the accuracy of survey data to avoid typical biases in survey questions. According to them, there are 5 approaches in validating survey data: obtaining information secretly, comparison with inventories, validation against seller records, comparison with government or national statistics and use of recorded panel data are all possible approaches. Although the simultaneous use of several approaches is more applicable, this study uses only one approach in validating data, that is, the use of government statistics for comparison. However, due to the limited availability of secondary data, the validation was performed with respect to production and revenue related data only. The survey responses with respect to total sales revenue, total export revenue, total tea production and VAT production were validated by using secondary data from the Sri Lanka Tea Board on individual firms' tea exports in 1999.

The adjusted values of the total tea production of the 25 firms that engaged only in exports were considered to be the same as exports. The adjusted values of the total tea production of the rest of the firms that engaged in both domestic and export markets were calculated by using secondary data on total tea exports and primary data on their proportion of tea exports. The value of tea that is offered to the domestic market was obtained by ascertaining the difference between the adjusted value of the total tea production and exports. The value of all the tea that is offered to the domestic market was considered to be entirely VAT as VAT-producing firms are not offering bulk tea for the domestic market. The adjusted value of total VAT production was calculated by summing a firm's VAT exports and VAT that is offered to the domestic market. Then paired sample *t*-tests were performed for the survey data and for the adjusted data. The following pairs were considered in the analysis:

1. Reported value of the total sales revenue and adjusted value of the total sales revenue (calculated based on the quantity produced and unit FOB prices),
2. Reported value of the total tea exports and secondary data on value of the total tea exports,

3. Reported value of the total tea production and adjusted value of the total tea production, and
4. Reported value of the total VAT production and adjusted value of the total VAT production.

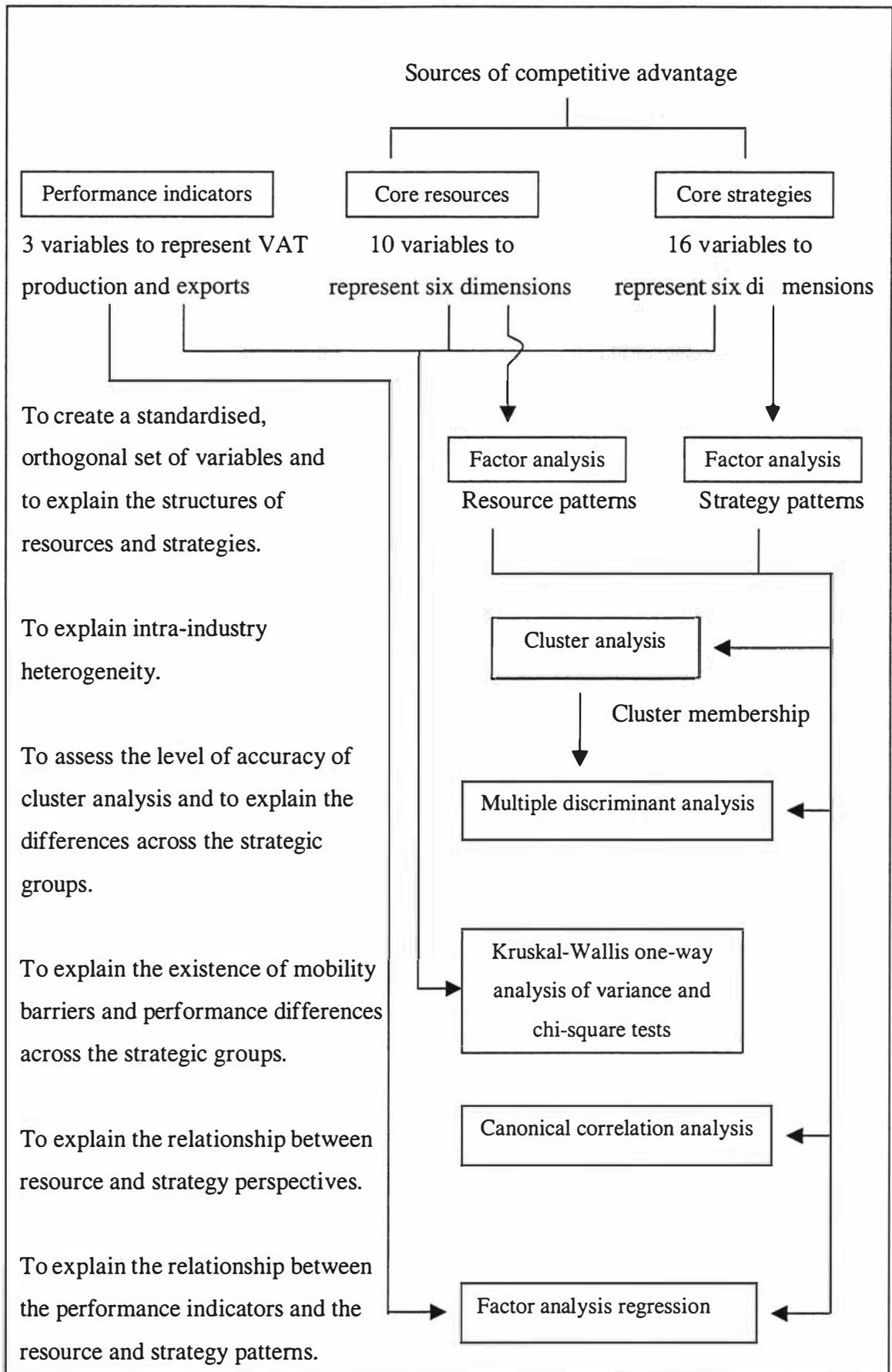
None of the tests was significant, and it was accepted that there were no significant differences between pairs (Appendix 5.1). Therefore, it is assumed that sales revenue, export revenue and production data collected from the survey were statistically consistent and not biased. In particular, the non-significance of the second pair indicates that conversion of tea production data into monetary terms by multiplying them by the unit FOB prices is statistically valid. Further, the two questions based on managers' perceptions were tested for their reliability. As quoted in Churchill (1979, p. 65), one's true score can be affected by a number of factors. These can include persons' willingness to express the true score, situational factors, lack of clarity of the question, mechanical errors and the like. Therefore, he argued that it is necessary to assess the reliability of data. The coefficient of alpha<sup>31</sup> was calculated for the 8 items that were designed to gather managerial perceptions. The coefficient of alpha value for the 8 items was 0.6461 showing an acceptable level of reliability (Appendix 5.2).

## **5.9 Data Analysis**

Data analysis produces information that will help in addressing a problem and follows two of the earlier steps, development of the analytical framework and the research design. Multi-method, multivariate statistical techniques were applied in this study in order to meet the objectives. This has been the most common approach in assessing firm performance, especially in previous research that used RBV or SBV as the theoretical basis (Table 4.1; McGee & Thomas, 1986; Campbell-Hunt, 2000). An overview of the data analysis process is shown diagrammatically in Figure 5.2, and the sections below describe the applicability of different techniques to the study.

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<sup>31</sup> The coefficient of alpha is a measure of internal consistency and is the average of all possible split-half coefficients resulting from different ways of splitting the scale item. The coefficient varies from 0-1, and a value of 0.6 or above generally indicates satisfactory internal consistency and reliability (Malhotra, 1999).



**Figure 5.2 Overview of the Data Analysis Process**

### **5.9.1 Factor Analysis**

Factor analysis is the most commonly used technique in simplifying a number of interrelated measures and in explaining the observed association among the variables (Child, 1970; Green, 1978; Krzanowski, 1988; Malhotra, 1999). Therefore, as the initial step a factor analysis was conducted in the study and thereby the structures of core resources and strategies were explained. The application of factor analysis to the original variables gives rise to a number of added advantages to the study in addition to explaining the structures of original variables. Basically, factor analysis creates a smaller number of orthogonal and a standardised<sup>32</sup> set of variables (a standardised variable is represented by a mean of 0 and standard deviation of 1) for the subsequent multivariate analysis. The use of orthogonal variables was helpful in overcoming the problem of multicollinearity<sup>33</sup> and was especially useful in performing the canonical correlation<sup>34</sup> and regression analysis<sup>35</sup> that follow. The technique factor analysis is explained below, along with the key statistics used.

Factor analysis is an independent research tool which examines the entire set of independent relationships. Thereby, it groups the original set of variables into a smaller

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<sup>32</sup> The initial standardisation of variables was important to this study as the original variables were measured in different units. Standardisation of variables prior to defining a cluster solution is considered to be important as it decreases the weight of variables with larger ranges (Hoek & Esslemont, 1989; Krause, Wilson & Dooley, 1995; Ketchen & Shook, 1996). According to Punaj and Stewart (1983), standardisation also reduces extremity of outliers.

<sup>33</sup> A number of original variables considered in this study were highly correlated, and the correlation coefficients were more than 0.8, which creates the problem of multicollinearity. According to Ketchen and Shook (1996), prior to the cluster analysis corrective measures for multicollinearity need to be adopted in order to have equally weighted constructs. A preliminary application of principal component factor analysis with orthogonal rotation is considered to be a corrective measure in overcoming this problem (Punaj & Stewart, 1983; Ketchen & Shook, 1996).

<sup>34</sup> The application of factor scores for the canonical correlation analysis simplified the interpretation of results by having similar matrices of structure and canonical coefficients.

<sup>35</sup> The application of orthogonal variables to the regression analysis helped to overcome the problem of multicollinearity.

set of factors. The new set of factors is unobservable; factor loadings provide the only means of "labelling" each factor (Krzanowski, 1988). According to Child (1970) a *factor* can be loosely defined as *the outcome of discovering a group of variables having a certain characteristic in common*. Correlation among original variables is considered to be important in grouping variables into a given factor. But some researchers have pointed out that correlation coefficients alone are not sufficient in grouping variables as common factors as they do not provide the underlying causes for a given association (Child, 1970; Jackson, 1991). As explained in Malhotra (1999), factor analysis is somewhat similar to multiple regression analysis where each variable is expressed as a linear combination of underlying factors. The basic factor model can be simply represented as follows:

$$X_i = A_{i1} F_1 + A_{i2} F_2 + A_{i3} F_3 + \dots + A_{im} F_m + V_i U_i$$

Where,

$X_i$  =  $i^{\text{th}}$  standardised variable,

$A_{ij}$  = standardised multiple regression coefficient of variable  $i$  on common factor  $j$ ,

$F$  = common factor,

$V_i$  = standardised regression coefficient of variable  $i$  on unique factor  $i$ ,

$U_i$  = the unique factor for the variable  $i$ , and

$M$  = number of common factors.

The factor scores for the  $i^{\text{th}}$  factor are estimated as follows:

$$F_i = W_{i1} X_1 + W_{i2} X_2 + W_{i3} X_3 + \dots + W_{ik} X_k$$

Where,

$F_i$  = estimate of the  $i^{\text{th}}$  factor,

$W_i$  = weight of the factor score coefficient, and

$K$  = number of variables.

## **Key Statistics Associated with Factor Analysis**

Bartlett's test of sphericity – A test statistic used to examine the hypothesis that the variables are uncorrelated in the population.

Communality – The variance shared in common with other variables. According to Child (1970) a high communality indicates a high degree of reliability of the variable, and for a variable to be reliable, its value should be above 0.3.

Eigenvalue – The proportion of variance explained by each factor.

Factor loading – Simple correlations between the variables and the factor.

Factor score – Composite scores estimated for each respondent on the derived factors.

Generally factor analysis starts with the correlation matrix and is helpful in identifying related variables. Bartlett's test also calculates the test statistic to determine whether or not the variables are uncorrelated and tests the applicability of factor analysis to a given set of data. Therefore as the initial step, it is essential to determine whether or not the variables are correlated, and the applicability of the data. Factor analysis can be performed by applying different techniques. Some of the common techniques are principal component analysis, principal axis factoring, and maximum likelihood method. But in this study, a principal component factor analysis was performed due to its added benefits over other techniques. This is useful when the primary concern is to determine a minimum number of factors that will account for a maximum variance in the data for subsequent multivariate analyses (Malhotra, 1999). After completion of the factor analysis it is important to decide the number of factors to be retained. Commonly applied criteria in determining the number of factors are the eigenvalue, scree plot<sup>36</sup> and the percentage of variance explained. As a tool of simplification of the factor matrix, rotation is adopted and this can be either orthogonal or oblique. An orthogonal rotation (varimax) was used in this study for factor simplification. The main reason was that it

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<sup>36</sup> A *scree plot* is a plot of eigenvalues against the number of factors in order of extraction. The shape of the plot is used to determine the number of factors to be retained.

has the ability to minimise the number of variables with high loadings on a factor, thereby enhancing the interpretability of factors. Further, orthogonal rotation is considered to be more applicable for data transformation where the transformed data are subsequently used in cluster analysis (Punaj & Stewart, 1983).

Interpretation is usually made based on the significance of factor loadings. As suggested by Child (1970), the significance of factor loading will be treated in a similar fashion to the correlation coefficient. Therefore, the factor loadings that are significant at the probability level of 0.01 ( $\pm 0.394$ ) were used in the interpretation. In the study, factor analyses were conducted for the core resources and strategies separately and two new sets of variables were generated. These two sets of new variables (factor scores) were referred to as *resource* and *strategy patterns* and thereby the structures of core resources and strategies were addressed. These factor scores were used in the subsequent multivariate analysis.

### 5.9.2 Cluster Analysis

Cluster analysis is the most commonly used technique in identifying strategic groups within an industry (McGee & Thomas, 1986; Ketchen & Shook, 1996). Harrigan (1985) pointed out that clustering is a preferable means of sorting competitors into strategic groups because additional interpretation of competitive dynamics is possible. Even though many studies have used cluster analysis, McGee and Thomas (1986) pointed out that very few have used industry knowledge in specifying the variables. However, in this study, a cluster analysis was performed based on the standardised variables that were created by using a mix of Sri Lankan tea industry specific variables. The cluster analysis technique — along with its key statistical terms — is explained below.

As the name implies, cluster analysis is used to cluster or group the objects in a data set. According to Krzanowski (1988), the process of finding the appropriate groupings in the sample is called *cluster analysis*. Similarly to factor analysis, cluster analysis also is a technique that is used to examine interdependent relationships. The primary objective of cluster analysis is to classify the objects into relatively homogeneous groups based on the set of variables considered (Green, 1978; Everitt, 1993; Malhotra, 1999). These homogeneous groups are called *clusters*. The main difference between factor analysis

and cluster analysis is that cluster analysis groups a number of objects into some smaller number of clusters, whereas factor analysis groups a number of variables into a smaller number of new variables. The objects in a given cluster are relatively similar in terms of the variables and different from the objects in other groups (Malhotra, 1999). Therefore, this is used also as a data reduction technique. Once clusters have been identified, subsequent multivariate analysis can be performed.

Cluster analysis can be performed by using two techniques; hierarchical and non-hierarchical. However, the most commonly applied technique is hierarchical (Krause, Wilson & Dooley, 1995; Malhotra; 1999). The hierarchical clustering technique consists of two methods; agglomerative and divisive. Both the agglomerative method coming under the hierarchical technique and the non-hierarchical method consist of a number of other clustering algorithms<sup>37</sup>. All these hierarchical methods start by computing a matrix of all the inter-pair distances. The smallest inter-pair distance is identified, and the corresponding two cases are joined to form a cluster. According to Everitt (1993) the hierarchical technique consists of a series of partitions, which may run from a single cluster containing all the individuals, to  $n$  clusters each containing a single individual. But in the non-hierarchical methods, the number of clusters is predetermined and thereby the observations are allocated among the number of clusters. However, in this study clustering was performed based on the hierarchical technique, as the objective was to determine the existence of a number of different clusters.

Even though Ward's method is proven to outperform the other hierarchical methods (Punj & Stewart, 1983; Harrigan, 1985; Ketchen & Shook, 1996) three different clustering algorithms — the average linkage, centroid and Ward's method — were used in this study<sup>38</sup>. Ketchen and Shook (1996) also suggested that application of multiple

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<sup>37</sup> Linkage, centroid and Ward's methods are some of the hierarchical clustering algorithms whereas sequential, parallel and optimising are non-hierarchical clustering algorithms (Malhotra, 1999).

<sup>38</sup> According to Malhotra (1999) a basic description of these three methods is as follows. The average linkage method is based on the average distance between all pairs of objects, where one member of the pair is from each of the clusters. In the Centroid method, the distance between

techniques is more appropriate for strategic management research in order to avoid methodological biases. Once the clustering has been performed it is important to determine the number of clusters. According to Malhotra (1999), this can be determined by using theoretical, conceptual or practical considerations. Similarly in this study, the number of clusters was determined by using the agglomeration schedule, dendrogram and by using background knowledge of the VAT industry segment.

### **Key Statistics Associated with Cluster Analysis**

An agglomeration schedule gives information on the objects or cases being combined at each stage of an hierarchical clustering process.

Cluster centroid – The mean values of the variables for all the cases or objects in a particular cluster and the cluster interpretation are based on the cluster centroid.

Dendrogram – A graphical device for displaying clustering results.

Resource and strategy patterns that were created based on the factor analyses were considered as the input variables in the cluster analysis. The clusters formed were referred to as *strategic groups*. In order to evaluate the accuracy of classification of firms into different groups, a multiple discriminant analysis was performed. The strategic group comparisons were then performed based on the discriminant analysis as well as by using the cluster means. Mobility barriers across the strategic groups were identified by performing the Kruskal-Wallis one-way analysis of variance and by using chi-square techniques.

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two clusters is the distance between their centroids. In the Ward's method, clusters are generated by minimising the within-cluster variance.

### 5.9.3 Multiple Discriminant Analysis

Once the clustering has been performed it is important to determine whether or not the firms are correctly classified into different groups. Discriminant analysis is an important technique that statistically justifies the accuracy of classification. George and Mallery (1995) pointed out that the primary purpose of discriminant analysis is to predict membership in two or more mutually exclusive groups and thereby it examines the accuracy of classification. Discriminant analysis is important in this study because it can be used,

1. to examine any significant differences among the strategic groups, in terms of the predictor variables,
2. to determine which predictor variables contribute to most of the inter-group differences,
3. to classify cases to one of the groups based on the values of the predictor variables, and
4. to evaluate the accuracy of classification.

This technique develops discriminant functions, or the linear combinations of independent variables, that best discriminate between the categories of the dependent variable, that is, the group. According to Malhotra (1999) the discriminant analysis model involves linear combinations of the following form:

$$D = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + \dots + b_kX_k$$

Where,

D = discriminant score,

b = discriminant coefficient or weight, and

X = predictor variable.

These coefficients are calculated so that the groups differ as much as possible on the values of the discriminant function. This function can be used to help predict group membership. Since the discriminant analysis has used a canonical correlation approach

some of the key statistics are the same as in the canonical correlation analysis. Key statistics associated with the discriminant analysis can be explained as follows:

### **Key Statistics Associated with Discriminant Analysis**

The classification matrix – shows the number of correctly classified and misclassified cases. The correctly classified cases appear on the diagonal, whereas off-diagonal elements represent cases that have been incorrectly classified.

Canonical correlation – measures the extent of association between the discriminant scores and the groups.

Canonical discriminant functions – The linear discriminant equations to be calculated that maximally discriminate between levels of the dependent variable.

In this study, discriminant analysis was performed by considering resource and strategy patterns as independent variables. The cluster membership was considered as the grouping variable.

#### **5.9.4 Investigation of Mobility Barriers**

The analysis of variance (ANOVA) procedure is a basic statistical technique used in examining possible differences among means of two or more groups. The null hypothesis, typically, is considered to indicate that category means are equal (Malhotra, 1999). Most importantly, the accuracy of ANOVA based on the parametric data depends on two basic assumptions (Coakes & Steed, 1999; Malhotra, 1999). These are:

1. population normality – the population from which the samples have been drawn should be normal, and
2. homogeneity of variance – the scores in each group should have homogeneous variances.

However, when there is serious violation of distributional assumptions, the Kruskal-Wallis test should be used (Coakes & Steed, 1999; Hollander & Wolfe, 1999). It is the

non-parametric equivalent to one-way ANOVA and can be performed for numeric variables that can be ordered (Coakes & Steed, 1999; Malhotra, 1999; SPSS for Windows Release 9.0.1). Therefore, strategic group comparisons based on the quantitative dependent variables were performed by using the Kruskal-Wallis one-way analysis of variance procedure. This non-parametric method was applicable to the study due to the violation of assumptions by some variables. Even though this technique represented a nonparametric method, it was considered to be as powerful as the parametric method (SAS Institute, 1994, p. 125). Similarly, Hollander and Wolfe (1999, p. 1) pointed out that usually the nonparametric methods are only slightly less efficient than their normal theory competitors when the underlying populations are normal, and they can be mildly or widely more efficient than these competitors when the underlying populations are not normal. Further, the variables with a nominal level of measurement were investigated by using chi-square technique. This procedure tabulates variables into categories and computes chi-square statistics. It is useful in establishing whether or not all the categories contain the same proportion of values.

#### **5.9.5 Canonical Correlation**

A canonical correlation analysis was performed in the study in order to investigate the relationship between the resource and strategy perspectives. The canonical correlation is a useful technique when there are multiple dependent variables in the model. Further, this investigates the strength of a relationship between two sets of variables. It relates the combinations of one set of variables to combinations of another set of variables. These sets of variables can also be considered as dependent and independent variables in the analysis. Levine (1977) pointed out that these sets of data can be either two sets of variables measured across the same units of observation, or one set of variables measured across the same unit of observation at two points of time, or one set of variables measured across two sets of units of observations at a point in time. However in the study, two sets of variables were measured across the same units of observation at a given time. The technique of canonical correlation and the associated key statistics are explained below.

Although factor analysis and canonical correlation are techniques used in assessing interdependence, the latter is a technique used in assessing multiple criterion, multiple

predictor associations (Green, 1978; Jackson, 1991). Canonical correlation analysis shows dissimilarity from regression analysis in that, whereas canonical correlation analysis assesses relationships with multiple predictors, unlike regression analysis it cannot be used as a tool to predict. According to Levine (1977) this technique provides the following:

1. the nature of the links or patterns of interdependency that join two sets,
2. the number of (statistically significant) links between the sets, and
3. the extent to which the variables in one set are conditional upon, or redundant, given the other set.

Canonical correlation analysis looks for linear combination of the predictors and of the responses, which, themselves, have maximum correlation (Jackson, 1991). These linear combinations are referred to as *canonical variates*. There can be an infinite number of canonical variates between two sets of variables. But the calculation procedure is developed in a way which guarantees that there will never be more pairs than the number of variables in the smaller set (Levine, 1977). The first canonical variate provides the strongest canonical correlation between the two sets. Each pair of combinations has a smaller canonical correlation than the preceding combination. Even though the analysis resulted in a number of canonical variates, interpretation is done based on their statistical significance. The significance was assessed by the *F*-ratio. The key terms associated with canonical correlation are explained below.

### Key Terms and Statistics Associated with Canonical Correlation

Canonical variate – linear combination between two sets of variables. According to Jackson (1991) the  $i^{\text{th}}$  canonical variate can be shown as follows where  $\xi_i$  and  $\eta_i$  represent the canonical variates:

$$\xi_i = a_{1i} X_1 + \dots + a_{pi} X_p$$

and

$$\eta_i = a_{1i}^* Y_1 + \dots + a_{qi}^* Y_q$$

where,

X = first set of variables or the independent variables, and

Y = second set of variables or the dependent variables.

Canonical coefficients – The  $a_{1i}$  and  $a_{1i}^*$  of the canonical  $i^{\text{th}}$  variate are called *canonical coefficients*.

Canonical correlation – The correlation between  $\xi_i$  and  $\eta_i$ , is called the  $i^{\text{th}}$  *canonical correlation coefficient*  $r_i$ .

Eigenvalue – explains how much of the variance of the two sets is in common, or how much of the variance of the dependent variable set can be accounted for by the independent variable set.

Redundancy analysis – Is important in assessing how much of the variability of one set of variables is explained by the other using the canonical correlation structure (Jackson, 1991). According to Levine (1977) redundancy is predicted on the canonical structure matrix — that is, the matrix of correlation of the original variables with the canonical variates. Unlike canonical correlation, redundancy is asymmetric. This shows that the redundancy index obtained by predicting Y from X will not be the same as that obtained when predicting X from Y. Therefore, in the study, a canonical correlation analysis was performed by considering strategy patterns as dependent variables and resource patterns as independent variables.

### **5.9.6 Factor Analysis Regression**

Factor analysis regression was performed in the study in order to determine the influence of resource, strategy and a combination of both patterns on the performance indicators. This technique is important in order to determine the relative importance of RBV, SBV and integrated models in explaining the performance of the VAT producing firms in Sri Lanka. This method, generally, uses factor scores from the original predictor variables and regresses against the dependent variable (Scott, 1966; Basilevesky, 1981). Factor analysis regression is a commonly used method as an alternative to ordinary least squares when computational or statistical problems arise.

Scott (1976) pointed out that factor analysis regression is an excellent alternative to ordinary least squares, especially when there are relatively smaller sample sizes.

Generally, the multiple regression model can be written as follows:

$$Y = X\beta + e$$

Where  $X$  denotes an  $N \times K$  data matrix of  $N$  observations on  $K$  variables drawn from a multivariate normal distribution.  $e$  represents the error term. But in the factor analysis regression model both  $X$  and  $\beta$  will be different as it uses factor scores derived from the factor analysis. According to Basilevesky (1981) the factor analysis regression model can be represented as follows:

$$Y = X^* \beta^* + \varepsilon$$

The  $X^*$  is an  $N \times M$  matrix of uncorrelated normal factors (scores) such that  $M < K$ . The error term ( $\varepsilon$ ) is normally distributed with a zero mean and equal variance as is in an ordinary least squares model. The Jarque-Bera (JB) test of normality<sup>39</sup> and White's general heteroscedasticity<sup>40</sup> tests were used respectively to diagnose the violation of assumptions; normality and equal variance. Necessary corrections were performed in order to overcome the problems and will be discussed along with the results in the discussion section. However, the problem of multicollinearity, a condition that arises

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<sup>39</sup> The test first computes the skewness ( $S$ ) and kurtosis ( $K$ ) measures of the ordinary least square residuals and calculates the JB statistic as follows:

$$JB = n [S^2/6 + (K-3)^2/24]$$

Under the null hypothesis that the residuals are normally distributed, the statistic given above follows the chi-square distribution with 2 degrees of freedom (Gujarati, 1995).

<sup>40</sup> In the White test, squared residuals from the original regression are regressed on the original independent variables, their squared values and the cross-products of the independent variables. The sample size times the  $R^2$  obtained from this auxiliary regression asymptotically follows a chi-square distribution with degrees of freedom equal to the number of regressors in the auxiliary regression. If the calculated chi-square value exceeds the critical value, there is evidence of heteroscedasticity (Gujarati, 1995).

when the predictor variables are linearly independent of each other, did not arise in the analysis as the factor analysis created an orthogonal set of new predictor variables.

Three factor analysis regression models were examined to determine the influence of resource, strategy and integrated resource and strategy perspectives on firm performance. Dummy variables<sup>41</sup> were incorporated into the models and the regression equations were derived separately for each of the strategic group. Thereby, the influence of individual strategic group's resource and strategy patterns on their firm performance was examined. The inclusion of dummy variables in the analysis provides differential intercepts and differential slope coefficients. The differential intercepts show how much the intercepts of the two categories differ from the intercept of the base category and can be checked from the regression equations based on each category (Gujarati, 1995, p. 506). Similarly, the differential slope coefficients indicate how much the slope coefficients of the two categories differ from the slope coefficient of the base category (Gujarati, 1995, p. 512). Further, Gujarati (1995) pointed out a number of advantages in using dummy variable models in comparing two or more regressions which are different. The following sections depict the models based on each perspective and the derived equations for each strategic group.

#### **Model One: Based on the resource perspective**

$$Y = f(\text{Resource patterns, Strategic groups})$$

For example, the model based on the resource perspective can be illustrated for four resource patterns and three strategic groups as follows.

$$Y_j = \beta_0 + \beta_1 R_1 + \beta_2 R_2 + \beta_3 R_3 + \beta_4 R_4 + \beta_5 D_1 + \beta_6 D_2 + \beta_7 R_1 D_1 + \beta_8 R_2 D_1 \\ + \beta_9 R_3 D_1 + \beta_{10} R_4 D_1 + \beta_{11} R_1 D_2 + \beta_{12} R_2 D_2 + \beta_{13} R_3 D_2 + \beta_{14} R_4 D_2 + \varepsilon_1$$

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<sup>41</sup> A *dummy variable* or *indicator variable* is any variable in a regression equation that takes on a finite number of values for the purpose of identifying different categories of a nominal variable (Kleinbaum, Kupper, Muller & Nizam, 1998). If the regression model contains a constant term, exactly  $k-1$  dummy variables must be defined to index  $k$  categories of a nominal independent variable.

where,

$Y_j$  = Firm performance  $j = 1, \dots, 3$

$Y_1$  = Firm  $i$ 's VAT production share,

$Y_2$  = Firm  $i$ 's VAT export market share, and

$Y_3$  = Firm  $i$ 's VAT export share growth.

$R_1$  = Resource pattern one,

$R_2$  = Resource pattern two,

$R_3$  = Resource pattern three,

$R_4$  = Resource pattern four,

$D_1$  = 1 if a firm belongs to the strategic group one and 0 otherwise, and

$D_2$  = 1 if a firm belongs to the strategic group two and 0 otherwise.

$\varepsilon_1$  = Error term.

Derived regression for strategic group one

$$Y = (\beta_0 + \beta_5) + (\beta_1 + \beta_7) R_1 + (\beta_2 + \beta_8) R_2 + (\beta_3 + \beta_9) R_3 + (\beta_4 + \beta_{10}) R_4 + \varepsilon_2$$

Derived regression for strategic group two

$$Y = (\beta_0 + \beta_6) + (\beta_1 + \beta_{11}) R_1 + (\beta_2 + \beta_{12}) R_2 + (\beta_3 + \beta_{13}) R_3 + (\beta_4 + \beta_{14}) R_4 + \varepsilon_3$$

Derived regression for strategic group three

$$Y = \beta_0 + \beta_1 R_1 + \beta_2 R_2 + \beta_3 R_3 + \beta_4 R_4 + \varepsilon_4$$

### Model Two: Based on the strategy perspective

$$Y = f(\text{Strategy patterns, Strategic groups})$$

For example, the model based on the strategy perspective can be illustrated for six strategy patterns and three strategic groups as follows.

$$\begin{aligned} Y = & \beta_{15} + \beta_{16} S_1 + \beta_{17} S_2 + \beta_{18} S_3 + \beta_{19} S_4 + \beta_{20} S_5 + \beta_{21} S_6 + \beta_{22} D_1 + \beta_{23} D_2 \\ & + \beta_{24} S_1 D_1 + \beta_{25} S_2 D_1 + \beta_{26} S_3 D_1 + \beta_{27} S_4 D_1 + \beta_{28} S_5 D_1 + \beta_{29} S_6 D_1 + \beta_{30} S_1 D_2 \\ & + \beta_{31} S_2 D_2 + \beta_{32} S_3 D_2 + \beta_{33} S_4 D_2 + \beta_{34} S_5 D_2 + \beta_{35} S_6 D_2 + \varepsilon_5 \end{aligned}$$

where,

$S_1$  = Strategy pattern one,

$S_2$  = Strategy pattern two,

$S_3$  = Strategy pattern three,

$S_4$  = Strategy pattern four,

$S_5$  = Strategy pattern five, and

$S_6$  = Strategy pattern six.

Derived regression for strategic group one

$$Y = (\beta_{15} + \beta_{22}) + (\beta_{16} + \beta_{24}) S_1 + (\beta_{17} + \beta_{25}) S_2 + (\beta_{18} + \beta_{26}) S_3 + (\beta_{19} + \beta_{27}) S_4 + (\beta_{20} + \beta_{28}) S_5 + (\beta_{21} + \beta_{29}) S_6 + \varepsilon_6$$

Derived regression for strategic group two

$$Y = (\beta_{15} + \beta_{23}) + (\beta_{16} + \beta_{30}) S_1 + (\beta_{17} + \beta_{31}) S_2 + (\beta_{18} + \beta_{32}) S_3 + (\beta_{19} + \beta_{33}) S_4 + (\beta_{20} + \beta_{34}) S_5 + (\beta_{21} + \beta_{35}) S_6 + \varepsilon_7$$

Derived regression for strategic group three

$$Y = \beta_{15} + \beta_{16} S_1 + \beta_{17} S_2 + \beta_{18} S_3 + \beta_{19} S_4 + \beta_{20} S_5 + \beta_{21} S_6 + \varepsilon_8$$

### Model Three: Based on the integrated resource and strategy perspectives

$$Y = f(\text{Resource patterns, Strategy patterns, Strategic groups})$$

For example, the model based on the integrated resource and strategy perspectives can be illustrated for four resource and six strategy patterns and three strategic groups as follows.

$$Y = \beta_{36} + \beta_{37} R_1 + \beta_{38} R_2 + \beta_{39} R_3 + \beta_{40} R_4 + \beta_{41} S_1 + \beta_{42} S_2 + \beta_{43} S_3 + \beta_{44} S_4 + \beta_{45} S_5 + \beta_{46} S_6 + \beta_{47} D_1 + \beta_{48} D_2 + \beta_{49} R_1 D_1 + \beta_{50} R_2 D_1 + \beta_{51} R_3 D_1 + \beta_{52} R_4 D_1 + \beta_{53} R_1 D_2 + \beta_{54} R_2 D_2 + \beta_{55} R_3 D_2 + \beta_{56} R_4 D_2 + \beta_{57} S_1 D_1 + \beta_{58} S_2 D_1 + \beta_{59} S_3 D_1 + \beta_{60} S_4 D_1 + \beta_{61} S_5 D_1 + \beta_{62} S_6 D_1 + \beta_{63} S_1 D_2 + \beta_{64} S_2 D_2 + \beta_{65} S_3 D_2 + \beta_{66} S_4 D_2 + \beta_{67} S_5 D_2 + \beta_{68} S_6 D_2 + \varepsilon_9$$

Derived regression for strategic group one

$$Y = (\beta_{36} + \beta_{47}) + (\beta_{37} + \beta_{49}) R_1 + (\beta_{38} + \beta_{50}) R_2 + (\beta_{39} + \beta_{51}) R_3 + (\beta_{40} + \beta_{52}) R_4 + (\beta_{41} + \beta_{57}) S_1 + (\beta_{42} + \beta_{58}) S_2 + (\beta_{43} + \beta_{59}) S_3 + (\beta_{44} + \beta_{60}) S_4 + (\beta_{45} + \beta_{61}) S_5 + (\beta_{46} + \beta_{62}) S_6 + \varepsilon_{10}$$

Derived regression for strategic group two

$$Y = (\beta_{36} + \beta_{48}) + (\beta_{37} + \beta_{53}) R_1 + (\beta_{38} + \beta_{54}) R_2 + (\beta_{39} + \beta_{55}) R_3 + (\beta_{40} + \beta_{56}) R_4 + (\beta_{41} + \beta_{63}) S_1 + (\beta_{42} + \beta_{64}) S_2 + (\beta_{43} + \beta_{65}) S_3 + (\beta_{44} + \beta_{66}) S_4 + (\beta_{45} + \beta_{67}) S_5 + (\beta_{46} + \beta_{68}) S_6 + \varepsilon_{11}$$

Derived regression for strategic group three

$$Y = \beta_{36} + \beta_{37} R_1 + \beta_{38} R_2 + \beta_{39} R_3 + \beta_{40} R_4 + \beta_{41} S_1 + \beta_{42} S_2 + \beta_{43} S_3 + \beta_{44} S_4 + \beta_{45} S_5 + \beta_{46} S_6 + \varepsilon_{12}$$

## 5.10 Summary

The primary objective of this chapter was to explain the three main steps used in order to examine the present status of the sources of competitive advantage and their influence on performance of the VAT producing firms in Sri Lanka. These three steps were: the development of an analytical framework, research design and methods of data analysis. The analytical framework was developed by using the resource and strategy perspectives. In order to represent the three main components of the model — that is, core resources, core strategies and performance — variables were selected specifically from the VAT industry segment of Sri Lanka. Relevant primary data were gathered from the VAT producers in Sri Lanka by conducting an in-country survey. Of the 47 firms in the sample frame, 40 were covered through the survey leading to a response rate of 85 per cent. Finally, the applicability of a number of multivariate statistical techniques was discussed.

## Chapter Six

### Results and Discussion

#### Characteristics of Value-Added Tea Producing Firms

As explained in the methodology section, 40 VAT producing firms were contacted and their basic information was gathered along with the details of their involvement in VAT production, exports and related activities. All these firms were located in the Colombo district and they showed a varying level of involvement with VAT production. Their level of VAT production was considered under five broad categories: packeted tea, tea bags, instant tea, green tea and other tea. Even though a number of firms indicated that they were involved in green tea, this has not been considered in this chapter, as only one firm was backward integrated with green tea production. All the other firms were involved merely in green tea exports. The firms in the sample revealed a high heterogeneity with respect to a number of characteristics. Therefore, this chapter basically discusses the characteristics of the VAT producing firms that were used in the study and their involvement in VAT production.

##### 6.1 Firm Characteristics

The results of the survey revealed that most of the firms involved in VAT production are privately owned, with government owned firms comprising only 5% of the total. This is a significant difference compared to the plantation-base of the country, where government involvement is significant. Among the 40 firms, the majority were private limited liability companies (62.5%) and there was only one partnership (2.5%). Ten per cent were classified under the *other category* which comprised four organisations including a fully government-owned co-operative, a semi-government-owned organisation, a public quoted company, a group with a public quoted company, and 4 private limited liability companies. Private limited liability companies have contributed more to all forms of VAT production except instant tea. Only private and public limited liability companies produced instant tea and the latter contributed 86.6% of the instant tea production in 1999. Although the other category showed a minimal contribution to

packeted, instant and other teas, it contributed 37% to tea bag production in 1999. Table 6.1 shows the types of organisations and their VAT production in 1999.

**Table 6.1**

**VAT Production as a Percentage of Total VAT Production (MT) by Type of Organisation**

|   | <b>Packeted Tea</b> | <b>Tea Bags</b> | <b>Instant Tea</b> | <b>Other Teas</b> |
|---|---------------------|-----------------|--------------------|-------------------|
| Individual ownership (17.5%)                | 8.6                 | 15.1            | 0                  | 8.7               |
| Partnership (2.5%)                          | 8.8                 | 2.5             | 0                  | 0.6               |
| Private limited liability companies (62.5%) | 73.3                | 42.0            | 13.4               | 72.3              |
| Public limited liability companies (7.5%)   | 4.9                 | 3.4             | 86.6               | 15.6              |
| Other (10%)                                 | 4.4                 | 37.0            | 0                  | 2.8               |

Source: Survey, 2000

Firms showed a high diversity in terms of their experience in tea-related activities. There were 3 firms with 100 or more years of experience in tea. Of those, 2 firms were multinational. The firm with the most experience had 110 years, and the least had only 4 months' experience in tea. A greater portion (62.5%) of the firms had fewer than 25 years' experience in tea. Although they have produced 81.2% of other teas, they have contributed less to tea bags and none to instant tea production. Firms with more than 25 years' experience in tea have contributed more to tea bag production and have produced 100% of the instant tea. Table 6.2 shows the production of tea types by length of firms' experience in tea.

Similar to firms' experience in tea, experience in VAT also showed a high level of diversity. Eighty-two point five per cent of the firms had less than 25 years' experience in VAT production. This shows that even though the firms had more than 25 years' experience in tea, they have less experience in VAT production. The least experienced firm had only 4 months' experience. There were only 7 firms (17.5%) with more than 25 years' experience, with the most experienced firm having had 90 years' experience. The less experienced firms in VAT production have contributed more to all forms of VAT production except instant tea. Table 6.3 shows the production of VAT by firms' experience in VAT. A high proportion (77.3%) of tea bag production came from the firms with less than 25 years' experience in VAT production. Further, the data show also that VAT production is closely related to the number of years of experience in

VAT, and not to the years of experience in tea. Therefore, years in VAT was considered as a proxy for the experience effect in the study.

A number of firms in the sample were involved with businesses other than tea. These businesses varied from agribusinesses and/or to non-agribusinesses. Twenty-two point five per cent of the firms were involved only with tea. Among these firms, 2 had been involved with tea for more than 25 years. All the other firms had been involved with tea for less than 10 years. The rest of the firms were involved with other agribusinesses, non-agribusinesses or both in addition to tea. Table 6.4 shows the firms' involvement with tea and other businesses, and their production of VAT. Firms which were involved only with tea had contributed the highest proportion to packeted tea production. Firms involved with tea and other agribusinesses had contributed the highest proportion of tea bags and instant tea — whereas the firms involved with tea and other agribusinesses had produced the highest proportion of other teas. This clearly shows that the firms involved in businesses other than tea had contributed more to VAT production than had the firms involved only with tea. As pointed out in chapter four, the multibusiness nature of a firm can lead to improvements in performance in a number of ways. Most importantly, it helps in reducing costs by sharing activities and profits gained from other businesses that can be used in improving VAT production activities. Therefore, in the analysis, the multibusiness nature of the firm was used as a proxy to represent the scale of a firm.

Amongst firms involved in a number of other businesses, the importance of tea to their overall performance ranged widely. If the importance of tea to a firm were to be measured by the proportion which tea export earnings contributed to its total export earnings, then 62.5% of the firms had 90% or more contribution from tea. Only 5% of the firms had a minimal contribution from tea to their total export earnings, and this was 25% or less. This clearly indicates that the majority of firms were focusing more on tea for their overall performance. Therefore, the enhancement of overall firm performance is primarily dependent on how the firm can develop its business with respect to tea.

Further, the market focus of these 40 firms was shown to be differ significantly. Among the 40 firms, only 7.5% (3 firms) were focusing only on the domestic market. Two of these firms were government-owned organisations. The other firm was a private limited liability company with only 4 months' experience in VAT production. Two of these

three firms were producing only tea packets, whereas the other was producing both tea bags and packets for the domestic market. A majority of the firms (62.5%) were focusing only on the export market, and only 30% were engaged in both markets. However, the export proportions of tea among the 30% (12 firms) of those that engaged in both the domestic and the export market showed that their proportions of domestic sales were minimal. Among them, 10 firms had exported more than 90% and the other 2 had exported more than 75% of their total VAT production. According to Table 6.5 it is clear that the firms who focused entirely on the export market had produced more VAT than the others. Fully domestic market-oriented firms had contributed the least proportion to VAT production. This clearly shows that VAT production is more closely related with exports than with domestic sales. The main reason could be the low domestic demand for VAT. However, the purely domestic market-oriented firms pointed out that demand for VAT within the domestic market was increasing, but mostly for packeted tea.

**Table 6.2****Production of VAT (MT) by Firms' Years of Experience in Tea**

|                      | <b>Statistics</b> | <b>Packeted Tea</b> | <b>Tea Bags</b> | <b>Instant Tea</b> | <b>Other Teas</b> |
|----------------------|-------------------|---------------------|-----------------|--------------------|-------------------|
| <25 years<br>(62.5%) | Mean              | 1.29                | 0.13            | 0.0                | 0.09              |
|                      | Std Deviation     | 1.57                | 0.18            | 0.0                | 0.31              |
|                      | % of Total        | <b>51.1</b>         | <b>32.1</b>     | <b>0.0</b>         | <b>81.2</b>       |
| >25 years<br>(37.5%) | Mean              | 2.06                | 0.44            | 0.07               | 0.03              |
|                      | Std Deviation     | 2.74                | 0.76            | 0.22               | 0.11              |
|                      | % of Total        | <b>48.9</b>         | <b>67.9</b>     | <b>100</b>         | <b>18.8</b>       |

Source: Survey, 2000

**Table 6.3****Production of VAT (MT) by Firms' Years of Experience in VAT**

|                      | <b>Statistics</b> | <b>Packeted Tea</b> | <b>Tea Bags</b> | <b>Instant Tea</b> | <b>Other Teas</b> |
|----------------------|-------------------|---------------------|-----------------|--------------------|-------------------|
| <25 years<br>(82.5%) | Mean              | 1.29                | 0.23            | 0.0                | 0.07              |
|                      | Std Deviation     | 1.59                | 0.53            | 0.0                | 0.28              |
|                      | % of Total        | <b>67.7</b>         | <b>77.3</b>     | <b>0.0</b>         | <b>83.7</b>       |
| >25 years<br>(17.5%) | Mean              | 2.92                | 0.32            | 0.14               | 0.06              |
|                      | Std Deviation     | 3.49                | 0.37            | 0.32               | 0.16              |
|                      | % of Total        | <b>32.3</b>         | <b>22.7</b>     | <b>100</b>         | <b>16.3</b>       |

Source: Survey, 2000

Table 6.4

## Production of VAT (MT) by Firms' Involvement with Businesses Other than Tea

|  | Statistics    | Packeted Tea | Tea Bags    | Instant Tea | Other Teas  |
|--|---------------|--------------|-------------|-------------|-------------|
| Involved with tea only<br>(22.5%)  | Mean          | 2.26         | 0.19        | 0           | 0.03        |
|  | Std Deviation | 1.86         | 0.25        | 0           | 0.03        |
|  | % of Total    | <b>32.2</b>  | <b>17.6</b> | <b>0</b>    | <b>9.5</b>  |
| Involved with tea and other<br>agribusinesses<br>(37.5%)                   | Mean          | 0.79         | 0.13        | 0           | 0.12        |
|  | Std Deviation | 1.06         | 0.20        | 0           | 0.41        |
|  | % of Total    | <b>18.7</b>  | <b>19.5</b> | <b>0</b>    | <b>67.3</b> |
| Involved with tea, other agribusinesses<br>and non-agribusinesses<br>(20%) | Mean          | 1.54         | 0.09        | 0           | 0.01        |
|  | Std Deviation | 1.96         | 0.09        | 0           | 0.02        |
|  | % of Total    | <b>19.5</b>  | <b>7.4</b>  | <b>0</b>    | <b>4.1</b>  |
| Involved with tea and non-<br>agribusinesses<br>(20%)                      | Mean          | 2.34         | 0.68        | 0.02        | 0.06        |
|  | Std Deviation | 3.41         | 0.98        | 0.14        | 0.15        |
|  | % of Total    | <b>29.6</b>  | <b>55.5</b> | <b>100</b>  | <b>19.2</b> |

Source: Survey, 2000

**Table 6.5**  
**Production of VAT (MT) by Firms' Market Focus**

|                                | <b>Statistics</b> | <b>Packeted Tea</b> | <b>Tea Bags</b> | <b>Instant Tea</b> | <b>Other Teas</b> |
|--------------------------------|-------------------|---------------------|-----------------|--------------------|-------------------|
| Domestic market only<br>(7.5%) | Mean              | 0.84                | 0.01            | 0                  | 0.01              |
|                                | Std Deviation     | 1.03                | 0.01            | 0                  | 0.01              |
|                                | % of Total        | <b>4.0</b>          | <b>0.2</b>      | <b>0</b>           | <b>0.6</b>        |
| Export market only<br>(62.5%)  | Mean              | 2.04                | 0.28            | 0.28               | 0.8               |
|                                | Std Deviation     | 2.48                | 0.62            | 0.62               | 0.32              |
|                                | % of Total        | <b>80.7</b>         | <b>70.7</b>     | <b>70.7</b>        | <b>73.5</b>       |
| Both markets<br>(30%)          | Mean              | 0.81                | 0.24            | 0.24               | 0.06              |
|                                | Std Deviation     | 0.73                | 0.19            | 0.19               | 0.12              |
|                                | % of Total        | <b>15.3</b>         | <b>29.1</b>     | <b>29.1</b>        | <b>26.0</b>       |

Source: Survey, 2000

## **6.2 Managerial Characteristics**

As explained in chapter four, managerial talent is considered to be a unique skill owned by a firm. It can be developed through education and/or through experience. The results of the survey indicated that a majority of the managers (42.5%) do not have any tertiary education. Almost all of them have started their careers as tea tasters and acquired useful experience in tea-related activities. A wide range of qualifications was seen among the rest of the technically or professionally qualified managers. Table 6.6 shows managerial education level and the level of VAT production. In the firms where managers had no tertiary education there was a higher level of tea bag and other tea production, whereas packeted tea production was higher with the managers with tertiary education. Since instant tea production is very capital intensive it may not be closely related to the level of managerial education.

Twelve out of the 17 managers who had any other category of education had 20 or more years' experience in tea-related activities. Only 4 out of the 9 managers who had graduate or postgraduate degrees had 20 or more years' experience in tea-related activities. The majority of the managers had experience ranging from 21-40 years. The most highly experienced manager had 49 years of experience, whereas the least experienced manager had less than one year's experience. Table 6.7 shows managerial experience and VAT production. With the exception of tea bags, the production of all VAT products was high among those firms with less experienced managers. Sixty-eight point six per cent of the tea bag production came from the firms with highly experienced managers. This revealed that, overall, VAT production shows a mixed representation of managerial education and experience. However, the majority of the managers who had tertiary education had had lengthy experience. Therefore, both manager's total education and managerial experience with respect to tea were considered in the analysis in order to represent managerial talent. Even though managerial talent could play a significant role in enhancing VAT production, it is conditional upon the availability of other resources within a firm.

**Table 6.6****Production of VAT (MT) by Level of Managerial Education**

|                                     | Statistics    | Packeted Tea | Tea Bags    | Instant Tea | Other Teas  |
|-------------------------------------|---------------|--------------|-------------|-------------|-------------|
| Tertiary education<br>(57.5%)       | Mean          | 1.68         | 0.19        | 0.04        | 0.04        |
|                                     | Std Deviation | 1.83         | 0.22        | 0.18        | 0.09        |
|                                     | % of Total    | <b>61.3</b>  | <b>43.7</b> | <b>100</b>  | <b>32.3</b> |
| No tertiary<br>Education<br>(42.5%) | Mean          | 1.44         | 0.32        | 0           | 0.11        |
|                                     | Std Deviation | 2.45         | 0.73        | 0           | 0.38        |
|                                     | % of Total    | <b>38.7</b>  | <b>56.3</b> | <b>0</b>    | <b>67.7</b> |

Source: Survey, 2000

**Table 6.7****Production of VAT (MT) by Managerial Experience**

|                      | Statistics    | Packeted<br>Tea | Tea Bags    | Instant Tea | Other Teas  |
|----------------------|---------------|-----------------|-------------|-------------|-------------|
| <25 years<br>(62.5%) | Mean          | 1.55            | 0.12        | 0.04        | 0.10        |
|                      | Std Deviation | 1.67            | 0.19        | 0.17        | 0.32        |
|                      | % of Total    | <b>61.5</b>     | <b>31.4</b> | <b>100</b>  | <b>88.5</b> |
| >25 years<br>(37.5%) | Mean          | 1.62            | 0.45        | 0           | 0.02        |
|                      | Std Deviation | 2.71            | 0.75        | 0           | 0.03        |
|                      | % of Total    | <b>38.5</b>     | <b>68.6</b> | <b>0</b>    | <b>11.5</b> |

Source: Survey, 2000

### 6.3 Firms' Involvement in the Overall Tea Industry

All the firms in the sample had bought primarily processed tea from the Colombo tea auction for further value-addition. This clearly shows that VAT producing firms are a separate segment of the tea industry that has links with the tea plantations through the auctions. Although 15% of the firms own tea plantations, they sell their primarily processed tea through the auction. This 15% includes one government organisation and five plantation companies. The majority of the firms who own tea plantations were of the view that it is important to have backward linkages. Mainly, they have an added advantage in promoting their VAT by having their own tea plantations. All 15% of the firms, which owned tea plantations, did primary processing. In addition, there was another firm, which owned only a factory for primary processing. In the sample, 17.5% of the firms were involved in primary processing, and all had produced orthodox tea. Among the 6 firms (17.5%) only 4 produced CTC, one produced green tea and 2 produced ortho-CTC tea. Table 6.8 shows the production of VAT by firms' involvement in the overall tea industry.

Firms who had backward linkages with plantations produced higher proportions of other teas and tea bags. The other firms who had no links with plantations or primary processing facilities produced a greater proportion of packeted tea and instant tea. However, the results show that firms with backward linkages are more focused on added value tea rather than on tea packet production. In terms of the VAT producing firms' involvement in different activities in the tea industry it is clear that a minimal proportion of firms have backward linkages with the plantation sector. With the exception of 3 firms, all had forward linkages with export activities. Until about 1992, most of the value-adding firms acted as separate entities from the tea plantations. They bought the teas that clients required from the auction and added value to the basic commodity. However, the privatisation scheme has changed this situation and has established some links between the plantation-base and the VAT industry segment. The only exception is the government-owned *Janawasama*, which has owned tea plantations and produced VATs for more than 24 years. But compared to all the other firms, *Janawasama*'s focus is purely domestic-based, and its level of VAT production is relatively low. Although there is a possibility of integrating with the plantation-base,

85% of the firms have not yet become involved in it. The reasons for not becoming involved in the plantations and primary processing vary from firm to firm.

Table 6.9 shows the firms' limitations in integrating with the tea plantations. Out of the 33 firms that had no backward integration with tea plantations and primary processing facilities, 15 (45.46%) indicated that they were not interested in having backward linkages. The other main category of firms (24.24%) indicated that they did not have sufficient capital for venturing into plantations. The lowest number indicated that they lacked technology and adequate support from government organisations. However, there were some firms (9.09%) who had an interest in managing plantations, but who had not been selected as management companies for a number of reasons. The only exceptional firm from the rest — which owned a factory but did not own plantations — indicated that lack of capital prevented them from venturing into plantations. The main reason for having no interest in establishing backward linkages could be the lack of benefits gained by having a plantation-base. According to the present system of primary tea purchasing, all firms buy tea from the auction and the benefits gained by establishing backward linkages are not very noticeable. Further, the high cost attached to establishing backward linkages creates opportunities only for the larger companies, and means that small firms are disadvantaged.

**Table 6.8****Production of VAT (MT) by Firms' Involvement in the Overall Tea Industry**

|   | Statistic     | Packeted Tea | Tea Bags    | Instant Tea | Other Teas  |
|---|---------------|--------------|-------------|-------------|-------------|
| Plantations, primary, secondary and packaging (15%) | Mean          | 1.47         | 0.70        | 0.02        | 0.28        |
|   | Std Deviation | 1.49         | 1.15        | 0.05        | 0.64        |
|   | % of Total    | <b>14.0</b>  | <b>43.1</b> | <b>13.4</b> | <b>62.3</b> |
| Primary, secondary and packaging (2.5%)             | Mean          | 0.47         | 0.33        | 0           | 0           |
|   | Std Deviation | -            | -           | -           | -           |
|   | % of Total    | <b>0.7</b>   | <b>3.4</b>  | <b>0</b>    | <b>0</b>    |
| Secondary and packaging (82.5%)                     | Mean          | 1.63         | 0.16        | 0.03        | 0.03        |
|   | Std Deviation | 12.22        | 0.23        | 0.15        | 0.08        |
|   | % of Total    | <b>85.3</b>  | <b>53.5</b> | <b>86.6</b> | <b>37.7</b> |

Source: Survey, 2000

**Table 6.9****Reasons that Limited the Backward Integration (n=33)**

| Reason                           | Number | %     |
|----------------------------------|--------|-------|
| Not interested                   | 15     | 45.46 |
| Not profitable                   | 3      | 9.09  |
| Lack of capital                  | 8      | 24.24 |
| Lack of technology               | 2      | 6.06  |
| Policy problems                  | 3      | 9.09  |
| In adequate governmental support | 2      | 6.06  |

Source: Survey, 2000

#### 6.4 Firms' Involvement in Value-Added Tea Production

Although 100% of the firms were engaged in both secondary processing and packaging they undertook different activities in producing the final product. Broadly, secondary processing can be considered to consist of blending, flavouring, instant tea production and any other type of secondary processing. The firms can be grouped depending on the activities they carry out under secondary processing. All firms were engaged in blending, and 17.5% were doing only blending. The other 82.5% of the firms were engaged in either flavouring, instant and/or other types of tea production. Even though all the firms were involved in blending the number of blends that were produced showed a high level of variation ranging from 3-1500. All the firms indicated that the number of blends offered varies with buyers' demand, and the majority indicated that the number of blends given were not entirely accurate.

The remaining 82.5% of firms were involved in the production of flavoured tea. Among these, the main flavoured tea type was *Earl Grey*, which is flavoured with oil of bergamot<sup>42</sup>. Some of the other common flavoured teas produced were apple, strawberry, vanilla and mint. The number of types of flavoured teas produced by firms showed wide variation, ranging from 2-76 flavours. Each individual firm's total flavoured tea production was significantly low, and the mean production level of flavoured tea production was 0.55 million Kgs. The highest maximum annual production was approximately 4 million Kgs. The majority of firms indicated that the production of flavoured tea is largely dependent on buyers' demand and there was no constraint in

<sup>42</sup> Bergamot is a small citrus fruit from the Mediterranean.

producing flavoured tea. The high level of dependency on buyers' demand in producing VAT indicates that firms have neither established their distribution channels well nor do they have brands with high brand awareness. Therefore, firms were greatly threatened by external pressures. Given this scenario, it has become essential to establish distribution channels and increase brand awareness in order to ensure a continuous production of VAT. The enhancements of these are very dependent on strong promotion. But at present, firms are less engaged due to financial constraints.

The survey included the only two instant tea producing firms in the country — both of which are multinational. However, the first instant tea plant initiated its production more than 30 years ago its production capacity is still low, about 1 million Kgs. Both firms were producing cold and hot water-soluble instant teas. The instant tea production process utilises low priced, lower quality teas but its extraction rate is very high. At present, instant tea is the highest-priced VAT type in the country. Although it has a number of advantages over the other VATs, the initial capital requirement has created a significant barrier which prevents local firms from entering into instant tea production.

In terms of other categories of secondarily processed teas, Sri Lankan firms' involvement is very limited. The MNCs are involved mainly in producing tea concentrates, instant teas in tetra packs and aromas. Only one Sri Lankan-owned private limited liability company is producing instant iced teas in tetra packs. Thirty-three point three per cent of firms were involved in exporting herbal, green or organic tea. In addition, some firms were involved in exporting high valued teas like decaffeinated tea, silver tips and golden tips. Table 6.10 shows the production of VAT by firms' involvement in secondary processing. Fifty-two point five per cent of the firms were involved in blending and flavouring activities, and have contributed most to the other tea category. The second largest group consisted of firms that engaged in blending, flavouring and other activities (25%). They were the highest contributors to the packeted tea and tea bag production. Firms who engaged only in blending contributed least to VAT production. Two firms that produced instant tea were involved in different activities, while the highest instant tea producer was involved in blending, flavouring and instant tea production only.

All firms were engaged in packaging activities. Among these, 5% were involved only in tea packeting, and they had a 100% focus on the domestic market. The remaining 95% were involved in tea bagging. Only one of the two government-owned organisations had produced tea bags for the domestic market. The largest proportion (72.5%) was involved in all three activities including gift packing. Gift packing among the firms varied from simple gift packs to unorthodox, very specific, packs. Although a majority indicated that they were involved in gift packing, only very few firms have advanced techniques in gift packing. These firms are targeting niche markets for gift packs and are capturing a very high unit price for tea. In addition to all these VAT types, almost all the firms were engaged in packing bulk tea for export markets. Table 6.11 shows the production of tea types by firms' involvement in packaging. Five per cent of the firms that engaged in tea packeting for the domestic market contributed least to VAT production. Firms who were involved in tea packeting, bagging and gift packing contributed most to VAT production.

**Table 6.10****Production of VAT (MT) by Firms' Involvement in Secondary Processing**

|   | <b>Statistics</b> | <b>Packeted Tea</b> | <b>Tea Bags</b> | <b>Instant Tea</b> | <b>Other Teas</b> |
|---|-------------------|---------------------|-----------------|--------------------|-------------------|
| Blending<br>(17.5%)                                       | Mean              | 0.82                | 0.003           | 0                  | 0.004             |
|   | Std Deviation     | 1.12                | .0006           | 0                  | 0.007             |
|   | % of Total        | <b>9.1</b>          | <b>0.2</b>      | <b>0</b>           | <b>1.1</b>        |
| Blending and flavouring<br>(52.5%)                        | Mean              | 1.19                | 0.19            | 0                  | 0.09              |
|   | Std Deviation     | 1.44                | 0.23            | 0                  | 0.34              |
|   | % of Total        | <b>39.6</b>         | <b>40.4</b>     | <b>0</b>           | <b>76.3</b>       |
| Blending, flavouring and<br>others<br>(25%)               | Mean              | 2.64                | 0.50            | 0                  | 0.02              |
|   | Std Deviation     | 3.29                | 0.92            | 0                  | 0.03              |
|   | % of Total        | <b>41.9</b>         | <b>51.0</b>     | <b>0</b>           | <b>7.1</b>        |
| Blending, flavouring and<br>instant tea<br>(2.5%)         | Mean              | 2.3                 | 0.28            | 0.85               | 0.42              |
|   | Std Deviation     | -                   | -               | -                  | -                 |
|   | % of Total        | <b>3.7</b>          | <b>2.9</b>      | <b>86.6</b>        | <b>15.6</b>       |
| Blending, flavouring, instant<br>tea and others<br>(2.5%) | Mean              | 3.65                | 0.54            | 0.13               | 0                 |
|   | Std Deviation     | -                   | -               | -                  | -                 |
|   | % of Total        | <b>5.8</b>          | <b>5.6</b>      | <b>13.4</b>        | <b>0</b>          |

Source: Survey, 2000

**Table 6.11****Production of VAT (MT) by Firms' Involvement in Packaging**

|  | <b>Statistic</b> | <b>Packeted Tea</b> | <b>Tea Bags</b> | <b>Instant Tea</b> | <b>Other Teas</b> |
|--|------------------|---------------------|-----------------|--------------------|-------------------|
| Packeting<br>(5%)                              | Mean             | 1.24                | 0               | 0                  | 0                 |
|  | Std Deviation    | 1.07                | 0               | 0                  | 0                 |
|  | % of Total       | <b>3.9</b>          | <b>0</b>        | <b>0</b>           | <b>0</b>          |
| Packeting and bagging<br>(22.5%)               | Mean             | 2.08                | 0.20            | 0                  | 0.01              |
|  | Std Deviation    | 3.28                | 0.35            | 0                  | 0.03              |
|  | % of Total       | <b>29.6</b>         | <b>16.2</b>     | <b>0</b>           | <b>4.5</b>        |
| Packeting, bagging and gift packing<br>(72.5%) | Mean             | 1.45                | 0.28            | 0.03               | 0.09              |
|  | Std Deviation    | 1.69                | 0.56            | 0.16               | 0.3               |
|  | % of Total       | <b>66.5</b>         | <b>83.8</b>     | <b>100</b>         | <b>95.5</b>       |

Source: Survey, 2000

### 6.4.1 Branding of Value-Added Tea

Branding is identified as the most important step in adding value. Among the VAT products there are two main types of brands, namely, manufacturers' brands and private brands. A brand owned by the manufacturer is known as the manufacturer's brand and can be either Sri Lankan-owned or foreign-owned. For example, *Dilmah* and *Mlesna* are 100% Sri Lankan-owned, whereas *Brook Bond* and *Lipton* are 100% foreign-owned manufacturers' brand names. On the other hand, the retail distributors own private brands and the Sri Lankan firms are merely producing VAT under those brands. For example, a Sri Lankan-owned firm is producing only VAT for the *Ahamd* brand of the UK. In addition, VAT producers are catering for a larger number of private brands. Among the 40 firms, 92.5% owned one or more brand names. A majority of the firms had several brand names, and they specifically target different geographic markets and market segments. Among the Sri Lankan-owned brand names, *Dilmah* and *Mlesna* are the most internationally renowned. In addition, there are other brands that have become established in some markets and are gaining in brand popularity. Some that are becoming popular are *Impra*, *Qualitea*, *Royal Empress*, *Senok* and *Telon*.

Many firms pointed out that VAT production under private brands provides the initial step for entering into VAT production and marketing. Even though the added value is relatively low in producing VAT under private brands rather than producing VAT under a manufacturer's brand it provides a number of advantages to the small VAT producers. The VAT producer is responsible only for production and the intermediary does the marketing. This avoids the main burden of promotion. Similarly, a majority of the firms indicated that the main limitation to marketing an own-branded product is lack of capital for promotional activities. This was evident from the advertising intensity of the VAT producing firms where a majority of the firms revealed that they have spent only a minimal proportion of sales revenue in advertising (Table 6.12). Eight firms indicated that they have not done any advertising at all. Fifty-seven point five percent of the firms have spent less than 1% of their sales revenue on advertising. Only 3 firms represented a higher level of advertising intensity (7.5%).

Due to these limitations 77.5% of the firms were catering for private brands in varying proportions. Among these, 4 firms (10%) were catering the entire production of VAT

under private brands. Twenty-one firms (52.5%) were catering for more than 50% of their production under private brands. However, 40% indicated that they catered for less than 25% under private brands. Twenty-two point five per cent of the firms surveyed were not involved in producing VAT under private brands and the entire product was sold under their own brands. Table 6.13 shows the production of VAT by firms' branding strategy and clearly reveals that a greater proportion of VAT is produced under private brands.

**Table 6.12**

**Advertising Intensity (n=40)**

| <b>Advertising Intensity (%)</b> | <b>Number</b> | <b>%</b> |
|----------------------------------|---------------|----------|
| < 1.00                           | 23            | 57.5     |
| 1.00 - 10.00                     | 14            | 35.0     |
| > 10.00                          | 3             | 7.5      |

Source: Survey, 2000

**Table 6.13**  
**Production of VAT (MT) by Firms' Branding Strategy**

|                                  | Statistics    | Packeted Tea | Tea Bags    | Instant Tea | Other Teas  |
|----------------------------------|---------------|--------------|-------------|-------------|-------------|
| Private brands<br>(77.5%)        | Mean          | 1.79         | 0.31        | 0.004       | 0.07        |
|                                  | Std Deviation | 2.22         | 0.57        | 0.02        | 0.28        |
|                                  | % of Total    | <b>82.4</b>  | <b>90.7</b> | <b>13.4</b> | <b>78.3</b> |
| Manufacturers' brands<br>(22.5%) | Mean          | 1.23         | 0.10        | 0.09        | 0.06        |
|                                  | Std Deviation | 1.73         | 0.13        | 0.28        | 0.14        |
|                                  | % of Total    | <b>17.6</b>  | <b>9.3</b>  | <b>86.6</b> | <b>21.7</b> |

Source: Survey, 2000

#### 6.4.2 Degree of Importance Attached to Secondary Processing and Packaging

The degree of importance attached to secondary processing and packaging was measured by asking the respondent to indicate their perception on a scale of one to five (one being *least important* and five being *extremely important*). Perceived levels of importance attached to secondary processing and packaging are given in Tables 6.14 and 6.15 respectively. Eighty per cent of the firms were of the view that secondary processing is extremely important in achieving a competitive edge over other firms. The least number of firms were of the view that secondary processing is extremely important in diversifying potential markets. A very low proportion recorded their perceptions as indifferent in meeting four of the goals. None of the firms indicated that secondary processing is somewhat important or not important at all. However, the mean values of the perceived importance attached to secondary processing in achieving any of the four objectives were revealed to be not significantly different. Similarly to secondary processing, a greater proportion indicated that packaging is extremely important in meeting four of the objectives. The highest proportion of the firms' perception was that packaging is extremely important in achieving a competitive edge over other firms. Only a few firms indicated that packaging is unimportant in meeting a firm's objectives. None indicated that packaging is somewhat important or not important in meeting the firm's basic objectives. The mean values of the perceived importance attached to packaging in achieving any of the four were revealed to be not significantly different. This clearly illustrates that the majority of the firms considered secondary processing and packaging as being important processes in achieving a competitive edge over their rivals.

**Table 6.14****Degree of Importance Attached to Secondary Processing**

| Criteria                       | Extremely important |      | Somewhat important |      | Indifferent |     | Mean |
|--------------------------------|---------------------|------|--------------------|------|-------------|-----|------|
|                                | No.                 | %    | No.                | %    | No.         | %   |      |
| To increase profits            | 31                  | 77.5 | 8                  | 20.0 | 1           | 2.5 | 4.75 |
| To increase sales              | 30                  | 75.0 | 10                 | 25.0 | 0           | 0.0 | 4.75 |
| To diversify potential markets | 27                  | 67.5 | 12                 | 30.0 | 1           | 2.5 | 4.65 |
| To achieve a competitive edge  | 32                  | 80.0 | 6                  | 15.0 | 2           | 5.0 | 4.75 |

Source: Survey, 2000

**Table 6.15****Degree of Importance Attached to Packaging**

| Criteria                       | Extremely important |      | Somewhat important |      | Indifferent |     | Mean |
|--------------------------------|---------------------|------|--------------------|------|-------------|-----|------|
|                                | No.                 | %    | No.                | %    | No.         | %   |      |
| To increase profits            | 30                  | 75.0 | 8                  | 20.0 | 2           | 5.0 | 4.70 |
| To increase sales              | 30                  | 75.0 | 10                 | 25.0 | 0           | 0.0 | 4.75 |
| To diversify potential markets | 30                  | 75.0 | 8                  | 20.  | 2           | 5.0 | 4.70 |
| To achieve a competitive edge  | 31                  | 77.5 | 7                  | 17.5 | 2           | 5.0 | 4.73 |

Source: Survey, 2000

## **6.5 Information on Firms' Input Chain**

In Sri Lanka there are three elevational categories in growing tea represented by low, mid and high-growns. Teas that come from these three areas are different from one another, especially in the case of low and high-grown teas. Proportions of tea bought from the auction clearly illustrated that the majority of the firms are focusing mainly on the Middle East and CIS countries — where there is a greater demand for dark and strong teas — as markets for their VAT. Among the 40 firms, 82.5% had bought 50% or more tea from the low and mid-grown categories. Fifty-five per cent of the firms had bought 50% or more low-grown tea. Only 30% of the firms had bought 50% or more high-grown tea from the auctions. Indirectly this indicates that their main focus is on European countries where there is a greater preference for lighter and mild liquoring teas. Table 6.16 shows the details of different teas purchased by firms.

Teas coming from different origins provide different tastes. Therefore, mixing different teas (blending) will produce a better quality tea with specific characteristics. In order to meet different buyers' demands, VAT producers tend to import teas from different origins. However, only 30.8% of the firms surveyed were importing tea, and even the quantity imported was relatively low. A majority were importing both black and green tea and there was only one firm which imported only green tea. Table 6.17 shows the details of the tea imports of the firms. The Sri Lankan tea industry has imposed certain restrictions on tea imports and allows only speciality teas and CTC teas to be imported into the country. Although the imported tea enables the producers to meet varying consumer demands through blending, there is much controversy among personnel in the tea industry with respect to imports. Some of the managers were very strongly opposed to tea imports. They argued that imports would affect the local plantation-base and its comparative advantage of having good quality tea. Others argued that tea imports should be allowed in order to cater for varying buyers' demands and to move the VAT industry along with the liberalised framework.

**Table 6.16****Purchase of Teas from Different Elevations**

| Elevational Category               | Number <sup>1</sup> | %  |
|------------------------------------|---------------------|----|
| Low-grown tea: 50 % or more        | 22                  | 55 |
| Mid-grown tea: 50 % or more        | 4                   | 10 |
| Low and mid-grown tea: 50% or more | 28                  | 70 |
| High-grown tea: 50% or more        | 12                  | 30 |

<sup>1</sup> multiple responses were given

Source: Survey, 2000

**Table 6.17****Importation of Tea**

|                                 | Number <sup>1</sup> | %    |
|---------------------------------|---------------------|------|
| Import tea                      | 12                  | 30.8 |
| Import only black tea           | 5                   | 12.8 |
| Import only green tea           | 1                   | 2.6  |
| Import both black and green tea | 6                   | 15.4 |

<sup>1</sup> Multiple responses were given

Source: Survey, 2000

**6.6 Information on Firms' Output Chain**

The value added product range of firms is highly diversified and reaches different markets. They undertake different methods in selling the final product either to export or to the domestic market. The majority (79.5%) of the firms directly exported their final product to wholesalers and/or to retailers. Fifty-three point eight per cent exported their product through agents. Only a very low proportion (12.8%) sold their output to another company who added more value. However, of the 38.5% of the firms which sold their final product to the domestic market, only 23.1% sold the final product through their own sales outlets. In terms of VAT sales through own local sales outlets, *Mlesna* plays a significant role as it has a number of outlets catering for foreign consumers. Table 6.18 shows the details of method of sale among the firms.

**Table 6.18****Method of Sale**

|  | Number <sup>1</sup> | %    |
|--|---------------------|------|
| Through own sales outlets                            | 9                   | 23.1 |
| Direct sales to local wholesales and/or retailers    | 11                  | 28.2 |
| Direct exports to wholesales and/or retailers        | 31                  | 79.5 |
| Exporting through agents                             | 21                  | 53.8 |
| Sold to another company who does more value addition | 5                   | 12.8 |
| Other methods of sale                                | 8                   | 20.5 |

<sup>1</sup> Multiple response were given

Source: Survey, 2000

### 6.7 Factors Influencing Firms' Involvement in Value-Added Tea Production

The level of value-addition among the VAT producing firms is shown to be diverse. There were very few firms whose facilities were state-of-the-art and the majority were yet to improve their techniques and were operating at a lower scale. Therefore, in this process of value-addition the principal difficulties they encountered were shown to be different. A majority (35%) indicated that the support given by the government was inadequate, and that there were policy problems in improving the industry. The main problems they encountered were lack of support from government organisations in promotional activities and low incentives offered for the industry. The lowest proportion indicated that they lacked knowledge and market information. As explained in chapter three, this also points out that the government has a greater role to play in supporting VAT producing firms in Sri Lanka. Further, some firms indicated that a lack of skilled labour, quality delivery services and training programmes limits their improvement within the industry. Some indicated inadequate markets, external market threats and traditional commitments as being the main barriers to improving VAT production in Sri Lanka. Table 6.19 shows the principal difficulties faced by the VAT producing firms.

The discussions had with the firms revealed that co-operation among firms is significantly weak. They individually try to build their monopoly power within the industry. There is a significant lack of collaboration amongst firms in group promotion of Sri Lankan-owned brands, knowledge sharing and research and development which — overall — adversely affects the entire VAT industry segment in the country. In addition, increasing misconduct by some firms in terms of pricing, quality and market

seeking has caused significant pressures for the other firms. Further, as discussed in chapter three the overall weaknesses in the VAT industry segment are adversely affecting the level of VAT production by these individual firms.

**Table 6.19**

**The Principal Difficulty in Producing Value-Added Tea (n=40)**

|   | Number | %    |
|---|--------|------|
| Lack of capital                                   | 10     | 25.0 |
| Lack of technology                                | 6      | 15.0 |
| Lack of knowledge and market information          | 3      | 7.5  |
| Inadequate government support and policy problems | 14     | 35.0 |
| Other difficulties                                | 7      | 17.5 |

Source: Survey, 2000

Many managers were of the view that the best comparative advantage that the Sri Lankan tea industry has is its ability in producing best quality tea with a wide variety of tastes that can satisfy a large number of palates. This has given a good position for the Sri Lankan tea industry by and large. In addition, the Lion logo strengthens the quality standards of Sri Lankan VAT where 70% of the firms revealed that they have used the Lion logo in their VAT. Further, the higher level of competition among the firms in the VAT industry segment is positively influencing the firm performance. As a result of the high level of competition, firms try to be more innovative — which will lead to an improvement in individual performances. The very prosperous firms in the industry develop a good image for the overall industry. Further, a number of firms have initiated collaborations with foreign firms and this also will lead to an improvement in the production of VAT in the country. For example, *Dilmah's* establishment of an agency network with the *Celestial* brand in the USA and Watawala Plantation's joint venture with the TATA group of India can be considered as significant achievements in the industry. In addition to all the above, the possession of literate and skilled employees contributes a great deal to the enhancement of the industry.

## **Chapter Seven**

### **Results and Discussion**

#### **Analysis of the Performance of the Value-Added Tea Producing Firms**

In this study, the performance of the VAT producing firms was assessed by using multi-method multivariate statistical techniques. As the first step, a factor analysis was conducted for the identified core resource and strategy variables separately. Thereby, two new sets of standardised and orthogonal variables were created. Subsequent analyses were based on these two new sets of variables. As the second step, the existence of strategic groups was identified by using cluster analysis. Thirdly, both the level of accuracy of cluster analysis and the dissimilarities among the groups were assessed by using multiple discriminant analysis. In addition, Kruskal-Wallis one-way analysis of variance and chi-square procedures were applied to identify the existence of mobility barriers and performance differences across the groups. As the fourth step, a canonical correlation analysis was performed in order to determine the relationship between resource and strategy perspectives. As the final analysis, the relationships between performance and both resource and strategy perspectives and integrated perspectives were examined by using factor analysis regressions. Results and discussion based on the above statistical analyses are set out below.

#### **7.1 Initial Data Investigation**

As explained in the methodology, 10 core resource and 16 core strategy variables were selected to represent the resource- and strategy-based sources of competitive advantage of a firm. Initially, all continuous variables of core resources and strategies were individually screened for their distributions by using boxplots and skewness statistics. Although some boxplots showed extreme observations, none was deleted at the initial stage of the data investigation. As the next step, multivariate outliers were tested by

using the Cook's distance<sup>43</sup> test statistic and one outlier with a Cook's  $d_i$  value of 527.82<sup>44</sup> was identified. This observation represented one of the government-owned organisations that produces a very low level of VAT, but which was backward-integrated and represented a large number of employees, was deleted to overcome the influence of extreme values. Among the core resource variables, all except three showed an acceptable level of skewness statistics<sup>45</sup>. The variables, years in VAT (2.82), employees in tea (2.61) and VAT production under own brand (2.11) showed skewness statistics of more than 2.0. In terms of continuous core strategy variables only four showed an acceptable level of skewness statistics. The variables tea imports (5.40), proportion of tea exports (-3.92), research and development intensity (3.11) and advertising intensity (2.78) showed skewness statistics of more than 2.0. Tables A6.1 and A6.2 (Appendix 6) provide the descriptive statistics for all core resource and strategy variables used in the analysis. Although the individual data screening pointed out that distributions of a few variables were non-normal, variable transformations were not performed as they showed multivariate normality. A number of previous studies have also pointed out that a factor analysis could be conducted even if some of the variables are non-normally<sup>46</sup> distributed as these will not influence the outcome. Therefore, a factor analysis was conducted as the initial step in the data analysis process. The analyses created two new, smaller, sets of variables which enabled the researcher to explain the structures of the original variables. The sections below explain the structures of core resources and strategies.

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<sup>43</sup> According to Kleinbaum et al. (1998) Cook's distance is a measure of the influence of an observation. It measures the extent to which the regression coefficients change when the particular observation in question is deleted.

<sup>44</sup> The computed value is based on the  $d_i(n-k-1)$  where  $n$  is the total number of observations and  $k$  is the number of variables in the model. The critical value of Cook's  $d_i$  for 10 predictor variables and 40 observations, at the 0.01 alpha level is 20.37.

<sup>45</sup> According to George and Mallery (1995) a variable with a skewness statistic in between  $\pm 2.0$  shows an acceptable level of a distribution.

<sup>46</sup> Bartholomew (1984, 1985) specifically pointed out that all types of continuous (normal as well as non-normal) and categorical data can be brought under the same analysis and will lead to more real interpretations. According to Coakes and Steed (1999) factor analysis is robust to assumptions of normality but is sensitive to outlying cases.

## **7.2 Structure of Core Resources**

Prior to the factor analysis, Spearman rank-order correlations<sup>47</sup> among core resource variables were calculated. As anticipated, a number of variables within the group were highly correlated (Table A6.3, Appendix 6). Although many coefficients were statistically significant, the absolute magnitude of the correlation coefficients varied from -0.333 to 0.841. The variables skilled employees in secondary processing and packaging showed a high positive correlation with each other. The variable managerial experience was highly correlated with skilled employees in secondary processing and packaging. Similarly, a number of other variables showed some significant associations. These associations gave a primary indication as to how the variables were going to be grouped in the factor analysis. Results of the factor analysis as explained below also revealed that these highly correlated variables were grouped under the same factor, as they have something in common which the other variables do not have.

Further, the significance of the Bartlett's test of sphericity statistic<sup>48</sup> was assessed. The test statistic was 138.201 and was significant at the probability level 0.0001. This revealed that variables are correlated in the population and the set of distributions reveals multivariate normality. This indicated the suitability of the core resource variables for a factor analysis. Therefore, a principal component factor analysis was performed for the identified core resource variables. In the factor analysis, variance shared in common with other variables is an important determinant and is given by the communality value. Results indicated that all the 10 variables ranked a communality value of above 0.5 and showed a high level of variance shared in common with other variables. Also, the communality value of above 0.3 indicated a high level of reliability of the variables in the analysis.

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<sup>47</sup> Pearson product-moment correlations assume that the two variables are bivariate normally distributed. The Spearman rank-order correlation is the non-parametric equivalent of the Pearson correlation and does not assume any specific distribution for the two variables.

<sup>48</sup> Bartlett's test of sphericity statistic assesses whether the correlation matrix should be factored in the first place or not (Green, 1978) and the multivariate normality of a set of distributions (George & Mallery, 1995).

Factor analysis groups variables into factors, and the number of factors is similar to the number of variables. Therefore, it is essential to determine the number of factors to be retained in the analysis. The eigenvalue, scree plot and the proportion of cumulative variance explained were used as the criteria in determining the number of factors. According to the eigenvalue criterion, factors with eigenvalues of more than one should be retained. This indicates that 4 factors should be retained, with a cumulative variance of 72%. The scree plot is a more subjective assessment where the number of factors to be retained will be determined by looking for an *elbow* in the curve or by identifying the point that separates "large" differences in eigenvalues from "small" differences. According to the scree plot shown in Figure A6.1 (Appendix 6), 3 factors with a cumulative variance of 61% should be retained. However, due to higher cumulative variance four factors were retained with an eigenvalue of more than 1, and the 4 factors explained 72% of the cumulative variance in the model.

The resultant unrotated component matrix is shown in Table A6.4 (Appendix 6). Although all the variables have contributed to the variance of factor one, only 5 variables had high loadings. It showed that variables skilled employees in secondary processing and packaging, managerial experience, proportion of VAT under own brand and employees in tea were the core resources highly associated with factor one. Factor two was also a common factor, but only managerial experience has not contributed to its variance. Five variables were loaded heavily on factor two. This showed that variables employees in tea, proportion of VAT under own brand, brand ownership, involvement with businesses other than tea and years in VAT have something in common which the other core resources do not. The third factor was explained by only 6 variables, and only two had high loadings. Backward integration and years in VAT were shown to be highly positively associated with factor three, whereas years in VAT was negatively associated. Although the fourth factor was explained by 6 variables, only managerial experience had a high loading. Due to the difficulty in interpretation, an orthogonal rotation (varimax) was performed. Results of the rotated component matrix are shown in Table A6.5 (Appendix 6). The varimax rotation resulted in a simple structure of the component matrix with only few large loadings and more small loadings on a given factor. Further, it showed that in a specific row of the loading matrix, loadings were on one or a few factors only, and all other factors had very low loadings. Although a number of variables explained a given factor, factor interpretation was done based on

the significance of the factor loading. Only the factor loadings of  $\pm 0.394$  (significant at the probability level 0.01) were considered in the interpretation.

After the rotation, factor one showed that it was highly positively associated with the variables skilled employees in secondary processing and packaging and managerial experience. It was negatively associated with firms' involvement with businesses other than tea and brand ownership. Thus it could be said that the first factor is represented by the sources of competitive advantage, skilled employees, managerial experience and involvement with tea alone. However, brand ownership as a source of competitive advantage negatively contributed to describing factor one. Therefore, factor one was labelled *single product-skill based* ( $R_1$ ). Factor two was positively associated with the variables employees in tea, VAT production under own brand and years in VAT. Due to the high representation of sources of competitive advantage, size of the firm, brand awareness and experience in VAT, this factor was labelled *firm size and brand awareness based* ( $R_2$ ). Factor three was positively associated with the variables backward integration and brand ownership but negatively associated with years in VAT. This showed that the sources of competitive advantage, backward integration and brand ownership, positively contributed to describing factor three, whereas the experience in VAT as a source of competitive advantage negatively contributed to describing factor three. Therefore, this factor was labelled *ownership and experience based* ( $R_3$ ). Factor four was explained only by the variable managerial experience and as all the other variables showed an insignificant association. This factor was labelled *professional knowledge based* ( $R_4$ ). These factor labellings were primarily done based on the high factor loadings.

These four factors (new variables) associate with original core resource variables and were referred to as the *resource patterns*. Results indicated that all the firms examined exhibited four distinctive resource patterns (Table 7.1). Therefore, the first null hypothesis, *identifiable resource patterns do not exist within the VAT industry segment* is rejected. Results supported the alternative hypothesis, *identifiable resource patterns exist within the VAT industry segment of Sri Lanka*. But only the first two resource patterns explained a significant portion of the variance compared to the other two. Both these resource patterns accounted for a variance of 48%, whereas the other two explained a variance of only 24%.

### **7.3 Structure of Core Strategies**

A similar process was undertaken to explain the structure of 16 core strategy variables that were identified under 6 broad dimensions. As the initial step, a correlation matrix was developed and identified the variable relationships. Spearman rank-order correlation coefficients showed that a number of variables were associated with one another (Table A6.6, Appendix 6). Although a number of variables showed significant correlations with each other the absolute magnitude of the correlation coefficients varied from -0.827 to 0.589. The correlation coefficient between the proportion of high-grown tea and low-grown tea showed a very high negative correlation. This relationship was evident because the firms which use a high proportion of high-grown tea use a lower proportion of low-grown tea. In addition, highly significant associations were seen among the variables trade fairs and adoption of the Lion logo as well as with the importance of secondary processing and packaging. These highly associated variables were grouped together in the factors developed by the factor analysis.

As the second step, Bartlett's test of sphericity statistic was assessed to evaluate the suitability of conducting a factor analysis for all the core strategy variables. The test statistic was 249.442 and was significant at the probability level 0.0001. The significance suggested that data do not differ significantly from multivariate normal and the null hypothesis that variables are uncorrelated in the population was rejected. Therefore, a principal component factor analysis was performed by considering all the 16 core strategy variables. Community values of all the variables indicated that variables explain a high common variance. The highest community value of 0.903 was shown in the variable proportion of high-grown tea whereas the lowest was in VAT production intensity. High community values also pointed out the reliability of variables in the model. Of the 16 factors extracted, the number of factors to be retained was decided based on the eigenvalue, scree plot and the proportion of cumulative variance explained. According to the eigenvalue criterion, the 6 factors with an eigenvalue of more than 1 should be retained, and these 6 factors showed a cumulative variance of 73%. According to the scree plot, factor 3 separates "large" differences in eigenvalues from "small" differences (Figure A6.2, Appendix 6). If 3 factors are retained, they explain only 50% of the cumulative variance in the model. Therefore, the 6 factors with a cumulative variance of 73% were retained in the analysis.

The unrotated factor matrix is shown in Table A6.7 (Appendix 6). It shows all the factors as common factors by having number variables associated with a given factor. Factor one was explained by all the variables except the variable proportion of tea exports. Seven variables have high loadings and showed a number of strategies that could be grouped together as they have something in common. It showed that overall strategy differentiation, importance of packaging and secondary processing, proportion of low-grown and high-grown tea and research and development intensity were closely associated with factor one. Factor two was explained by 14 variables, but neither research and development intensity nor VAT production intensity have contributed to its variance. According to the factor loadings, the proportion of brand marketing, adoption of the Lion logo, use of trade fairs, proportion of tea exports and low-grown tea were highly associated with factor two. The third factor was explained by all the variables except the variables overall differentiation strategy, research and development intensity and advertising intensity. However, only two variables — tea imports and high-grown tea — were represented as being closely associated. Except for six, all the other variables explained the variance of factor four. However, only the variable VAT production intensity was closely associated with factor four. The variance of factor five was explained by 11 variables, but none of the variables was closely associated with the factor. Similarly, the variance of factor six was explained by 11 variables, but none of the variables had high factor loadings. Due to the difficulty in interpreting the factor matrix an orthogonal rotation (varimax) was performed. Results of the rotated factor matrix are shown in Table A6.8 (Appendix 6). As expected, the varimax rotation resulted in a simple structure of the component matrix leading to high interpretability. As in the previous analysis, a factor loading of  $\pm 0.394$  was considered significant in the interpretation. Based on the significance, factor interpretation and factor labellings were performed.

After the rotation, factor one showed that it was highly positively associated with the sources of competitive advantage, importance attached to secondary processing and packaging and overall differentiation strategy. Thus, this factor was labelled *VAT production oriented* ( $S_1$ ). As noted in the correlation matrix, both variables proportion of high-grown and low-grown tea had high loadings in factor two. But the high-grown tea was positively associated with the factor, whereas the other showed a negative association. Due to the high level of association of the variables that represented

targeted consumers in marketing VAT, factor two was labelled *consumer preference oriented* (S<sub>2</sub>). Factor three was highly positively associated with four of the sources of competitive advantage, research and development intensity, advertising intensity, VAT production intensity and high-perceived competitive advantage. These four variables represented product development, promotion, production and overall strategy dimensions that could be considered extremely important for a firm in developing a unique position. Therefore, this factor was labelled *differentiation oriented* (S<sub>3</sub>). Factor four was highly positively associated with three of the sources of competitive advantage, use of trade fairs, adoption of the Lion logo, and proportion of tea exports. These three variables represented promotion, quality and marketing dimensions. Given the higher representation of sources of competitive advantages related to exports and quality, this factor was labelled *exports and quality oriented* (S<sub>4</sub>). Factor five was positively associated with two of the sources of competitive advantage, tea imports and outward FDI. Both these variables showed the production and marketing strategy dimensions of a firm that is achieving, along with higher global integration, hence it was labelled *global strategy oriented* (S<sub>5</sub>). The last factor was positively associated with only two variables, proportion of brand marketing and overall low-cost strategy. Therefore, this factor was labelled *brand and cost oriented* (S<sub>6</sub>).

These six factors (new variables) associated with original core strategy variables and were referred to as *strategy patterns*. Results indicated that all the firms examined exhibit six distinctive strategy patterns (Table 7.2). Therefore, the second null hypothesis, *identifiable strategy patterns do not exist within the VAT industry segment* is rejected. In the study the alternative hypothesis — that is, *identifiable strategy patterns exist within the VAT industry segment of Sri Lanka* — is accepted. Although all the six patterns of strategies explained 73% of the cumulative variance, only the first two patterns explained a significant portion of the cumulative variance. The others explained a relatively low, but a similar, proportion of variance.

**Table 7.1**  
**Resource Patterns**

| <b>Factor No.</b> | <b>Factor Label</b>                                   | <b>Variable<sup>a</sup></b>                         | <b>Factor Loading</b> |
|-------------------|---|---|-----------------------|
| 1                 | Single product-skill based (R <sub>1</sub> )          | Number of skilled employees in secondary processing | .861                  |
|                   |   | Number of skilled employees in packaging            | .831                  |
|                   |   | Managerial experience                               | .569                  |
|                   |   | Involvement with businesses other than tea          | -.685                 |
|                   |   | Ownership of a brand name/s                         | -.485                 |
| 2                 | Firm size and brand awareness based (R <sub>2</sub> ) | Total number of employees in tea                    | .895                  |
|                   |   | VAT production under own brand name/s               | .835                  |
|                   |   | Years in VAT  | .621                  |
| 3                 | Ownership and experience based (R <sub>3</sub> )      | Backward integration                                | .756                  |
|                   |   | Ownership of a brand name/s                         | .482                  |
|                   |   | Years in VAT  | -.561                 |
| 4                 | Professional knowledge based (R <sub>4</sub> )        | Managerial education                                | .926                  |

<sup>a</sup> The variables named are those which had their highest loading on each factor.

**Table 7.2**  
**Strategy Patterns**

| Factor No. | Factor Label                                   | Variable <sup>1</sup>                       | Factor Loading |
|------------|--|---|----------------|
| 1          | VAT production oriented (S <sub>1</sub> )      | Importance attached to secondary processing | .867           |
|            |  | Importance attached to packaging            | .820           |
|            |  | Overall differentiation strategy            | .696           |
|            |  | Adoption of the Lion logo                   | .495           |
| 2          | Consumer preference oriented (S <sub>2</sub> ) | Proportion of high-grown tea                | .935           |
|            |  | Proportion of low-grown tea                 | -.876          |
| 3          | Differentiation oriented (S <sub>3</sub> )     | Research and development intensity          | .765           |
|            |  | Advertising intensity                       | .655           |
|            |  | VAT production intensity                    | .592           |
|            |  | High perceived competitive advantage        | .501           |
| 4          | Exports and quality oriented (S <sub>4</sub> ) | Use of trade fairs                          | .795           |
|            |  | Adoption of the Lion logo                   | .673           |
|            |  | Proportion of tea exports                   | .577           |
| 5          | Global strategy oriented (S <sub>5</sub> )     | Tea imports                                 | .835           |
|            |  | Outward foreign direct investments in VAT   | .675           |
|            |  | High perceived competitive advantage        | .472           |
| 6          | Brand and cost oriented (S <sub>6</sub> )      | Proportion of brand marketing               | .797           |
|            |  | Overall low-cost strategy                   | .688           |

<sup>1</sup>The variables named are those which had their highest loading on each factor.

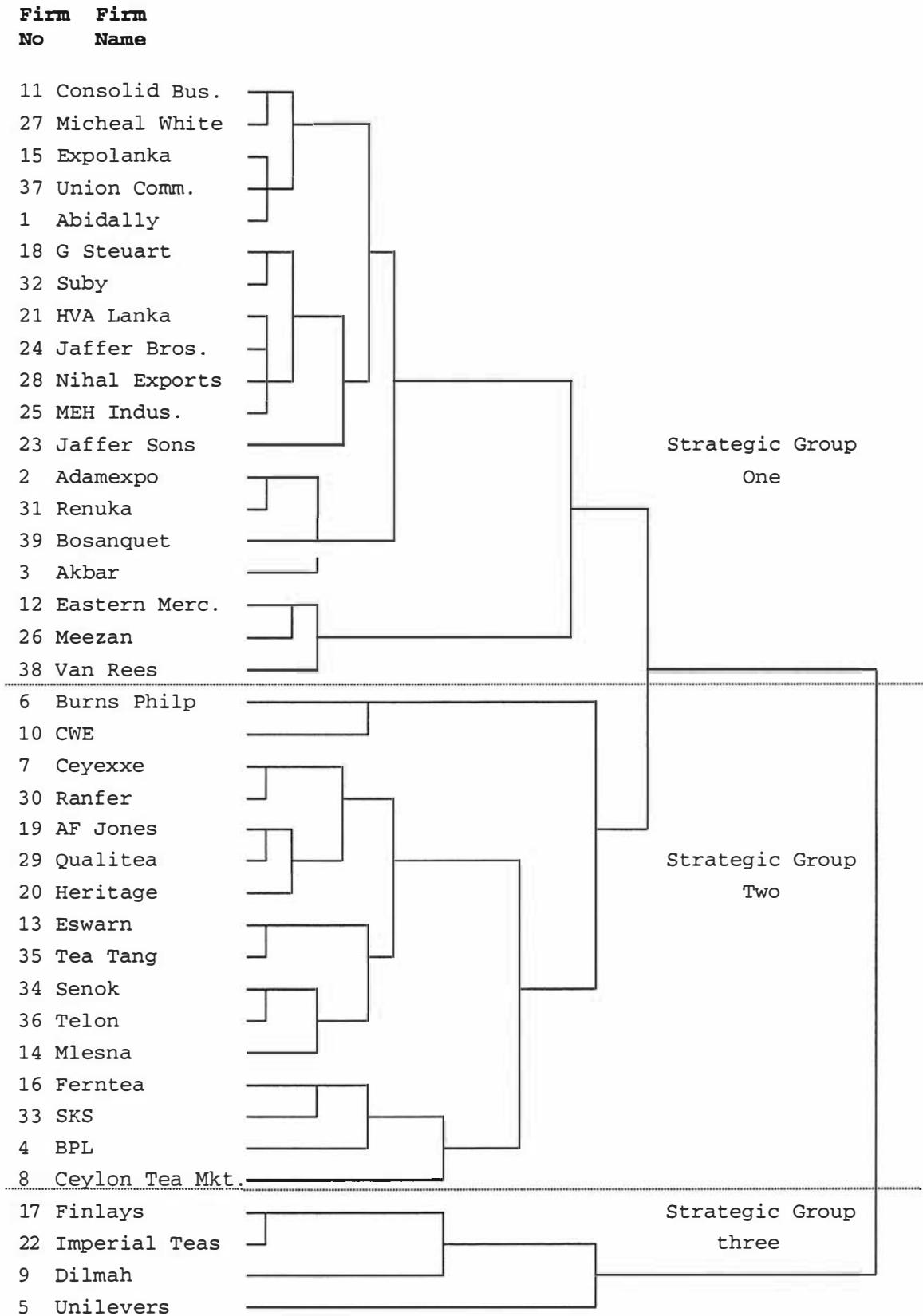
#### **7.4 Strategic Groups Based on the Resource and Strategy Patterns**

As pointed out in chapter four, identification of strategic groups and mobility barriers is important in explaining the competition and performance differences within an industry. The recognition of these mobility barriers that protect some groups within the industry provides an overall indication of firms' capability in meeting the challenges of competition. Therefore in this study, the existence of strategic groups within the VAT industry segment of Sri Lanka was assessed by using the cluster analysis technique as it is capable of grouping firms on the basis of patterns of their observed differences and similarities. Three clustering algorithms: average linkage, centroid and Ward's method were used in the study. Four patterns of resources and 6 patterns of strategies (standardised values) that were created based on the sources of competitive advantage were considered as the input variables. Based on the results, the algorithm that best grouped firms in the VAT industry segment of Sri Lanka was selected.

The dendrograms based on these three algorithms were shown to be different. These differences among the clusters were due mainly to the mathematical procedures used in calculating the cluster solution. According to the dendrogram of the average linkage method, 8 clusters could be clearly identified where 5 firms were grouped individually (Figure A6.3, Appendix 6). However, the dendrogram of the centroid method clearly showed only two clusters with individual firms, and the clusters of the rest of the firms were not apparent (Figure A6.4, Appendix 6). The agglomeration schedule, which provides the fusion coefficients, indicated that a four-cluster solution for the centroid method is more applicable where a majority of the firms are grouped as a single cluster. Similarly, Ketchen and Shook (1996, p. 445) also pointed out that the centroid method has a bias toward producing irregularly shaped clusters. The dendrogram of Ward's method showed three possible cluster solutions (Figure 7.1). But, unlike the other two methods, it has avoided groups consisting of individual firms. As pointed out by some researchers, it has produced roughly the same number of observations (Punj & Stewart, 1983; Ketchen & Shook, 1996). Based on the dendrogram and the researcher's background knowledge of VAT producers, Ward's method was selected as the clustering algorithm which best clustered VAT producing firms in Sri Lanka. Similarly, some researchers have pointed out that Ward's method has been proved to outperform the other hierarchical methods (Punj & Stewart, 1983; Harrigan, 1985) and is the most

widely used method in strategy-based research (Ketchen & Shook, 1996). Further, as shown by Punj and Stewart (1983), a number of previous studies have also argued that Ward's method has outperformed all the other algorithms in a number of instances. Most importantly, Ward's method produces relatively homogeneous groups of firms, which have maximum between-group variance and minimum within-group variance, and — unlike the other algorithms — it has been argued to produce more interpretable clusters.

The dendrogram of Ward's method demonstrates that it has grouped together four large VAT producing firms which include subsidiaries of two of the dominant MNCs. From the researcher's background knowledge of the VAT producers, it is evident that a majority of the niche market oriented firms are grouped separately from the others, which are more bulk tea exporting and private label oriented. Hence, based on the dendrogram of Ward's method, the existence of three different clusters was identified. Similarly, the agglomeration schedule showed the three-cluster solution as the best approximation (Table A6.9, Appendix 6). These three clusters generated by the cluster analysis were referred to as *strategic groups*. Accordingly, it was shown that 19, 16 and 4 firms respectively were grouped within the strategic groups one, two and three. These three groups were named *private labelling oriented* (strategic group one), *niche market oriented* (strategic group two) and *mass market oriented* (strategic group three) based on the nature of the firms that represented the group. Even though the cluster analysis suggested three possible strategic groups within the VAT industry segment of Sri Lanka, the accuracy of classification of firms into different groups was determined by performing a multiple discriminant analysis technique.



**Figure 7.1**  
Dendrogram Based on the Ward's Method

## 7.5 Strategic Group Description

As explained in the methodology, the multiple discriminant analysis allows the prediction of which variables will discriminate between two or more groups in addition to evaluating the accuracy of classification. The linear combination of variables, or the discriminant functions developed by the multiple discriminant analysis, enables group membership to be predicted. Before the analysis, the linearity of the predictor variables was examined by using the scatter plots. None of the scatter plots showed any non-linearities. Therefore, the multiple discriminant analysis technique was performed by considering 4 patterns of resources and 6 patterns of strategies as predictor variables. Cluster membership was considered as the grouping variable, and the analysis was performed by using the package SPSS<sup>®</sup>. Even though the third strategic group consisted of only 4 cases it was also considered in the analysis<sup>49</sup>.

In multiple discriminant analysis, firstly it is important to determine whether or not any significant differences exist across the groups. Wilks' lambda, *F*-ratio and significance provide bivariate information about the differences between means for each variable. Wilks' lambda shows the ratio of the within-groups sum of squares to the total sum of squares. A lambda value of 1 occurs when the observed group means are equal, and small lambda points out that group means are different. Its significance can be obtained through the *F*-ratio. Of the 10 variables considered, only 5 showed a significant *F*-ratio<sup>50</sup>. This pointed out that means of these 5 variables: R<sub>2</sub>, R<sub>3</sub>, S<sub>2</sub>, S<sub>3</sub> and S<sub>5</sub> were shown to be significantly different across the three strategic groups at a probability level of 0.05 (Table A6.10, Appendix 6). The lowest Wilks' lambda value of 0.357 was shown in the variable R<sub>2</sub>. It showed the highest difference in means across the groups. The highest Wilks' lambda value of 0.983 was shown in the variable R<sub>4</sub> and it proved that group means were approximately equal. The representation of a number of discriminating variables among the strategic groups demonstrated the suitability of

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<sup>49</sup> As quoted in Coakes and Steed (1999), to perform a multiple discriminant analysis there should be at least two cases per group, and there may be any number of discriminating variables up to the total number of cases minus two.

<sup>50</sup> The *F*-ratios which appeared in the multiple discriminant analysis are the same as those calculated in the univariate analysis of variance.

performing a multiple discriminant analysis. Secondly, the homogeneity of variance-covariance matrices in the model was assessed by using Box's  $M$  statistic<sup>51</sup>. The model resulted in a Box's  $M$  statistic of 173.030. The  $F$ -ratio of 2.09 was significant at the probability level of 0.0001, showing that the variables have violated the assumption of homogeneity of variance-covariance matrices in the model<sup>52</sup>.

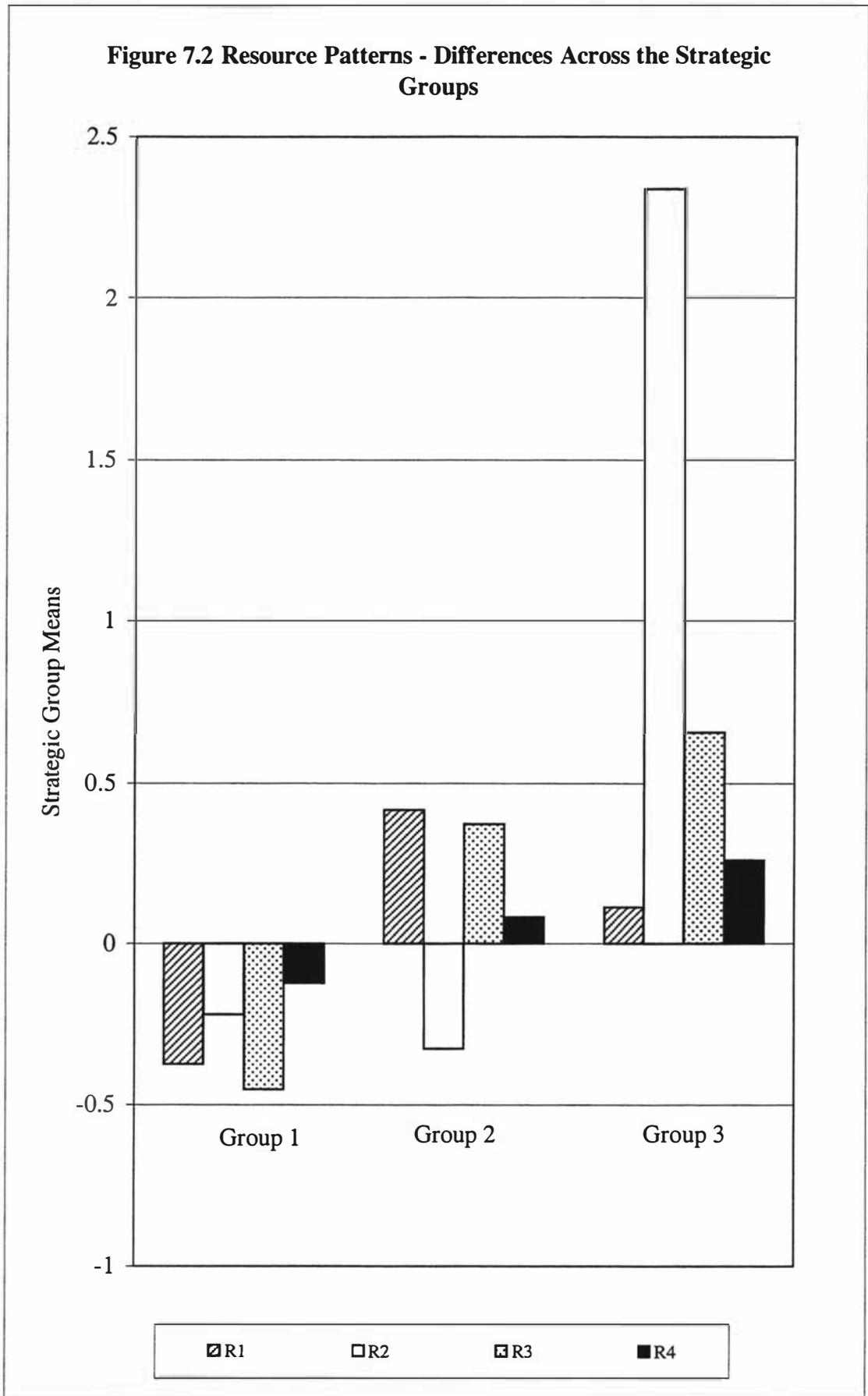
Group statistics of the multiple discriminant analysis were used to identify the differences in the resource patterns among the three strategic groups. Figure 7.2 graphically shows the means of the resource patterns across these groups. The second and third strategic groups revealed some prominent resource patterns, whereas in the first strategic group none showed a positive mean level. Most importantly, this revealed that firms in strategic group one are significantly weakly associated with the resource-based sources of competitive advantage. In strategic group two, all the resource patterns except  $R_2$  showed positive mean levels and of those  $R_1$  showed the highest mean level. This revealed that the sources of the competitive advantage of group two were highly single-product skill based ( $R_1$ ). Compared with the other strategic groups, the third represented the highest levels of resource-based sources of competitive advantage. Given the higher association of  $R_2$  with the total number of employees and VAT production under own brand name, it is possible to show that the third group's sources of competitive advantage were based mainly on firm size and brand awareness. Even though its sources of competitive advantage — represented by the single-product skill based ( $R_1$ ) were low — all the other resource patterns have, to a large extent, positively contributed to achieve a favourable position in terms of competitive advantage.

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<sup>51</sup> Box's  $M$  statistic is a measure of multivariate normality based on the similarities of determinants of the covariance matrices for two or more groups (George & Mallery, 1995).

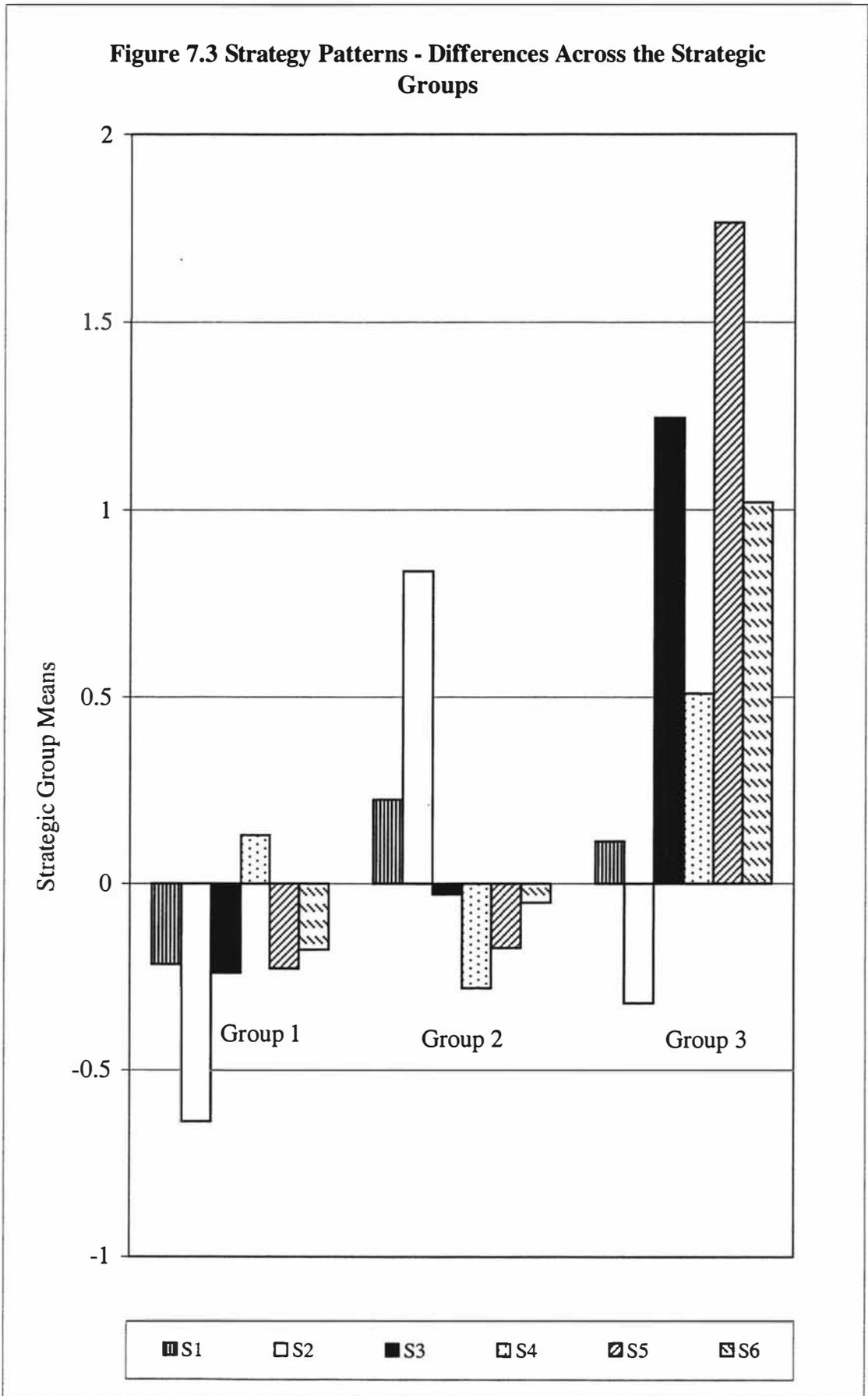
<sup>52</sup> Although Coakes and Steed (1999) pointed out that Box's  $M$  must be significant at the probability level of 0.001, George and Mallery (1995) observed that the discriminant functions often perform surprisingly well even though this assumption has been violated. According to them, the inclusion of important variables that are not normally distributed can lead to an improvement in the discriminating ability of the equation.

**Figure 7.2 Resource Patterns - Differences Across the Strategic Groups**



Similarly, Figure 7.3 shows the means of the strategy patterns across the three strategic groups. It indicates that the third strategic group represented the highest positive mean levels for four of the strategy patterns, whereas group two had high positive mean levels for two different strategy patterns. The first strategic group showed a positive mean level only with respect to S<sub>4</sub>. Accordingly, it appears that the sources of competitive advantage of strategic group one were achieved mainly through exports and quality orientation (S<sub>4</sub>). The remaining strategy patterns showed high negative mean levels. Strategic group two showed the highest mean levels for S<sub>1</sub> and S<sub>2</sub>. Accordingly, it appears that its sources of competitive advantage were based largely on VAT production (S<sub>1</sub>) and consumer preference orientation (S<sub>2</sub>). Given the higher association of high-grown tea and S<sub>2</sub>, it can be said that the sources of competitive advantage of the firms in group two were achieved mainly by targeting milder tea-preferring consumers. The representation of the highest negative mean value of exports and quality orientation (S<sub>4</sub>) by group two could be due mainly to the inclusion of the domestic market oriented firms in this group. The sources of competitive advantage of the third strategic group were based mainly on their differentiation (S<sub>3</sub>), export and quality (S<sub>4</sub>), global (S<sub>5</sub>), and brand and cost orientation (S<sub>6</sub>). Accordingly, group three appears to be comparatively strongly competitive strategy oriented. The graphical representation of the means showed clearly that the sources of competitive advantage that represented the strategy perspective were significantly associated only with the four firms in strategic group three. Overall, the analysis revealed that a majority of the firms were significantly weakly associated in terms of the sources of competitive advantage that represented broader strategy patterns — that is, differentiation, global and brand marketing strategies. Even though these strategy patterns were considered to be extremely important in developing a unique VAT product and thereby in meeting the increasing competitive pressures of the MNCs, a majority of the firms represented a weaker association with them.

**Figure 7.3 Strategy Patterns - Differences Across the Strategic Groups**



The multiple discriminant analysis technique resulted in two linear combinations of predictor variables that best discriminated amongst the groups. The two functions showed eigenvalues of 5.067 and 3.994 (Table 7.3). Unlike in the factor analysis, the eigenvalue in the discriminant analysis shows between-group sums of squares divided by within-group sums of squares. The first function that showed a large eigenvalue was the stronger function of the two, and accounted for 55.9% of the total explained variance. The second function was also shown to be an important function, as it explained 44.1% of the total variance in the model. Higher canonical correlations of 0.914 and 0.894 also showed that both functions explained much of the variance in the model (The canonical correlation shows the ratio of between-groups variation to the total variation and varies from 0-1). The chi-square values of both these functions were 107.45 and 50.66 respectively and were significant at the probability level of 0.0001. This indicated that these two functions together discriminate very effectively amongst the three strategic groups.

**Table 7.3**  
**Summary of Canonical Discriminant Functions**

| Function | Eigenvalue | % of variance | Cumulative % | Canonical Correlation |
|----------|------------|---------------|--------------|-----------------------|
| 1        | 5.067      | 55.9          | 55.9         | 0.914                 |
| 2        | 3.994      | 44.1          | 100.0        | 0.894                 |

The structure matrix in the discriminant analysis provides the most important details in interpreting the group differences. It shows the correlation of each variable with each function<sup>53</sup>. Table 7.4 shows the structure matrix of the model, and the fact that both functions represented a mixture of resource and strategy patterns. Accordingly, the first function was highly positively correlated with 5 variables: S<sub>2</sub>, R<sub>3</sub>, R<sub>1</sub>, S<sub>1</sub> and R<sub>4</sub>. Similarly, the second function was positively correlated with 5 variables: R<sub>2</sub>, S<sub>5</sub>, S<sub>3</sub>, S<sub>6</sub> and S<sub>4</sub>. The second function was highly correlated only with R<sub>2</sub>, which represented the firm size and brand awareness base. All the other significant variables represented strategy patterns.

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<sup>53</sup> According to Coakes and Steed (1999, p. 112) these are similar to factor loadings in the factor analysis and  $\beta$  weights in the multiple regression.

**Table 7.4**  
**Structure Matrix**

|                | Function |       |
|----------------|----------|-------|
|                | 1        | 2     |
| S <sub>2</sub> | .407*    | -.219 |
| R <sub>3</sub> | .220*    | .058  |
| R <sub>1</sub> | .179*    | -.039 |
| S <sub>1</sub> | .097*    | -.011 |
| R <sub>4</sub> | .053*    | .028  |
| R <sub>2</sub> | .136     | .654* |
| S <sub>5</sub> | .112     | .359* |
| S <sub>3</sub> | .109     | .211* |
| S <sub>6</sub> | .076     | .170* |
| S <sub>4</sub> | -.063    | .116* |

\*Largest absolute correlation between each variable and any discriminant function.

The canonical function coefficients are similar to the  $\beta$  weights in the multiple regression, and can be used in calculating each firm's discriminant score. According to the first function, two of the variables, R<sub>1</sub> and S<sub>2</sub>, had higher coefficients compared to the other variables. Except for R<sub>2</sub>, none of the coefficients in the second function had higher coefficients. These two standardised discriminant functions (DF) can be represented as follows:

$$DF_1 = 1.145 (R_1) - 0.007 (R_2) + 0.682 (R_3) + 0.195 (R_4) + 0.329 (S_1) + 1.106 (S_2) + 0.176 (S_3) - 0.525 (S_4) + 0.426 (S_5) + 0.721 (S_6)$$

$$DF_2 = -0.143 (R_1) + 0.718 (R_2) + 0.293 (R_3) + 0.000 (R_4) - 0.260 (S_1) - 0.565 (S_2) + 0.425 (S_3) + 0.268 (S_4) + 0.568 (S_5) + 0.334 (S_6)$$

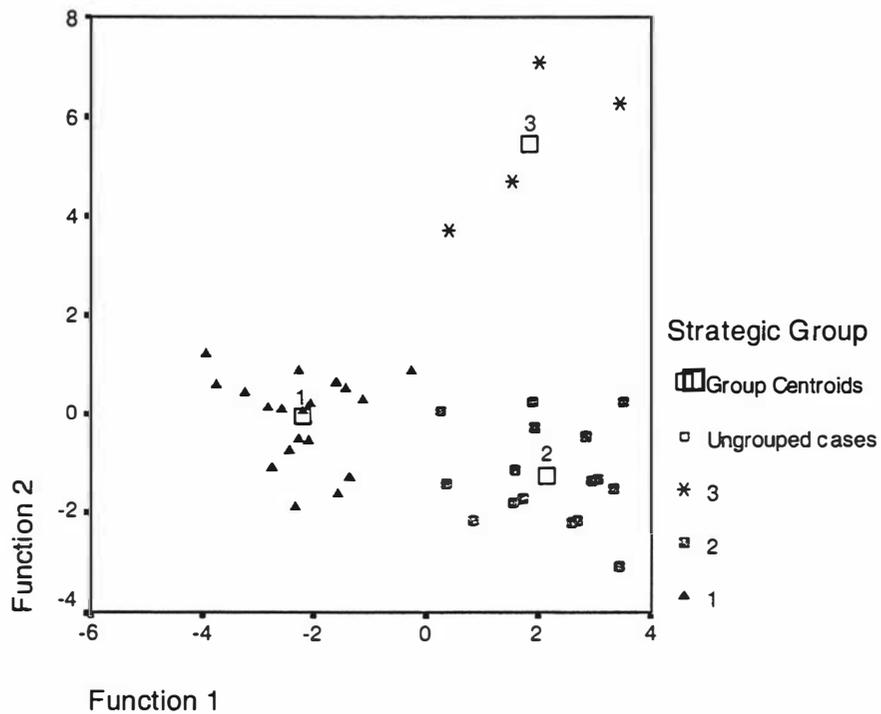
Based on the above two linear combinations of the predictor variables<sup>54</sup> discriminant scores were calculated for each firm. The mean values of each strategic group were referred to as *centroids*. The differences among the strategic groups were interpreted based on the functions at the group centroids. Table 7.5 shows the functions at the group centroids. The first strategic group showed negative group centroid values for both functions, unlike the other two groups. The second strategic group showed the highest

<sup>54</sup> A linear combination of variables shows the weighted sum of the original variables.

group centroid for function one, whereas the third strategic group showed the highest group centroid for function two. Figure 7.4 graphically illustrates the differences across the three strategic groups based on the two discriminant functions.

**Table 7.5**  
**Group Centroid Values with Respect to Two Discriminant Functions**

| Strategic Group | Function |        |
|-----------------|----------|--------|
|                 | 1        | 2      |
| 1               | -2.217   | -0.084 |
| 2               | 2.170    | -1.260 |
| 3               | 1.849    | 5.437  |



**Figure 7.4**  
**Map of Strategic Groups**

These results illustrate that function one clearly discriminates between strategic groups one and two, whereas function two discriminates between strategic groups two and three. Further, the high positive centroid values of strategic group three reveal that the four firms that comprised it are highly associated with both resources and strategy patterns. Therefore, this group can be identified as a highly strategy-oriented group that has a good resource-base. This was also clearly evident from Figures 7.2 and 7.3.

Strategic group two showed the highest group centroid value with respect to function one, which shows that it was significantly different with respect to the variables  $S_2$ ,  $R_3$ ,  $R_1$ ,  $S_1$  and  $R_4$ . However, in terms of function two, strategic group two showed the highest negative value — indicating that it was weak in terms of the variables  $R_2$ ,  $S_5$ ,  $S_3$ ,  $S_6$  and  $S_4$ . As pointed out earlier, strategic group two was highly associated with all the resource patterns, but was weak in terms of  $R_2$ . This could be the main reason for the lower centroid value with respect to function two, which showed a high correlation with  $R_2$ . However, it can be concluded that the sources of competitive advantage of strategic group two were comparatively highly resource-based. The higher positive association of high-grown tea and  $S_2$ , revealed that the sources of competitive advantage of strategic group two were, to a large extent, developed by focusing on the milder tea-preferring consumers. Strategic group one was shown to be the weakest group with respect to function one, but its group centroid value for function two was comparatively higher than that of strategic group two. This could be due mainly to the comparatively higher representation of  $R_2$  by group one as compared to group two.

Overall, the results of the discriminant analysis revealed that there are significant differences across the three strategic groups with respect to resource and strategy patterns. The first strategic group was shown to be the weakest group among the three with respect to resource-based sources competitive advantage, as none of the resource patterns accounted for a positive mean. A comparison of the strategy patterns of the three strategic groups showed that their prominent strategy patterns were different — which illustrated the fact that the strategic focus of the three strategic groups in producing VAT was significantly different. The third strategic group was revealed to be the strongest group with respect to resource and strategy-based sources of competitive advantage. The illustration of highly significant differences across the three strategic groups leads to rejection of the fourth null hypothesis, *there are no significant differences across the strategic groups in terms of their resource and strategy patterns*. Therefore, in this study the alternative hypothesis, *there are significant differences across the strategic groups in terms of their resource and strategy patterns* is accepted.

As the final step of the discriminant analysis, the classification accuracy of the firms was tested. This classifies the cases (firms) into groups based on the predictor variables and enables an evaluation to be made of the extent to which the firms have been

correctly assigned to each strategic group. The group membership predicted<sup>55</sup> by the discriminant analysis could be used in determining the classification accuracy of firms. According to the classification results, 100% of the original cases were correctly classified into three different strategic groups (Table 7.6). But the cross-validation done by the leave-one-out<sup>56</sup> classification method showed that only 92.3% of cross-validated grouped cases were correctly classified. This classified one of the firms in group one in group two, as well as classifying one of the firms in group two in group one. Further, one of the firms from group three also revealed a misclassification, as it had been classified in group one. However, the very high classification accuracy revealed that cluster analysis has classified the VAT producing firms fairly well. This justified the existence of statistically significant groupings within the VAT industry segment of Sri Lanka. Therefore, the third null hypothesis, *there is no significant intra-industry heterogeneity* is rejected. Results support the alternative hypothesis, *there is significant intra-industry heterogeneity*.

**Table 7.6**

**Classification Results Based on the Discriminant Analysis<sup>a,b</sup>**

| Ward Method     |       |   | Predicted Group Membership |       |       | Total |
|-----------------|-------|---|----------------------------|-------|-------|-------|
|                 |       |   | 1                          | 2     | 3     |       |
| Original        | count | 1 | 19                         | 0     | 0     | 19    |
|                 |       | 2 | 0                          | 16    | 0     | 16    |
|                 |       | 3 | 0                          | 0     | 4     | 4     |
|                 | %     | 1 | 100.0                      | 0.0   | 0.0   | 100.0 |
|                 |       | 2 | 0.0                        | 100.0 | 0.0   | 100.0 |
|                 |       | 3 | 0.0                        | 0.0   | 100.0 | 100.0 |
| Cross-validated | count | 1 | 18                         | 1     | 0     | 19    |
|                 |       | 2 | 1                          | 15    | 0     | 16    |
|                 |       | 3 | 1                          | 0     | 3     | 4     |
|                 | %     | 1 | 94.7                       | 5.3   | 0.0   | 100.0 |
|                 |       | 2 | 6.3                        | 93.8  | 0.0   | 100.0 |
|                 |       | 3 | 25.0                       | 0.0   | 75.0  | 100.0 |

<sup>a</sup> 100.0% of original cases correctly classified.

<sup>b</sup> 92.3% of cross-validated cases correctly classified.

<sup>55</sup> According to Coakes and Steed (1999), discriminant analysis uses the raw scores to predict to which group a case should be assigned, and then looks at actual group membership.

<sup>56</sup> Each case in the analysis is classified by the functions derived from all cases other than that case — whereas, the original classification is done by considering all cases.

## **7.6 The Mobility Barriers Across the Strategic Groups**

Even though the analysis detailed above indicated that there are significant differences across the three strategic groups, it has not provided an understanding as to which original variable is significantly different across the three strategic groups. Therefore, in order to identify specific mobility barriers with respect to sources of competitive advantage, mean ranks of the original variables of all the three strategic groups were compared by using the Kruskal-Wallis one-way analysis of variance procedure. Significant differences of the mean ranks were examined by using the significance of the chi-square test statistic. Table A6.11 (Appendix 6) shows the mean ranks of the three strategic groups and their significance level based on the exact significance, which was calculated by using the Monte Carlo method<sup>57</sup>. Further, the variables with a nominal level of measurement were investigated by using the chi-square test. Table A6.12 (Appendix 6) shows the cross-tabulated results of the three groups as a percentage within the group. Similarly, the significance of the chi-square statistic was calculated based on the Monte Carlo method. Both procedures revealed that 13 original variables were significantly different across the three strategic groups. Most importantly, the third strategic group showed the highest mean rank with respect to total number of employees in tea. This was used in the analysis as a proxy to represent the size of the firm. Therefore, this indicated that firms in the third strategic group are, on average, comparatively large firms. This could be the main reason for their higher representation of resource and strategy patterns as compared with the others. Similarly, the empirical analysis by Wolff and Pett (2000) revealed also that larger organisations possess a more broadly developed resource-base. A comparison of the mean ranks revealed that the third group has a number of significantly different core resources and strategies compared with the other two groups. As explained in chapter four, they will act as mobility barriers and restrict the movement of firms from one group to another. These mobility barriers associated with the third strategic group that prevent the

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<sup>57</sup> The Monte Carlo method allows estimation of the exact significance without relying on the assumptions that the data set is reasonably large, and that tables are densely populated and well balanced. If the data set is small, or tables are sparse or unbalanced, either the exact or the Monte Carlo method needs to be used in calculating the significance (SPSS for Windows Release 9.0.1).

movement of firms from the first to the third strategic group can be identified as follows:

1. greater brand awareness represented by VAT production under own brand name,
2. larger firm size represented by the total number of employees,
3. higher number of skilled employees in secondary processing and packaging,
4. higher level of backward integration,
5. higher outward FDI,
6. high perceived competitive advantage,
7. higher level of tea imports,
8. higher level of advertising intensity,
9. higher level of research and development intensity, and
10. higher proportion of brand marketing.

The mobility barriers associated with the third strategic group that prevent the movement of firms from the second to the third strategic group can be identified as follows:

1. larger firm size,
2. greater brand awareness,
3. higher outward FDI,
4. higher perceived competitive advantage, and
5. higher level of research and development intensity.

The mobility barriers associated with the second strategic group that prevent the movement of firms from the first to the second strategic group can be identified as follows:

1. higher number of skilled employees in secondary processing,
2. higher perceived competitive advantage,
3. higher level of backward integration,
4. more importance attached to packaging, and
5. higher proportion of high-grown tea used in VAT.

The first strategic group was significantly associated only with the proportion of exports and years in VAT over strategic group two. Accordingly, it appears that the three existing strategic groups among the VAT producers protected themselves by a number of mobility barriers. However, a greater number of significant differences were seen between the first and the third groups. Of the three groups, the third was shown to be the most highly protected. The majority of these sources of the competitive advantage of group three that act as barriers are important sources in the process of globalisation. Therefore, it can be said that, in general, the four firms in group three are moving along the globalisation process by developing unique resources as well as executing strategies that direct them in achieving a unique position. In this process, the role played by two of the Sri Lankan owned firms could be considered significant in enhancing the competitiveness of the overall tea industry.

Identification of the existence of strategic groups and their mobility barriers is important in explaining competition within the industry. The presence of significant differences in the third group reveals that the competitive threat posed by the first and second groups to the third is relatively weak. The second group was associated with a comparatively higher level of mobility barriers as compared to group one. However, competition between the first and the second groups could be due more to the limited nature and narrowness of the mobility barriers. The greater competition among the majority of the firms is considered to be a positive factor in enhancing VAT production. Even though group two revealed a higher mean rank for the proportion of brand marketing and for VAT production under own brand name over group one, they were not significant. Similarly, the very low representation of brand and cost orientation by these two groups over group three (as illustrated by Figure 7.3) also indicated the greater level of involvement in catering to private brands unlike the group three. This showed that there could be an intense competition between the first and the second groups in securing opportunities to produce VAT under private brands. Further, between-group competition could be influenced also by the consumers targeted in marketing VAT. The analysis showed that the first and the second groups have targeted two different consumer segments in marketing VAT. The first group has targeted mainly the strong and darker tea-preferring consumers, whereas the second has targeted mainly the mild and lighter tea-preferring consumers. If the firms in the two groups continue to serve these same tea-preferring consumers, then between-group competition may not increase.

However, this greater market independence could increase the within-group competition more than the between-group competition especially, in securing opportunities to produce VAT under private brands.

Overall, these results reveal that there are significant differences across the three strategic groups in terms of their representation of sources of competitive advantage. Therefore, the fifth null hypothesis, *strategic groups do not possess significantly diverse mobility barriers* is rejected. As shown by the results obtained in this study, the alternative hypothesis, *strategic groups possess significantly diverse mobility barriers* is accepted.

### **7.7 The Relationship Between Resource and Strategy Patterns**

A canonical correlation analysis was performed by using the package SAS<sup>®</sup> (the Cancorr procedure) in order to assess the relationship between the two perspectives. Thereby, the degree to which the strategy patterns within firms could be accounted for by their resource patterns was examined. This technique was used mainly because the variables that are dependent consisted of more than one variable. The six strategy patterns that resulted from the factor analysis were considered as the dependent variables, and the four resource patterns that resulted from the factor analysis were considered as the independent variables in the analysis. As explained in the methodology, the canonical correlation analysis forms a linear combination of independent (X) variables, as a linear combination of dependent (Y) variables, which are known as *canonical variates*. The patterns of association within, and between, the two sets are important in identifying these linear combinations between two sets of variables. Therefore, it is essential to test the null hypothesis to determine whether or not the two sets of data are unrelated<sup>58</sup>. This was tested by using the test statistic Wilks' Lambda. The Wilks' Lambda value was 0.16 with an *F*-ratio of 2.93. It was significant at the probability level of 0.0001. Therefore, the null hypothesis that *two sets of data are unrelated* must be rejected. This showed that the two sets of data were significantly

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<sup>58</sup> According to Clark (1975, p. 17), the null hypothesis that the two sets of data are unrelated is tested by use of the chi-square. The test statistic is known as *Wilks' Lambda* and is derived from the canonical variates.

related. Since the analysis used two sets of factors as dependent and independent variables<sup>59</sup>, within-set correlation matrices were identity matrices. However, the matrix of intercorrelations between the two sets of variables revealed high positive correlations among few variables (Table 7.7).  $S_5$  and  $R_2$  were highly positively correlated with a coefficient of 0.65 (strategy pattern, global strategy oriented and resource pattern, firm size and brand awareness based). The second highest correlation of 0.41 was seen between the variables  $S_3$  and  $R_3$  (strategy pattern, differentiation oriented and resource pattern, ownership and experience based).

The canonical analysis with 6 dependent and 4 independent variables resulted in four pairs of canonical variates (since the number of variables in the smaller set of data was four, four pairs of canonical variates resulted). The first pair of canonical variates provided the maximum possible correlation and the canonical correlation ( $r_c$ ) was 0.83. This indicated that these two canonical variates were strongly correlated (the  $r_c$  ranges from 0 to +1.0). The other three pairs of canonical variates showed canonical correlations of 0.59, 0.42 and 0.19 respectively. Although four pairs of canonical variates resulted, their importance was considered through the significance of canonical variates. The  $F$ -test results showed that only the first pair of canonical variates was significant at the probability level of 0.0001. Therefore, the interpretation was based only on the first pair of canonical variates. Similarly, the eigenvalues also indicated that only the first pair explains the highest total variance that two sets have in common. The relevant statistics are presented in Table 7.8.

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<sup>59</sup> According to Wollenberg (1977, p. 212), when two sets of factors are used in the analysis the explained variance of the variables in each set is a maximum. According to Levine (1977, p. 34), submitting two sets of factor scores to canonical correlation analysis eliminates the problem of difference between the weights (canonical coefficients) and structure matrix. But the canonical variates will be composites of composites — leading to interpretation difficulties.

**Table 7.7**

**Correlation Matrix - Strategy and Resource Patterns**

|                      | <b>R<sub>1</sub></b> | <b>R<sub>2</sub></b> | <b>R<sub>3</sub></b> | <b>R<sub>4</sub></b> |
|----------------------|----------------------|----------------------|----------------------|----------------------|
| <b>S<sub>1</sub></b> | 0.0712               | 0.1408               | 0.1633               | 0.1450               |
| <b>S<sub>2</sub></b> | -0.0124              | -0.0407              | 0.2523               | -0.1121              |
| <b>S<sub>3</sub></b> | 0.0813               | 0.2935               | 0.4059               | -0.0550              |
| <b>S<sub>4</sub></b> | 0.0325               | 0.1794               | 0.2124               | -0.1312              |
| <b>S<sub>5</sub></b> | 0.0964               | 0.6537               | -0.1737              | 0.1384               |
| <b>S<sub>6</sub></b> | -0.3747              | 0.2778               | 0.1303               | 0.1480               |

As pointed out earlier, both matrices of canonical coefficients and canonical structure<sup>60</sup> were similar as the analysis was conducted by using factor scores. This has avoided problems in interpretation. According to Table 7.8, it is clear that, among the strategy patterns, the variable S<sub>5</sub> (global strategy oriented) has contributed most to the first variate — and it also showed the highest correlation with the variate. The least contribution was given by the strategy pattern S<sub>2</sub> (consumer preference oriented). Similarly, among the resource patterns the variable R<sub>2</sub> (firm size and brand awareness based) has contributed most to the first variate, and it also showed the highest correlation with the variate. The least contributed resource pattern was R<sub>1</sub> (single product-skill based). Initially, this high association was clearly evident from the correlation coefficient of 0.65 between S<sub>5</sub> and R<sub>2</sub>.

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<sup>60</sup> The matrix canonical coefficients show the direct contribution of each variable to the composite, whereas the matrix canonical structure shows the correlation of the original variables with the canonical variates.

**Table 7.8**

**Matrices of Canonical Coefficients<sup>a</sup> and Related Statistics**

|                                       |                      | <b>Y<sub>1</sub></b>             | <b>Y<sub>2</sub></b> | <b>Y<sub>3</sub></b> | <b>Y<sub>4</sub></b> |                                |               |
|---------------------------------------|----------------------|----------------------------------|----------------------|----------------------|----------------------|--------------------------------|---------------|
|                                       | S <sub>1</sub>       | 0.2359                           | 0.1414               | 0.0671               | 0.8470               |                                |               |
|                                       | S <sub>2</sub>       | 0.0016                           | 0.4695               | 0.0101               | -0.1664              |                                |               |
|                                       | S <sub>3</sub>       | 0.4399                           | 0.5810               | 0.2311               | 0.0862               |                                |               |
|                                       | S <sub>4</sub>       | 0.2396                           | 0.3483               | 0.1758               | -0.4742              |                                |               |
|                                       | S <sub>5</sub>       | 0.7319                           | -0.5447              | 0.2775               | -0.1410              |                                |               |
|                                       | S <sub>6</sub>       | 0.3972                           | 0.0642               | -0.9133              | -0.0520              |                                |               |
| % Variance explained by own variables |                      | 16.67                            | 16.67                | 16.67                | 16.67                |                                |               |
|                                       |                      | <b>X<sub>1</sub></b>             | <b>X<sub>2</sub></b> | <b>X<sub>3</sub></b> | <b>X<sub>4</sub></b> |                                |               |
|                                       | R <sub>1</sub>       | -0.0216                          | -0.0234              | 0.9498               | 0.3111               |                                |               |
|                                       | R <sub>2</sub>       | 0.9578                           | -0.1767              | 0.0861               | -0.2096              |                                |               |
|                                       | R <sub>3</sub>       | 0.2328                           | 0.9380               | -0.0539              | 0.2510               |                                |               |
|                                       | R <sub>4</sub>       | 0.1670                           | -0.2972              | -0.2958              | 0.8923               |                                |               |
| % Variance explained by own variables |                      | 25.00                            | 25.00                | 25.00                | 25.00                |                                |               |
|                                       |                      |                                  |                      |                      |                      | <b>Redundancy Coefficients</b> |               |
| <b>Variate</b>                        | <b>r<sub>c</sub></b> | <b>r<sub>c</sub><sup>2</sup></b> | <b>Eigenvalue</b>    | <b>Appro F</b>       | <b>Pr&gt;F</b>       | <b>Y</b>                       | <b>X</b>      |
| 1                                     | 0.829                | 0.687                            | 2.197                | 2.926                | 0.0001               | 0.1145                         | 0.1718        |
| 2                                     | 0.591                | 0.349                            | 0.536                | 1.499                | 0.1244               | 0.0582                         | 0.0873        |
| 3                                     | 0.419                | 0.176                            | 0.213                | 0.948                | 0.4842               | 0.0293                         | 0.0439        |
| 4                                     | 0.192                | 0.037                            | 0.039                | 0.410                | 0.7466               | 0.0062                         | 0.0093        |
| <b>Total</b>                          |                      |                                  |                      |                      |                      | <b>0.2082</b>                  | <b>0.3123</b> |

<sup>a</sup> Standardised canonical coefficients

As pointed out previously, the redundancy analysis is important in determining how much of the variability of one set of variables is explained by the other. The redundancy coefficients were calculated based on the canonical structure in the canonical correlation analysis. Results of the analysis showed that only 17% of the variance of the dependent set of variables (Y) and 25% of the variance of the independent set of variables (X) were captured by the first pair of canonical variates (Table 7.8). The first pair has captured a higher variance from the resource patterns than the strategy patterns in the model. This was evident also from the higher contribution of R<sub>2</sub> to the first pair of

variates - unlike the strategy patterns. However, the redundancy coefficients<sup>61</sup> showed that only a proportion of 11% of the variance in the dependent set was explained by the first variate of the independent set of variables. Over the four solutions, a proportion of 21% of the variance of the dependent set was explained by the four variates of the independent set of variables. This conclusion seems to be intuitively clear and it is further proved by the canonical  $R$ -squared ( $r^2_c$ ). According to Levine (1977), the canonical  $R$ -squared ( $r^2_c$ ) in the redundancy analysis shows the share of the variance of one set which can be accounted for by a canonical variate from the other set, or the proportion of the variance of one variate which overlaps the other. Therefore, the  $r^2_c$  value of 0.687 pointed out that the first variate of the Y set of variables shares 69% of its variance with the first variate of the X set of variables. This showed that, even though the first variate of the Y set of variables captures 17% of the variance of the dependent set of variables, it shares 69% of its variance with the first variate of the independent set. (This also proves that the first variate of the resource patterns explains only 11% of the variance of the strategy patterns). But only the first variate has extracted a considerable share of variance from the dependent set of variables, and in all the other variates the independent set of variables shared the most.

On the whole, the results of the canonical correlation analysis indicated that there is a significant link between the resource and strategy patterns. This was evident from the statistical significance of the first pair of canonical variates. Therefore, the sixth null hypothesis, *there is no significant relationship between the resource and strategy patterns* is rejected. In this study the alternative hypothesis, *there is a significant relationship between the resource and strategy patterns* is accepted. Even though there was a significant link between the resource and strategy patterns, the first canonical variate of the resource patterns explained only 11% of the variance in the strategy patterns. Overall, the resource patterns explained a proportion of 21% of the variance of the strategy patterns of the VAT producing firms in Sri Lanka. However, given the higher contribution of  $S_5$  and  $R_2$  to the first set of canonical variates, it could be said that the relationship between resource and strategy patterns was greatly influenced by strategic group three (only the third group was positively associated with  $S_5$  and  $R_2$ ). It could be pointed out that, in general, for all the three strategic groups, strategy

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<sup>61</sup> These show the proportion of variance explained by the opposite canonical variables.

implementation by the VAT producing firms was weakly explained by the core resource availability of firms. That is, both Sri Lankan VAT producing firms' choice of strategy and their ability to perform a particular strategy are weakly associated with their core resource strength. The implication of this for the analysis of firm performance was that it illustrates the need to assess firm performance through both resource and strategy patterns. Results of the empirical analysis supported the views of Hannes and Fjeldstad (2000) who have raised the matter of importance of incorporating both these perspectives. If the strategy patterns had been highly conditional upon the resource patterns, then the assessment of performance through the strategy-performance relationship would have provided a broader understanding about firm performance. But due to the weaker relationship between strategy and resource perspectives, an integrated approach that combines both RBV and SBV will provide a better explanation of firm performance.

### **7.8 Performance Differences Across the Strategic Groups**

The earlier analysis justified the assertion that there is significant intra-industry heterogeneity within the VAT industry segment of Sri Lanka. The three strategic groups that were evident within the VAT industry segment showed significant differences in terms of their resource and strategy patterns. Similarly, they were all associated with mobility barriers that prevent other firms from entering into that particular group. These significant differences can lead to performance differences across the three strategic groups. Therefore, the Kruskal-Wallis one-way analysis of variance procedure was used in order to identify the performance differences across the three strategic groups. Table 7.9 shows the mean ranks of all the three strategic groups with respect to VAT production and export-related variables. Results indicated significant differences across the three strategic groups. However, only the third group represented significantly different mean ranks with respect to 5 of the variables. All the non-significant variables also showed higher mean ranks with respect to the third group. Therefore, the seventh null hypothesis, *there are no significant differences in firm performance across the strategic groups* is rejected. In this study, the alternative hypothesis, *there are significant differences in firm performance across the strategic groups* is accepted. Similarly, empirical research based on the paint and allied products industry of the USA (Dess & Davis, 1984), the food industry of Finland (Hyvönen & Kola, 1995), and the

health care industry of the USA (Kamalesh, Subramanian & Yauger, 1997) showed intra-industry heterogeneity and revealed significant performance differences across the groups.

The four firms in the third strategic group represented the largest tea bag and green tea producing firms, and the only two instant tea producing firms in Sri Lanka. Further, as explained above, this group also has developed significantly diverse mobility barriers that contribute more to enhancing their performance. Examination of the other two strategic groups revealed that none of the performance indices has significantly different mean ranks. Most importantly, the second group has shown comparatively higher mean ranks for the VAT production-related variables as well as for the export market share for tea bag and other tea exports. The lower level of representation of mean ranks related to VAT export-related variables could be due to the second group's comparatively higher representation of domestic market focus compared to that of strategic group one. Even though significant performance differences were not discernible between the first and second groups, based on the reasons given above, group one is seen as being a comparatively poor performing group compared to group two. Similarly, the empirical analysis by Wolff and Pett (2000) based on small businesses in the USA revealed that the performance of larger organisations was not different from that of the very small firm group.

Of the four firms in the third strategic group, two represented subsidiaries of leading MNCs — Unilevers and Finlays — that play a significant role in the Sri Lankan VAT industry segment. These two subsidiaries are very much involved in VAT production, especially with respect to green and instant tea. Therefore, all the results shown above support the conclusions reached by UNCTAD (1982) that where MNCs partially or fully have the ownership of plantations, possess well-known brand names, other advertising techniques, or have established retail networks, these factors enable them to play a greater role in the tea industries of developing countries. This was clearly evident from the existence of stronger mobility barriers and from the superior performance of strategic group three which represented two of the leading MNCs. Unlike the majority of the Sri Lankan-based firms, these MNCs have well-known brands, vertical linkages with the parent companies, better access to distribution channels and strong promotion budgets which enhance their performance. The other two Sri Lankan-owned firms,

M.J.F. Exports (*Dilmah*) and Imperial Teas (*Impra*<sup>62</sup>) are among the highest VAT producers in the country. *Dilmah*, the largest tea bag producer in the country, has backward integrations with plantations as well as with packaging and printing facilities. Unlike *Dilmah*, *Impra* is focused on all the VAT products except instant tea. Both these 100% Sri Lankan-owned brands have strong brand awareness. Further, as explained earlier, the creation of a number of mobility barriers by these Sri Lankan-based firms has enhanced their performance compared to that of the other Sri Lankan-based firms. Overall, this analysis revealed that the four firms in strategic group three have strong mobility barriers that prevent other firms from entering into the group, and could be the main basis for better performance. These mobility barriers will enable them to have a sustained superior performance over the other firms.

Even though the third strategic group was associated with strong mobility barriers and superior performance, the other two groups had fewer mobility barriers and showed a comparatively lower level of performance. But firms in group two also were associated with few mobility barriers and, as well, showed comparatively higher brand awareness, VAT production intensity and brand marketing — unlike the firms in the first group. Therefore, it could be argued that group two performs better than group one. Similarly, results of the cluster analysis also revealed that a majority of the small and niche market-oriented firms were classified under strategic group two. Some of these niche market-oriented firms were: *Mlesna*, *Telon*, *Qualitea*, *Senok*, and *Tea Tang*. Two of the 100% domestic market-oriented firms, *the Co-operative Wholesale Establishment* and *Burns Philp* were also grouped together in the same strategic group (Figure 7.1). Most importantly, the niche market focus of a majority of the firms in group two would enable them to maintain a stable position within the mass-market oriented VAT producers in the world. The niche market focus of strategic group two was clearly evident from their greater involvement with the other tea production as well as from the existing mobility barriers between the first and the second groups. In addition, its superior representation of higher perceived competitive advantage and the importance attached to packaging in achieving competitive advantage also support the firms' focus in niche marketing.

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<sup>62</sup> *Impra* is the dominant brand.

The first strategic group was found to be associated with the least number of mobility barriers (proportion of low-grown tea used in VAT production and length of experience in VAT production were significantly different from those of group two) and showed a comparatively lesser level of performance in terms of VAT production. According to the cluster analysis, it was clear that the first group consisted mainly of less specialised VAT producers. It also included the two largest tea exporters in Sri Lanka, *Akbars* and *Van Rees*. Even though the firms in group one had few significantly different mobility barriers from those of group two, their comparatively inferior performance could prevent the transfer of firms from group two to group one.

Table 7.9

## Comparison of the Performance Indicators - Kruskal-Wallis One-way Analysis of Variance

| Variable                               | Mean Rank                  |                            |                             | Chi-square | P- value <sup>1</sup> |
|--|----------------------------|----------------------------|-----------------------------|------------|-----------------------|
|  | Strategic Group One (N=19) | Strategic Group Two (N=16) | Strategic Group Three (N=4) |            |                       |
| Tea packet production (Million Kg)     | 18.53                      | 18.94                      | 31.00                       | 4.16       | .124                  |
| Tea bag production (Million Kg)        | 17.26                      | 20.13                      | 32.50                       | 5.94       | .050                  |
| Other tea production (Million Kg)      | 18.16                      | 21.75                      | 21.75                       | 1.02       | .613                  |
| VAT production (Rs. Million)           | 17.58                      | 19.13                      | 35.00                       | 7.87       | .013                  |
| VAT production share                   | 17.63                      | 19.06                      | 35.00                       | 7.85       | .014                  |
| VAT exports (Rs. Million)              | 18.68                      | 18.00                      | 34.25                       | 6.99       | .024                  |
| Tea packet export market share         | 19.53                      | 17.94                      | 30.50                       | 3.95       | .139                  |
| Tea bag export market share            | 17.84                      | 19.63                      | 31.75                       | 4.97       | .085                  |
| Other tea export market share          | 17.95                      | 21.59                      | 23.38                       | 1.34       | .526                  |
| VAT exports market share               | 18.68                      | 18.00                      | 34.25                       | 6.99       | .023                  |
| VAT export market share growth 1998-99 | 19.79                      | 18.25                      | 28.00                       | 2.35       | .315                  |

<sup>1</sup> The exact significance based on the Monte Carlo method, which provides better estimates for small data sets or unbalanced tables.

## **7.9 The Relationships Between Performance and Resource, Strategy and Integrated Patterns**

Even though the existence of a significant relationship between resource and strategy perspectives was supported in this study, results of the canonical correlation analysis revealed a weaker association between the two perspectives. Therefore, as pointed out earlier, this raised the need to assess the strategy-performance as well as the resource-performance relationships. Further, due to this weaker association between resource and strategy perspectives, the relationship between integrated approach that combines both resource and strategy perspectives and performance was considered to be more appropriate in explaining firm performance. Therefore, the relative importance of both resource and strategy perspectives and integrated approach in explaining the performance of VAT producing firms in Sri Lanka was examined by using factor analysis regressions. Four patterns of resources and 6 patterns of strategies created by the factor analysis were considered as independent variables. Three performance indicators were considered as dependent variables. The variables, VAT production share and VAT export market share were selected to represent performance in 1999, whereas the VAT export market share growth was selected to represent performance growth. Analyses were performed based on the stepwise procedure in the software package, Shazam<sup>®</sup>. Further, two dummy variables were incorporated into the models in order to identify the differences across the strategic groups and thereby separate regressions were derived for each strategic group.

Initially, the correlation coefficients between the independent and dependent variables were derived in order to identify the direction and strength of the association between them. Correlation coefficients based on the full set of firms revealed that only two independent variables,  $R_1$  and  $R_2$  were associated with two of the performance indicators and were significant at the probability level of 0.05 (Table A6.13, Appendix 6).  $R_1$  was positively associated with both VAT production share and VAT export market share, whereas  $R_2$  was positively associated only with VAT production share. Strategy patterns revealed a very weak and non-significant association with the performance indices. Similarly, a majority of the independent variables showed very weak and non-significant associations with VAT export market share growth. Further investigations performed based on the strategic group level revealed a number of

significant associations between independent and dependent variables. Tables A6.14 and A6.15 in Appendix 6 show the correlation coefficients with respect to strategic groups one and two. Accordingly, it appears that in strategic group one, both resource and strategy patterns revealed some significant associations with all the performance indicators.  $R_1$  was positively associated with both performance indicators that represented performance in 1999. However,  $R_2$  and  $S_6$  were negatively associated with VAT export market share growth. In terms of strategic group two,  $R_1$  revealed a positive association, and  $S_2$  revealed negative associations, with respect to both the performance indicators that represented performance in 1999. In strategic group two,  $S_3$  was negatively associated with VAT export market share growth. Results clearly showed that the association between resource and strategy patterns and performance indicators varies across the strategic groups. A similar relationship was revealed from the results of the factor analysis regressions as explained below. Since these correlation coefficients assessed the existence of linear associations between dependent and independent variables, the existence of any non-linear relationships was examined by using simple scatter plots. But none of the scatter plots illustrated any non-linear relationships.

As illustrated in chapter five, three models were tested separately for each of the three performance indicators by considering the full set of firms. Each function was tested for its violation of assumptions, linearity and equality of variance. The normality of the residuals was tested by using the Jarque-Bera (JB) test of normality and White's general heteroscedasticity test was used to test the equality of variance. Whenever the normality assumption was deemed to be unsatisfactory, the Y values (dependent variables) were transformed by using log or square root, to see whether the new set of observations was approximately normal (Kleinbaum et al., 1998, p. 46), who also noted that such transformations usually help satisfy both the normality and variance homogeneity assumptions. Further, as pointed out by Gujarati (1995, p. 387) variables that were associated with negative or zero values were transformed by adding a fixed amount in such a way that all the values became positive. The following sections detail the results with respect to the three models that were based on the resource, strategy and integrated resource and strategy perspectives.

### **7.7.1 The Relationship Between Performance and Resource Patterns**

The linear form of the functions of model one with respect to VAT production share<sup>63</sup> ( $Y_1$ ) and VAT export market share<sup>64</sup> ( $Y_2$ ) revealed that none has violated the assumptions, normality and homoscedasticity. Results of the model estimations are presented in Tables 7.10 and 7.11. These revealed that in addition to three variables,  $R_1$ ,  $R_2$  and  $R_3$ , a differential slope coefficient of strategic group two and a differential intercept of strategic group one were significant at the probability level of 0.05. Independent variables in the functions explained proportions of 68% of the variance in the VAT production share and 70% of the variance in the VAT export market share. Further, the individual regressions derived based on the results of model one, which are presented below, revealed that the regressions based on the three strategic groups are significantly different from one another. The linear form of the function based on the VAT export market share growth ( $Y_3$ ) revealed that only the variable  $R_2D_1$  was significant at a probability level of 0.05. But the function has violated the assumptions of normality and homoscedasticity. Examination of residuals revealed two extreme outliers. However, the deletion of these two outlying cases that represented the most negative VAT export market share growth resulted in a non-significant function. Both these deleted observations were from strategic group one. The non-significance of model one based on the performance growth revealed that resource patterns do not significantly explain performance growth.

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<sup>63</sup> JB Normality test - chi-square test statistic (2 DF) = 5.1683  $P$ -value = 0.075

White test (B-P-G) - chi-square test statistic (10 DF) = 4.857  $P$ -value = 0.90052

<sup>64</sup> JB Normality test - chi-square test statistic (2 DF) = 4.1157  $P$ -value = 0.128

White test (B-P-G) - chi-square test statistic (10 DF) = 6.340  $P$ -value = 0.78595

**Table 7.10**

**Factor Analysis Regression Results – Model One: VAT Production Share**

$Y_1 =$  VAT production share

|                               | Coefficient            | Std. Error                          | t-ratio   | p-value         |
|-------------------------------|------------------------|-------------------------------------|-----------|-----------------|
| Constant                      | 1.11                   | 0.34                                | 3.20      | 0.0030          |
| R <sub>1</sub>                | 1.91                   | 0.31                                | 6.13      | 0.0000          |
| R <sub>2</sub>                | 1.48                   | 0.24                                | 6.25      | 0.0083          |
| R <sub>3</sub>                | 0.74                   | 0.26                                | 2.81      | 0.0007          |
| D <sub>1</sub>                | 2.15                   | 0.58                                | 3.72      | 0.0001          |
| R <sub>1</sub> D <sub>2</sub> | -0.68                  | 0.16                                | -4.37     | 0.0005          |
| N = 39                        | R <sup>2</sup> = 0.679 | R <sup>2</sup> <sub>a</sub> = 0.630 | F = 13.95 | p-value = 0.000 |

Where,

R<sub>1</sub> = Single product-skill based, and

R<sub>2</sub> = Firm size and brand awareness based,

R<sub>3</sub> = Ownership and experience based,

D<sub>1</sub> = 1 if a firm belongs to the strategic group one and 0 otherwise, and

D<sub>2</sub> = 1 if a firm belongs to the strategic group two and 0 otherwise.

Strategic group one

$$Y_1 = 3.26 + 1.92 R_1 + 1.48 R_2 + 0.74 R_3$$

Strategic group two

$$Y_1 = 1.11 + 1.23 R_1 + 1.48 R_2 + 0.74 R_3$$

Strategic group three

$$Y_1 = 1.11 + 1.92 R_1 + 1.48 R_2 + 0.74 R_3$$

These three derived regressions revealed that the three resource patterns, R<sub>1</sub>, R<sub>2</sub> and R<sub>3</sub> were significantly important in explaining the variance of the VAT production share in all three individual strategic groups. Strategic groups one and three showed a higher sensitivity to R<sub>1</sub>. Therefore, it can be said that enhancement of the sources of competitive advantage that represented the variable R<sub>1</sub> would enhance a greater proportion of the performance (measured in terms of VAT production share) in strategic groups one and three than in group two. However, the other two resource patterns, R<sub>2</sub> and R<sub>3</sub> showed a similar relationship with VAT production share.

**Table 7.11**

**Factor Analysis Regression Results – Model One: VAT Export Market Share**

$Y_2 =$  VAT export market share

|                               | Coefficient   | Std. Error      | t-ratio     | p-value                  |
|-------------------------------|---------------|-----------------|-------------|--------------------------|
| Constant                      | 0.86          | 0.35            | 2.47        | 0.0187                   |
| R <sub>1</sub>                | 2.17          | 0.31            | 6.87        | 0.0000                   |
| R <sub>2</sub>                | 1.45          | 0.24            | 6.05        | 0.0000                   |
| R <sub>3</sub>                | 0.89          | 0.26            | 3.36        | 0.0020                   |
| D <sub>1</sub>                | 2.54          | 0.58            | 4.34        | 0.0001                   |
| R <sub>1</sub> D <sub>2</sub> | -0.76         | 0.16            | -4.84       | 0.0000                   |
| $N = 39$                      | $R^2 = 0.699$ | $R^2_a = 0.654$ | $F = 15.36$ | $p\text{-value} = 0.000$ |

Strategic group one

$$Y_2 = 3.39 + 2.17 R_1 + 1.45 R_2 + 0.89 R_3$$

Strategic group two

$$Y_2 = 0.86 + 1.41 R_1 + 1.45 R_2 + 0.89 R_3$$

Strategic group three

$$Y_2 = 0.86 + 2.17 R_1 + 1.45 R_2 + 0.89 R_3$$

The relationship between VAT export market share and resource patterns was similar to the relationship between VAT production share and resource patterns. Three derived regressions clearly showed that the sources of competitive advantage that represented three of the resource patterns play a significant part in explaining the variance of the VAT export market share.

**7.7.2 The Relationship Between Performance and Strategy Patterns**

A similar process was undertaken to assess the influence of strategy patterns on the three performance indicators. The linear form of the function of model two with respect to VAT production share and VAT export market share revealed violation of both assumptions, normality and homoscedasticity. Therefore, initially the variable  $Y_1$  was transformed, of which the square root transformation of  $Y_1$  provided the best fit for the

model<sup>65</sup>. Similarly, variable transformations were considered for the function with respect to  $Y_2$ . The function with log transformed  $Y_2$  provided the best fit for the model<sup>66</sup>. As shown by Kleinbaum et al. (1998), the transformation of dependent variables helped to satisfy the assumption of homoscedasticity. Results of the model estimations are presented in Tables 7.12 and 7.13 and show that independent variables explained proportions of only 39% of the variance in the VAT production share and 29% of the variance in the VAT export market share. However, the function based on the performance growth was not significant at a probability level of 0.05 and was examined after deleting two of the outlying cases. The non-significance of model two based on the performance growth revealed that strategy patterns do not significantly explain performance growth.

**Table 7.12**

**Factor Analysis Regression Results – Model Two: VAT Production Share**

$$(Y_1)^{1/2} = (\text{VAT production share})^{1/2}$$

|                               | Coefficient            | Std. Error                          | t-ratio   | p-value         |
|-------------------------------|------------------------|-------------------------------------|-----------|-----------------|
| Constant                      | 1.11                   | 0.12                                | 8.89      | 0.0000          |
| S <sub>5</sub>                | 0.27                   | 0.12                                | 2.12      | 0.0411          |
| S <sub>4</sub> D <sub>1</sub> | 0.94                   | 0.21                                | 4.47      | 0.0000          |
| N = 39                        | R <sup>2</sup> = 0.385 | R <sup>2</sup> <sub>a</sub> = 0.351 | F = 11.26 | p-value = 0.000 |

Where,

S<sub>4</sub> = Exports and quality oriented, and

S<sub>5</sub> = Global strategy oriented.

Strategic group one

$$(Y_1)^{1/2} = 1.11 + 0.27 S_5 + 0.94 S_4$$

Strategic groups two and three

$$(Y_1)^{1/2} = 1.11 + 0.27 S_5$$

<sup>65</sup> JB Normality test - chi-square test statistic (2 DF) = 4.609 P-value = 0.794

White test (B-P-G) - chi-square test statistic (4 DF) = 4.273 P-value = 0.37035

<sup>66</sup> JB Normality test - chi-square test statistic (2 DF) = 1.9307 P-value = 0.381

White test (B-P-G) - chi-square test statistic (2 DF) = 4.628 P-value = 0.09885

These results indicated that in addition to a strategy pattern, a differential slope coefficient of strategic group one was significant at the probability level of 0.05. The individual regressions derived based on model two show that strategic groups two and three represent a similar relationship between strategy patterns and VAT production share. Only the VAT production share of strategic group one was shown to be positively influenced by the strategy pattern S<sub>4</sub>.

**Table 7.13**

**Factor Analysis Regression Results – Model Two: VAT Export Market Share**

$$Ln(Y_2) = Ln(\text{VAT export market share})$$

|                               | Coefficient            | Std. Error                          | t-ratio   | p-value         |
|-------------------------------|------------------------|-------------------------------------|-----------|-----------------|
| Constant                      | 0.88                   | 0.11                                | 8.12      | 0.0000          |
| S <sub>2</sub> D <sub>2</sub> | -0.31                  | -0.08                               | -3.89     | 0.0004          |
| N = 39                        | R <sup>2</sup> = 0.291 | R <sup>2</sup> <sub>a</sub> = 0.271 | F = 15.15 | p-value = 0.004 |

Where,

S<sub>2</sub> = Consumer preference oriented.

Strategic group two

$$Ln(Y_2) = 0.88 - 0.31 S_2$$

The analysis based on the VAT export market share and strategy patterns revealed that only the differential slope coefficient of strategic group two was significant at the probability level of 0.05. Accordingly, it could be said that only the VAT export market share of strategic group two is negatively influenced by the strategy pattern S<sub>2</sub>. In summary, these results revealed significantly different relationships between strategy patterns and performance across the three strategic groups. Further, given the higher negative association of proportion of low-grown tea and S<sub>2</sub>, it could be concluded that sources of competitive advantage developed by targeting dark and strong tea-preferring consumers, rather than focusing on the milder tea-preferring consumers, would enhance the VAT export market share of strategic group two. In general, the analysis revealed a minimal contribution of strategy patterns in explaining performance.

### **7.7.3 The Relationship Between Performance and Integrated, Resource and Strategy Patterns**

The linear form of the functions of model three with respect to VAT production share<sup>67</sup> ( $Y_1$ ) and VAT export market share<sup>68</sup> ( $Y_2$ ) revealed that none has violated the normality and homoscedasticity assumptions. Results of the model estimations are presented in Tables 7.14 and 7.15. The function based on the VAT production share revealed that two resource patterns and a strategy pattern were significant in addition to two differential slope coefficients of strategic group two, and two differential slope coefficients of strategic group one. These independent variables in the function explained a proportion of 81% of the variance in the VAT production share. Examination of the function based on the VAT export market share revealed that two resource patterns and three differential slope coefficients of strategic group two and a differential slope coefficient of strategic group one were significant at the probability level of 0.05. These independent variables in the function explained a proportion of 76% of the variance in the VAT export market share. Further, the individual regressions derived based on the estimations of model three, which are presented below, revealed that the regressions based on the three strategic groups are significantly different from one another. As noted above, the function based on the performance growth was not significant at the probability level of 0.05.

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<sup>67</sup> JB Normality test - chi-square test statistic (2 DF) = 1.1840  $P$ -value = 0.553

White test (B-P-G) - chi-square test statistic (14 DF) = 11.036  $P$ -value = 0.34232

<sup>68</sup> JB Normality test - chi-square test statistic (2 DF) = 1.0219  $P$ -value = 0.600

White test (B-P-G) - chi-square test statistic (12 DF) = 9.912  $P$ -value = 0.62369

**Table 7.14**

**Factor Analysis Regression Results – Model Three: VAT Production Share**

$Y_1 =$  VAT production share

|                               | Coefficient   | Std. Error      | t-ratio     | p-value                  |
|-------------------------------|---------------|-----------------|-------------|--------------------------|
| Constant                      | 2.26          | 0.20            | 11.22       | 0.0000                   |
| R <sub>1</sub>                | 0.59          | 0.23            | 2.54        | 0.0161                   |
| R <sub>2</sub>                | 1.08          | 0.19            | 5.73        | 0.0000                   |
| S <sub>2</sub>                | -0.66         | 0.19            | -3.50       | 0.0014                   |
| R <sub>1</sub> D <sub>1</sub> | 1.94          | 0.44            | 4.37        | 0.0001                   |
| S <sub>4</sub> D <sub>1</sub> | 1.92          | 0.42            | 4.59        | 0.0001                   |
| S <sub>1</sub> D <sub>2</sub> | 0.99          | 0.29            | 3.46        | 0.0016                   |
| S <sub>4</sub> D <sub>2</sub> | -0.37         | 0.16            | -2.33       | 0.0266                   |
| $N = 39$                      | $R^2 = 0.812$ | $R^2_a = 0.770$ | $F = 20.25$ | $p\text{-value} = 0.000$ |

Strategic group one

$$Y_1 = 2.26 + 2.53 R_1 + 1.08 R_2 - 0.66 S_2 + 1.92 S_4$$

Strategic group two

$$Y_1 = 2.26 + 0.59 R_1 + 1.08 R_2 + 0.99 S_1 - 0.66 S_2 - 0.37 S_4$$

Strategic group three

$$Y_1 = 2.26 + 0.59 R_1 + 1.08 R_2 - 0.66 S_2$$

These three regressions revealed that two of the resource patterns positively influence firm performance measured in terms of VAT production share and are consistent across the three strategic groups. As consistent with the model one discussed earlier, strategic group one showed a higher sensitivity to R<sub>1</sub>. But strategic groups two and three demonstrated a similar sensitivity to R<sub>1</sub>. Unlike the resource patterns, strategy patterns were not consistent across the three strategic groups. Only S<sub>2</sub> revealed a negative and a similar influence on firm performance in all the three strategic groups. The strategy pattern S<sub>4</sub> was positively related only with the VAT production share of strategic group one — however, it revealed a negative relationship with the VAT production share of strategic group two. A similar positive relationship of S<sub>4</sub> and the VAT production share of strategic group one was evident from the results of model two. The strategy pattern S<sub>1</sub> was positively related only with the VAT production share of strategic group two. Accordingly, it can be stated that the sources of competitive advantage that represented S<sub>1</sub> positively influence the performance of firms in strategic group two. However, the

sources of competitive advantage that represented S<sub>2</sub> and S<sub>4</sub> negatively influence the performance of firms in strategic group two. Similar associations were evident from the analysis of the correlation coefficients in Table A6.15 in Appendix 6.

**Table 7.15**

**Factor Analysis Regression Results – Model Three: VAT Export Market Share**

Y<sub>2</sub> = VAT export market share

|                               | Coefficient            | Std. Error                          | t-ratio   | p-value         |
|-------------------------------|------------------------|-------------------------------------|-----------|-----------------|
| Constant                      | 2.56                   | 0.26                                | 9.79      | 0.0000          |
| R <sub>1</sub>                | 2.49                   | 0.34                                | 7.41      | 0.0000          |
| R <sub>2</sub>                | 0.93                   | 0.22                                | 4.29      | 0.0002          |
| R <sub>1</sub> D <sub>2</sub> | -1.97                  | 0.36                                | -5.39     | 0.0000          |
| R <sub>4</sub> D <sub>2</sub> | -0.55                  | 0.27                                | -2.04     | 0.0497          |
| S <sub>4</sub> D <sub>1</sub> | 1.79                   | 0.50                                | 3.60      | 0.0011          |
| S <sub>4</sub> D <sub>2</sub> | -1.25                  | 0.32                                | -3.85     | 0.0005          |
| N = 39                        | R <sup>2</sup> = 0.757 | R <sup>2</sup> <sub>a</sub> = 0.711 | F = 16.57 | p-value = 0.000 |

Strategic group one

$$Y_2 = 2.56 + 2.49 R_1 + 0.93 R_2 + 1.79 S_4$$

Strategic group two

$$Y_2 = 2.56 + 2.49 R_1 + 0.93 R_2 - 0.55 R_4 - 1.26 S_4$$

Strategic group three

$$Y_2 = 2.56 + 2.49 R_1 + 0.93 R_2$$

Similarly to the earlier analysis based on the VAT production share, the analysis based on the VAT export market share revealed that two of the resource patterns, R<sub>1</sub> and R<sub>2</sub> positively influence firm performance and are consistent across the three strategic groups. However, R<sub>4</sub> was negatively related only with the VAT export market share of strategic group two. The influence of strategy patterns on VAT export market share was not consistent across the three strategic groups. The strategy pattern S<sub>4</sub> was positively related only with the VAT export market share of strategic group one — however, it revealed a negative relationship with the VAT export market share of strategic group two. The strategy pattern S<sub>4</sub> showed similar relationships with the VAT production share discussed above.

#### **7.7.4 Discussion of the Analysis of Firm Performance**

The earlier analyses illustrated the relative importance of resource, strategy and integrated resource and strategy perspectives in explaining firm performance. Even though all the three models significantly contributed to explaining firm performance, the explanatory power of the model based on the strategy perspective was shown to be weaker than that of the models based on the resource and integrated resource and strategy perspectives. The model based on the integrated perspective revealed a greater explanatory power than that of the models based on the resource and strategy perspectives. Further, the analysis also revealed significant differences across the three strategic groups in terms of the relationship between resource and strategy patterns and firm performance. Even though the results suggested that the performance of different strategic groups is influenced by different strategy patterns, the resource patterns showed a more consistent relationship across the three groups. Further, none of the models explained performance growth. Since the growth was measured over a one-year period, outside factors (for example the Russian Rouble crisis) could have overwhelmed any long-term associations with resources and strategies. This could be the main reason for the non-significance of any of the functions based on performance growth.

Five of the null hypotheses of this study are rejected based on the results which have been discussed above.

1. **H<sub>0</sub>**: Resource patterns do not explain a significant portion of the variation in firm performance measured in terms of VAT production share and VAT export market share.
2. **H<sub>0</sub>**: Strategy patterns do not explain a significant portion of the variation in firm performance measured in terms of VAT production share and VAT export market share.
3. **H<sub>0</sub>**: The integrated model based on the resource and strategy patterns does not explain a significant portion of the variation in firm performance measured in terms of VAT production share and VAT export market share.
4. **H<sub>0</sub>**: The model based on the integrated resource and strategy perspectives does not explain a greater portion of the variation in firm performance than do models based on the individual resource or strategy perspectives.

5. **H<sub>0</sub>**: Resource and strategy patterns show consistent relationships with firm performance across the strategic groups.

Results supported the alternative hypotheses that are presented below.

1. **H<sub>1</sub>**: Resource patterns explain a significant portion of the variation in firm performance measured in terms of VAT production share and VAT export market share.
2. **H<sub>1</sub>**: Strategy patterns explain a significant portion of the variation in firm performance measured in terms of VAT production share and VAT export market share.
3. **H<sub>1</sub>**: The integrated model based on the resource and strategy patterns explains a significant portion of the variation in firm performance measured in terms of VAT production share and VAT export market share.
4. **H<sub>1</sub>**: The model based on the integrated resource and strategy perspectives explains a greater portion of the variation in firm performance than do models based on the individual resource or strategy perspectives.
5. **H<sub>1</sub>**: Resource and strategy patterns do not show consistent relationships with firm performance across the strategic groups.

However, the following three null hypotheses were supported due to the non-significance of any of the models based on performance growth.

1. **H<sub>0</sub>**: Resource patterns do not explain a significant portion of the variation in firm performance growth measured in terms of VAT export market share growth.
2. **H<sub>0</sub>**: Strategy patterns do not explain a significant portion of the variation in firm performance growth measured in terms of VAT export market share growth.
3. **H<sub>0</sub>**: The integrated model based on the resource and strategy patterns does not explain a significant portion of the variation in firm performance growth measured in terms of VAT export market share growth.

Even though these analyses prove that both resource and strategy perspectives are important in explaining the performance of an agribusiness in a developing country, the

resource perspective has outperformed the strategy perspective by explaining a greater proportion of the variance of firm performance. However, as suggested earlier, the application of an integrated approach was shown to be more applicable in explaining firm performance than were the individual perspectives. This was considered to be important given the weaker association between the resource and strategy perspectives.

Overall, the results of the analysis showed that three resource patterns, R<sub>1</sub>, R<sub>2</sub> and R<sub>3</sub> were significantly important to explaining VAT production share, whereas all four resource patterns contributed significantly in explaining VAT export market share. However, only four strategy patterns, S<sub>1</sub>, S<sub>2</sub>, S<sub>4</sub> and S<sub>5</sub> contributed significantly to explaining performance, and they showed both positive and negative relationships with the performances of the three strategic groups. Tables 7.16 and 7.17 illustrate a summary of the resource and strategy patterns that influence the performance of VAT producing firms as well as the original core resource and strategy variables that were associated with the resource and strategy patterns.

The three resource patterns, R<sub>1</sub>, R<sub>2</sub> and R<sub>3</sub> which have positively contributed to explaining firm performance denoted all the six dimensions of sources of competitive advantage that represented the resource perspective. These were scale, skill, brand equity, managerial talent, experience effects and vertical integration. Sources of competitive advantage, skill, managerial experience, size of the firm, brand awareness and backward integration, which represented these dimensions, were revealed to be positively influencing performance. Similarly, as pointed out in chapter four, all these unique advantages would create a competitively advantageous position for a firm and would enable it to achieve superior performance. Therefore, development of these sources of competitive advantage would enhance firm performance. The present analysis with respect to Sri Lanka revealed a negative association with involvement with other businesses in contrast to the theory (Porter, 1980) and some previous empirical research (Harling & Funk, 1987) which have suggested that the multibusiness nature of a firm can act as an important dimension of the competitive advantage that enhances firm performance. Accordingly, it could be said that a greater focus on a single business could be more important than focusing on other businesses in enhancing the performance of VAT producing firms in Sri Lanka. Similarly, the empirical analysis by Hyvönen (1995) also pointed out that differentiation based on fewer but stronger

brands promoted within focused segments would be more profitable than widening the product range. In addition, the variables ownership of a brand name and years in VAT revealed mixed associations with resource patterns. However, although prior research has considered ownership of a brand name as an important strategic asset (Wernerfelt, 1984; Collis & Montgomery, 1995; Haanes & Fjeldstad, 2000), it can be pointed out that it is brand awareness which plays a significant role in enhancing performance — rather than the mere possession of a brand name. Therefore, the ways by which brand loyalty could be enhanced should be given great emphasis. Further, only in the case of strategic group two did the resource pattern  $R_4$  reveal a negative relationship with VAT export market share. Accordingly, it could be said that enhancement of managerial education has a negative influence upon the VAT export market share. Similarly, in chapter six it was revealed that managers with no tertiary education are associated with a higher level of VAT production, which means that managerial experience — rather than the level of education — could be the primary determinant in enhancing VAT production. Even though Nakos, Brouthers and Brouthers (1998) showed that managerial education has a positive influence on firm performance, in terms of the Sri Lankan tea industry this was not evident. The reason for this closer association between managerial experience and VAT production could be due mainly to the managerial skill in tea tasting that is achieved through experience rather than through education.

Overall, the analysis revealed that only four strategy patterns  $S_1$ ,  $S_2$ ,  $S_4$  and  $S_5$  have significantly contributed to explaining firm performance. The relationships between these strategy patterns and firm performance were shown to be different across the three strategic groups. Most importantly, the strategy pattern  $S_1$  (VAT production oriented) showed a positive relationship only with the VAT production share of strategic group two. Accordingly it could be said that the greater recognition of the importance of secondary processing and packaging in achieving competitive advantage, an overall differentiation and quality-based strategies exercise a positive influence in enhancing firm performance. For all three strategic groups,  $S_2$  revealed a negative relationship with performance. This indicates that sources of competitive advantage developed by targeting dark and strong tea-preferring consumers rather than focusing on the milder tea-preferring consumers would enhance firm performance.  $S_4$  showed both positive and negative relationships with performance of the firms in strategic groups one and two respectively. As pointed out earlier, this could be due mainly to differences in market

focus by the firms represented in these two groups. Given the positive relationship between  $S_5$  and performance it can be seen that the enhancement of tea imports, outward FDI in VAT and high-perceived advantage would raise firm performance. Even though prior research and theory, as discussed in chapter four, have given prominence to the brand marketing, advertising and product development strategies of a firm in creating a unique position and meeting competitive challenges, none of these contributed to explaining firm performance.

Table 7.16

## Factors Influencing VAT Production Share

| Strategic Group                           | Resource/Strategy Pattern (Independent Variables)       | Relationship with the Dependent Variable | Original Core Strategy/Core Resource Variable | Nature of the Association with the Resource or Strategy Pattern |
|---|---|--|---|---|
| One                                       | R <sub>1</sub><br>(Single product-skill based)          | +  | Skilled employees in secondary processing     | +   |
|   |   |  | Skilled employees in packaging                | +   |
|   |   |  | Managerial experience                         | +   |
|   |   |  | Involvement with businesses other than tea    | -   |
|   |   |  | Ownership of a brand name/s                   | -   |
|   | R <sub>2</sub><br>(Firm size and brand awareness based) | +  | Total number of employees in tea              | +   |
|   |   |  | VAT production under own brand name/s         | +   |
|   |   |  | Years in VAT                                  | +   |
|   | R <sub>3</sub><br>(Ownership and experience based)      | +  | Backward integration                          | +   |
|   |   |  | Ownership of a brand name/s                   | +   |
|   |   |  | Years in VAT                                  | -   |
|   | S <sub>2</sub><br>(Consumer preference oriented)        | -  | Proportion of high-grown tea                  | +   |
|   |   |  | Proportion of low-grown tea                   | -   |
|   | S <sub>4</sub><br>(Exports and quality oriented)        | +  | Use of trade fairs                            | +   |
|   |   |  | Adoption of the Lion logo                     | +   |
|   |   |  | Proportion of tea exports                     | +   |
|   | S <sub>5</sub><br>(Global strategy oriented)            | +  | Tea imports                                   | +   |
| Outward foreign direct investments in VAT |   |  | +   |   |
| High perceived competitive advantage      |   |  | +   |   |

Table 7.16 Cont....

| Strategic Group | Resource/Strategy Pattern (Independent Variables)  | Relationship with the Dependent variable | Original Core Strategy/Core Resource Variable | Nature of the Association with the resource or strategy pattern |
|-----------------|--|--|---|---|
| Two             | R <sub>1</sub> , R <sub>2</sub> and R <sub>3</sub> | +  | Same as above                                 |   |
|                 | S <sub>1</sub><br>(VAT production oriented)        | +  | Importance attached to secondary processing   | +   |
|                 |  |  | Importance attached to packaging              | +   |
|                 |  |  | Overall differentiation strategy              | +   |
|                 |  |  | Adoption of the Lion logo                     | +   |
|                 | S <sub>2</sub>                                     | -  | Same as above                                 |   |
|                 | S <sub>4</sub>                                     | -  | Same as above                                 |   |
| S <sub>5</sub>  | +  | Same as above                            |   |   |
| Three           | R <sub>1</sub> , R <sub>2</sub> and R <sub>3</sub> | +  | Same as above                                 |   |
|                 | S <sub>2</sub>                                     | -  | Same as above                                 |   |
|                 | S <sub>5</sub>                                     | +  | Same as above                                 |   |

Table 7.17

## Factors Influencing VAT Export Market Share

| Strategic Group             | Resource/Strategy Pattern (Independent Variables)       | Relationship with the Dependent Variable | Original Core Strategy/Core Resource Variable | Nature of the Association with the Resource or Strategy Pattern |
|-----------------------------|---|--|---|---|
| One                         | R <sub>1</sub><br>(Single product-skill based)          | +  | Skilled employees in secondary processing     | +   |
|                             |   |  | Skilled employees in packaging                | +   |
|                             |   |  | Managerial experience                         | +   |
|                             |   |  | Involvement with businesses other than tea    | -   |
|                             |   |  | Ownership of a brand name/s                   | -   |
|                             | R <sub>2</sub><br>(Firm size and brand awareness based) | +  | Employees in tea                              | +   |
|                             |   |  | VAT production under own brand name/s         | +   |
|                             |   |  | Years in VAT                                  | +   |
|                             | R <sub>3</sub><br>(Ownership and experience based)      | +  | Backward integration                          | +   |
|                             |   |  | Ownership of a brand name/s                   | +   |
|                             |   |  | Years in VAT                                  | -   |
|                             |   |  | Proportion of low-grown tea                   | -   |
|                             | S <sub>4</sub><br>(Exports and quality oriented)        | +  | Use of trade fairs                            | +   |
| Adoption of the Lion logo   |   |  | +   |   |
| Proportion of tea exports   |   |  | +   |   |
| Two                         | R <sub>1</sub> , R <sub>2</sub> and R <sub>3</sub>      | +  | Same as above                                 |   |
|                             | R <sub>4</sub> (Professional knowledge based)           | -  | Managerial education                          | +   |
|                             | S <sub>2</sub> (Consumer preference oriented)           | -  | Proportion of high-grown tea                  | +   |
| Proportion of low-grown tea |   |  | -   |   |
| Three                       | R <sub>1</sub> , R <sub>2</sub> and R <sub>3</sub>      | +  | Same as above                                 |   |

## **Chapter Eight**

### **Summary, Conclusions and Recommendations for Strategy**

In this final chapter, a summary and conclusions of the study, recommendations for strategy and suggestions for future research are provided by relating to the objectives set forth in the introductory chapter. The primary objective of this study was to examine the status of the sources of competitive advantage and their influence on the performance of VAT producing firms in Sri Lanka. This was done by incorporating the resource and strategy perspectives of the competitive advantage paradigm. Further, as the secondary objective, the relationship between these two perspectives and their relative importance in explaining firm performance was also examined. In the beginning, the industry and global scenario of the tea industry — especially with respect to VAT — were discussed. This discussion provided the overall background that influences VAT production in Sri Lanka. Specific topics were examined by using multivariate statistical techniques.

#### **8.1 Summary and Conclusions of the Study**

For more than a century, the tea industry has played a dominant role in the economy of Sri Lanka. Its high net foreign exchange earning capability has enabled the country to rely heavily on the tea industry. But, as pointed out in chapter two, the backbone of the tea industry is plantation-based. This base is associated with a number of weaknesses and thus the country has become a high cost producer. Given this scenario, it is highly unlikely that Sri Lanka's tea industry could continue to be competitive while relying on a low-cost strategy. Therefore, positioning itself within the global tea industry as a product differentiator by adding more value to primarily processed tea must be considered as an important strategy to revitalise the Sri Lankan tea industry. A greater emphasis on VAT production can also be considered as a proper strategic focus for the Sri Lankan tea industry given the increasing consumer demand for VAT.

The shifting of emphasis from a simple commodity to VAT production could not only prove to be more productive but could also ensure the profitability of the tea industry. However, to enhance the performance of the VAT industry segment, more effort needs

to be made in strengthening the basis of competitive advantage. The added advantages developed over its rivals are important in order to enable the industry to survive in the market as well as to maintain a superior performance. This can be considered important given the acceleration of globalisation, wherein the Sri Lankan VAT itself will inevitably be subject to fierce competition. Firms play a significant role in developing competitive advantages and collectively, they will strengthen the competitive position of Sri Lanka within the global tea industry. Therefore, the performance of VAT producing firms was examined by incorporating the resource and strategy perspectives of the competitive advantage paradigm.

Both resource and strategy perspectives are individually related to firm performance. But this study has raised the point that there could be an indirect relationship between them. That is, the ownership of unique, imperfectly imitable and rare resources by a firm can influence the superior execution of strategies. Therefore, an analytical framework was developed by incorporating both perspectives as well as their relationship. From previous studies, a number of dimensions of resources and strategies on which firms could base their competitive advantage were identified. Within those dimensions, the VAT industry segment-specific variables that could be considered as sources of competitive advantage for VAT producing firms were identified. In addition, three performance indicators were considered in the study. The analysis was based on data gathered through a questionnaire and secondary data on tea exports. Primary data were gathered from 40 of the 47 value-added tea producing firms registered at the Ceylon Chamber of Commerce in 1999 — a response rate of 85 per cent. Sri Lanka Tea Board statistics on tea exports were used as the secondary data.

Initially, based on the primary information, the characteristics of VAT producing firms were examined. These showed that it is mainly privately owned firms which do VAT production, and that government involvement is minimal. Unlike the government-owned firms, privately owned firms are more outward-oriented and can adopt global strategies in order to be competitive in the market. Therefore, a high level of private involvement can be considered as an important positive factor in enhancing VAT production. Especially, this could be considered in terms of developing more privately owned links between the plantation-base and VAT production. Further, the basic information revealed that there are significant differences among the firms involved in

VAT production. This could be the main reason for the variation in the levels of VAT production, and showed the importance of considering intra-firm differences in examining firm performance.

Most importantly, the discussions held with many firms revealed that they had the capacity to produce more VAT, but were constrained by the limited demand. The main reason behind this is the high level of dependency on overseas intermediaries in proceeding with VAT production. This showed the importance of developing well-established distribution channels and enhancing their brand awareness. Even though 92.5% of the firms owned brand name/s, a majority of the firms were involved in producing a higher proportion of VAT under private brands. Own brand promotion has been seriously hampered by the financial constraints of the firms. This inadequate brand promotion is considered to be one of the main constraints in raising VAT production. Many firms are of the view that at this juncture there should be more government support for promotional activities. However, firm collaboration in joint promotional activities was found to be non-existent. Therefore, given the limited support available from governmental organisations, firm collaboration in terms of promotion, research and in marketing is essential in upgrading the individual — as well as the overall — competitiveness of the industry.

As the next step, multi-method, multivariate statistical techniques were applied to the data that represented VAT industry segment-specific sources of competitive advantage. Sources of competitive advantage that represented the resource perspective were considered as core resources. These core resources were selected based on six dimensions: scale, skill, brand equity, managerial talent, experience effects and backward integration. Sources of competitive advantage that represented the strategy perspective were considered as core strategies. These core strategies were selected based on six dimensions: production, marketing, promotion, product development, quality and competitive strategies. Initially, structures of core resources and strategies were examined by using factor analyses. Results revealed the existence of four distinctive resource patterns and six distinctive strategy patterns. Based on these results, the two alternative hypotheses, *identifiable (1) resource and (2) strategy patterns exist within the VAT industry segment* were accepted. The grouped and standardised variables

that resulted from the factor analyses — that is, resource and strategy patterns — were used in the subsequent analyses.

The existence of strategic groups within the VAT industry segment was examined by cluster analysis. Of the three clustering algorithms, Ward's method was selected as the best algorithm for grouping firms within the VAT industry segment. Results revealed the existence of three possible strategic groups. Similarly, the cross-validation results of the multiple discriminant analysis also showed a very high classification accuracy. Therefore, the alternative hypothesis, *there is significant intra-industry heterogeneity* was accepted. The three groups that were identified were named *private labelling oriented* (strategic group one), *niche market oriented* (strategic group two) and *mass market oriented* (strategic group three) based on the nature of the firms that represented the groups. These three strategic groups were used in the subsequent analyses. Thereby, the heterogeneity within the VAT industry segment was explained.

Differences across these three strategic groups were examined by using multiple discriminant analysis. The two discriminant functions clearly discriminated the three groups. The third group was revealed to be the strongest, and the first was shown to be the weakest with respect to resource and strategy patterns. Due to the existence of significant differences across the three groups, the alternative hypothesis, *there are significant differences across the strategic groups in terms of their resource and strategy patterns* was accepted. Mobility barriers across these groups were examined by using Kruskal-Wallis one-way analysis and chi-square procedures. Results revealed significant differences across the three groups based on their sources of competitive advantage. Therefore the alternative hypothesis, *the strategic groups possess significantly diverse mobility barriers* was accepted. Strong mobility barriers such as possession of skilled employees, brand awareness, proportion of brand marketing, outward FDI, tea imports and research and development intensity were strongly associated mainly by the third group. Even though these sources of competitive advantage can be considered as extremely important in the process of globalisation in meeting a high level of competitive threats, a majority of the firms represented a weaker association. The main reason for this stronger association of a number of important sources of competitive advantage by the third strategic group could have been primarily enhanced due to the representation of larger sized firms in strategic group three. Further,

given the significant differences across these three strategic groups in terms of resource- as well as strategy-based sources of competitive advantage it could be said that it is important to incorporate a mix of variables that combines both the resources and strategies of a firm in strategic group formation.

The relationship between resource and strategy perspectives, or the degree to which the strategy patterns within firms could be accounted for by the resource patterns of those firms, was examined by using canonical correlation analysis. Results revealed a significant relationship between both patterns. This was evident from the statistical significance of the first pair of canonical variates. Therefore the alternative hypothesis, *a significant relationship does exist between the resource and strategy patterns* was accepted. The analysis revealed that the existence of a significant relationship between both patterns was enhanced by two of the variables that were highly positively associated with strategic group three. Even though there was a significant relationship between resource and strategy patterns, resource patterns explained only 21% of the variance of the strategy patterns. This result indicated that both Sri Lankan VAT producing firms' choice of strategy and their ability to perform a particular strategy are weakly associated with their core resource strength. Due to this weak relationship between strategy and resource perspectives, an integrated approach that combines both resource and strategy perspectives was considered more appropriate in explaining firm performance.

Performance differences across the three existing strategic groups were examined by using the Kruskal-Wallis one-way analysis of variance procedure. Results revealed significant performance differences between strategic group three and other two groups. However, no significant performance differences between the other two groups were apparent. Based on these results, the alternative hypothesis, *there are significant differences in firm performance across the strategic groups* was accepted. As pointed out earlier, strategic group three is strongly associated with a number of important sources of competitive advantage — unlike the other two groups. This could be the main reason for the significantly high performance of group three. The creation of a number of strong mobility barriers by strategic group three that prevent other firms from entering into the group are considered as the main basis for better performance compared to that of the other groups.

Results of this study revealed a weak association between resource and strategy perspectives. Therefore, the relative importance of resource and strategy perspectives as well as an integrated approach that combines both perspectives was used to explain the performance of VAT producing firms in Sri Lanka. This was examined by using factor analysis regressions. Strategic group differences were examined by incorporating two dummy variables. Results revealed that all three models based on the resource and strategy perspectives and the integrated approach that combines both perspectives have significantly contributed to explaining firm performance. Therefore, the two alternative hypotheses, *(1) resource and (2) strategy patterns explain a significant portion of the variation in firm performance measured in terms of VAT production share and VAT export market share* as well as the alternative hypothesis, *the integrated model based on the resource and strategy patterns explains a significant portion of the variation in firm performance measured in terms of VAT production share and VAT export market share* were accepted. The explanatory power of the model based on the strategy perspective was shown to be weaker than that of the models based on the resource and integrated resource and strategy perspectives. Further, the model based on the integrated resource and strategy perspective was shown to have a greater explanatory power than that of the models based on the individual resource or strategy perspectives. Based on these results, the alternative hypothesis, *the model based on the integrated resource and strategy perspectives explain a greater portion of the variation in firm performance than do the models based on the individual resource or strategy perspectives* was accepted. Therefore, this study demonstrates the importance of incorporating both resource and strategy perspectives in explaining firm performance.

None of the models explained VAT export market share growth. Therefore, the two null hypotheses, *(1) resource and (2) strategy patterns do not explain a significant portion of the variation in firm performance growth measured in terms of VAT export market share growth* and, *the integrated model based on the resource and strategy patterns does not explain a significant portion of the variation in firm performance growth measured in terms of VAT export market share growth* were supported by the study. The non-significance of any of the functions based on performance growth was considered to be due mainly to the outside factors that could have overwhelmed any long-term associations with resources and strategies. Derived regressions of the three strategic groups revealed that resource patterns have more consistent relationships with

performance across the groups than do strategy patterns. Based on these results, the alternative hypothesis, *resource and strategy patterns do not show consistent relationships with firm performance across the strategic groups* was accepted. These differences in sensitivity to resource and strategy patterns indicated that changes in the sources of competitive advantage would result in different performance outcomes in the three strategic groups. These differences within the VAT industry segment reveal that any assistance programme aimed at developing sources of competitive advantage and thereby enhancing firm performance should be created by considering strategic group differences.

The analyses also illustrated a number of sources of competitive advantage that have significantly contributed to explaining firm performance. All the resource-based sources of competitive advantage have significantly contributed to explaining firm performance but not all the strategy-based sources of competitive advantage. Even though a firm's brand marketing, advertising, research and development, VAT production intensity and high-perceived competitive advantage could be considered important in creating a unique position and meeting competitive challenges, none of these has significantly contributed to explaining firm performance. The main reason could be the low variation in these sources of competitive advantage where a majority of the firms revealed a very low level of association.

On the whole, the analyses in this study revealed the heterogeneity of VAT producing firms in the VAT industry segment of Sri Lanka. A majority of the firms were significantly weakly associated with the sources of competitive advantage. Only the third group — which represented four firms — was strongly associated with a number of sources of competitive advantage. But two of these firms were subsidiaries of larger MNCs, Unilevers and Finlays, whose competitive threat is exerting serious pressure on Sri Lankan-owned firms. Given this scenario, the future survival of Sri Lankan VAT producers seems to be extremely uncertain — unless they can agree upon a proper strategic focus in developing their basis of competitive advantage. Therefore, recommendations were made in order to develop and strengthen the sources of competitive advantage among the VAT producers of Sri Lanka.

The development of a stronger basis of competitive advantage is extremely important in enabling the VAT producers to overcome the increasing competitive pressures. Collectively they could raise the competitiveness of Sri Lanka within the global tea industry. However, the creation of competitive advantage by firms is also influenced by the environment in which they act. As discussed in chapter three, by using the competitiveness diamond of the VAT industry segment, it can be demonstrated that the determinants of the Sri Lankan VAT industry segment's competitive advantage are less favourable — especially in terms of the related and supporting industries, strategy, structure and rivalry and demand conditions. Therefore, in order to strengthen the basis of competitive advantage of the VAT producers — and thereby to enhance VAT production — the strategy recommendations should be broadly targeted in developing the overall competitiveness of the Sri Lankan VAT industry segment.

## **8.2 Recommendations for Strategy at Different Levels**

Assessment of the performance of VAT producers raises a number of implications for strategy at different levels. These VAT producers are not working in isolation. An individual firm's decisions are greatly affected by its own, as well as by the external, environment. Therefore, the strategies formulated at industry, VAT industry segment and firm level could play an important role in strengthening competitive advantage. Figure 8.1 shows the strategic tasks at different levels that could contribute to strengthening the sources of competitive advantage of the VAT producers. In this process, the role of government is seen as significant, especially in creating a favourable environment for firms. However, firms are responsible for developing the strong and sustainable competitive advantage that leads to superior performance. Following sections briefly discuss the environment that influences the strategic decision-making process of firms and the considerations of individual firms in developing a stronger basis of competitive advantage.

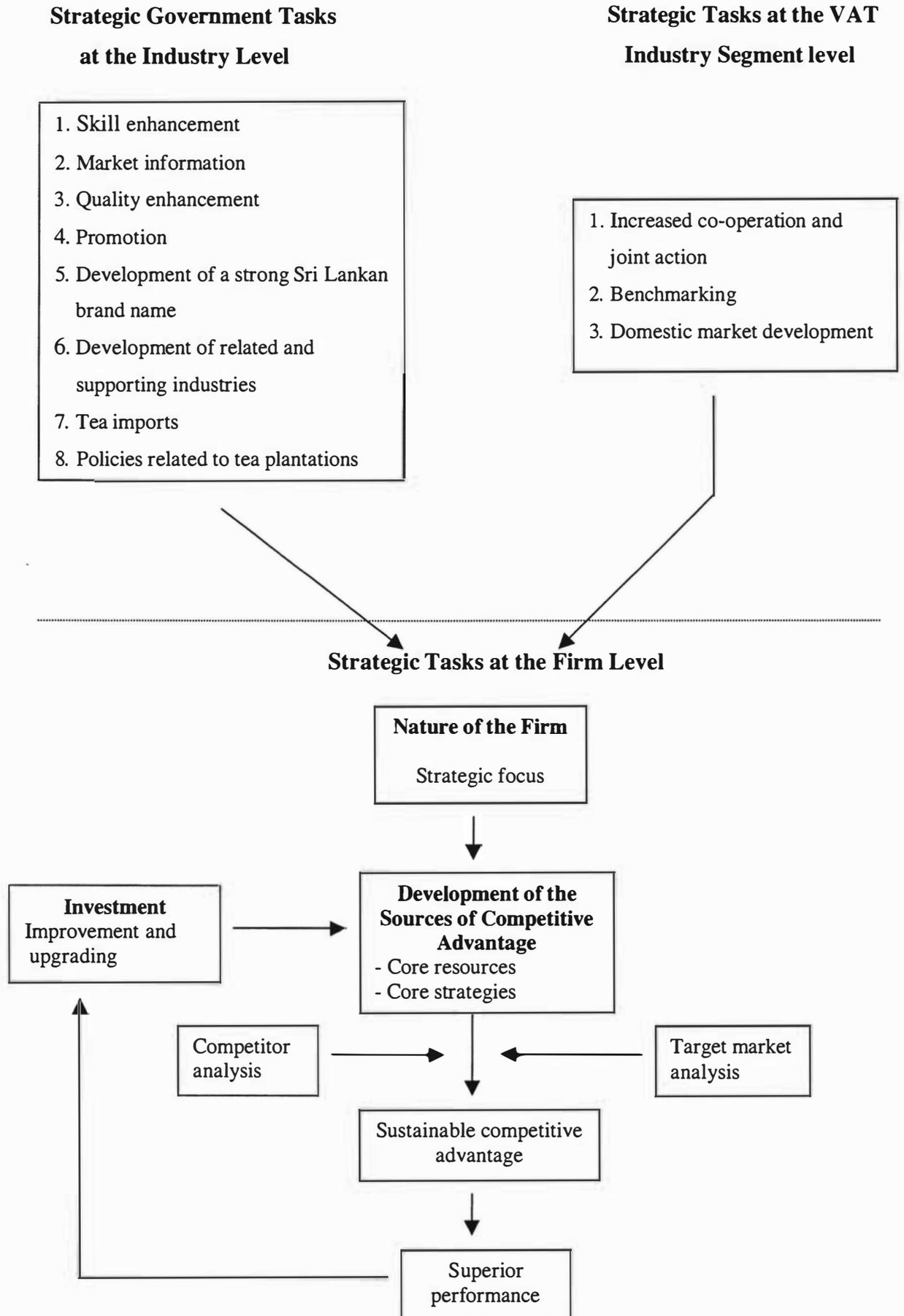


Figure 8.1 Strategic Tasks at Different Levels

### **8.2.1 Strategic Government Tasks at the Industry Level**

Even though the country has recognised the need to enhance the competitiveness of the tea industry, its lack of a long-term strategic plan is serious — and leads to ad hoc policy decisions. As shown in chapter three, this instability of policy decisions adversely influences the investment decisions of the VAT producers. Therefore, it is essential to develop a strong and stable strategic plan to address how the national level strategies are targeted to meet the increasing competitive pressures and thereby to achieve competitive success. From their knowledge of the underlying policy directions, firms will then be able to anticipate future policy changes. Similarly, the VAT producing firms in Sri Lanka who are at the factor-driven stage of development need more support in order to successfully compete against other global players in the industry. Extended support by the government could be significant in their shifting from a factor-driven to an investment-driven stage of development. Therefore, a number of issues raised in the study that need further emphasis are briefly discussed below.

**1. Skill enhancement** – Even though the managers interviewed had a high level of experience in tea-related activities, many lacked management and marketing skills. A majority of the firms were small-scale and had difficulties in employing well-qualified personnel. Therefore, the development of targeted initial education programmes is extremely important given the poor level of awareness of global marketing and management skills on the part of the managers. These programmes could support the enhancement of the skills of the managers and employees of the firms in order to enable them to move with changing global conditions. Increasing the awareness of managers about global marketing, competition, and the need to develop strong competitive advantage is considered essential in developing their ability to think strategically. This should be achieved in the short-term by arranging seminars and workshops with the assistance of international marketing and managerial experts. Further, employee skill enhancement needs to be arranged through training programmes and workshops specifically targeting the VAT industry segment. However, although these short-term programmes could contribute greatly to improving the present situation, long-term national level strategies should be targeted at improving the business skill enhancement programmes of the country. Even though a number of universities offer advanced management-oriented higher degree programmes, there is a lack of intermediate level

management-oriented programmes. Therefore, diploma, vocational training and polytechnic training programmes need further improvement for persons with academic — as well as non-academic — qualifications.

**2. Market information services** – Currently, the Commissioner's Department of the Tea Board is responsible for the collection of data. However, the available information is neither adequate, accurate nor timely. In addition, there is no market information dissemination centre specific to tea, and even local market information is not readily available. Therefore, the development of a market information centre for providing information to the VAT producers with respect to problems in the foreign markets, consumer tastes, the types of tea required, packaging needs and overseas inquiries is very important. This will enhance the strategic planning process and the overall competitiveness of firms. Even though a number of previous studies (Sri Lanka Export Development Board, 1990; Kelegama et al., 1995) have raised the need to establish a market information centre, no action has yet been taken. At present, some organisations such as the Chamber of Commerce, Federation of Chambers of Commerce and Industry and Export Development Board provide a certain level of information about foreign markets to the exporters. But this study revealed that only about 30% of the firms have obtained such organisational assistance in seeking new markets. Therefore, along with providing a specific information centre for VAT producers, it is important to educate the firms in locating available information and advisory services.

**3. Quality enhancement** – Information gathered from the VAT producers revealed that 70% have used the Lion logo in their VAT. Further, the analyses revealed that adoption of the Lion logo has had a positive influence in enhancing firm performance. The Lion logo acts as the key symbol in promoting tea for quality-conscious consumers. Therefore, it appears to this researcher that the present quality certification by the Sri Lanka Tea Board is very important in enhancing the overall competitiveness of the VAT producers, and should be continued. This high quality control programme helps to promote Sri Lankan tea as a mark of quality. The development of a good reputation for the quality and reliability of Sri Lankan tea as against the other producers has the potential to create an overall competitive advantage for Sri Lankan VAT producers, and could directly influence the enhancement of consumer loyalty. But in order to achieve

this, there should be a strict monitoring process and action should be taken against producers for displaying the Lion logo without permission.

This study has not incorporated either the quality of retail packaging or ISO standards. But it is clear that more effort needs to be made in strengthening the quality standards of VAT in Sri Lanka. Although the Sri Lanka Standards Institution has developed specifications for tea chests and sacks, proper guidelines and standards need to be developed for retail packs. The quality of packing is very important in trade promotion where there is strong competition in obtaining shelf space in supermarkets. Therefore, the Sri Lanka Tea Board needs to develop and implement a quality control programme for packaging of VAT similar to that which operates for tea. Similarly, given the high level of concern about phyto-sanitary requirements for all food items, there is a need to adhere to at least the ISO 9000 standard for tea production at all levels. Therefore, it is important to provide more support to enable producers to obtain ISO 9000 or ISO 9002 certification. Such support should be extended by educating managers about the necessity of obtaining quality certifications, and by providing funds to enable them to do this.

**4. Promotion** – With a few exceptions, almost all the VAT producers were small and medium-scaled and had a serious lack of financial strength in promoting VAT products under their own brand name. In this context, government could play a considerable role in assisting VAT producers to increase their brand awareness. Even though the Tea Promotion Bureau provides a varying level of contribution to exporters, a majority of the small-scale producers are excluded under the present criteria for promotional assistance. Due to this inadequate assistance and high promotional expenditure, many VAT producers move away from brand marketing and continue to produce VAT under private brands. Therefore, there should be a promotional assistance programme targeted at small-scale producers for improving their brand awareness. The identified strategic groups and their mobility barriers provide a useful insight for industry level strategy makers in developing targeted VAT production enhancement programmes in order to upgrade their sources of competitive advantage.

**5. Development of a strong Sri Lankan owned brand name/s** – As pointed out in chapter six, at present a higher proportion of VAT is produced under private brands.

Unlike brand marketing, this shows a lower stage of development in international marketing and producers tend to compete solely on price. In this process of price-based competition, VAT producers' competitive price cutting behaviour could greatly affect the overall industry. Therefore, there is a need to focus industry-level strategy on improving the present condition of the VAT producers. Development of a strong national brand name/s for major markets could be considered as an alternative to the targeted promotional assistance scheme which has been discussed previously.

The analyses in this study pointed out that a greater focus on dark and strong tea-preferring consumers, rather than on the milder tea-preferring consumers would enhance firm performance. Therefore, as a starting-point, development of a strong national brand name for the dark and strong tea-preferring consumer segment is considered to be an important step. This will help mainly to capture a greater share of the marketing margin from VAT exports rather than from marketing VAT under private brands. Further, this will also help to achieve economies of scale. Given the inadequate promotional budget of the Tea Promotion Bureau, the channelling of all funds to the development of strong national brand/s for major markets — rather than dividing them among a number of exporters — is recommended as an alternative strategy.

**6. Development of related and supporting industries** – As discussed in chapter three by using the competitiveness diamond, the related and supporting industries of the Sri Lankan VAT industry segment are weak. A majority of the inputs — such as tea bagging machines, packing material, flavours, filter paper and the like — that are used in VAT production are imported. Therefore, the strategy at the national level should be targeted at encouraging investments in related and supporting industries in Sri Lanka through Board of Investment assistance. Most importantly, printing and packaging facilities are on the increase where several VAT producing firms have initiated backward linkages with the printing and packaging industry. Similarly, the national level strategy should be targeted to provide necessary support for the newcomers and to create a competitive environment among the suppliers. The creation of such a favourable environment will pave the way for more new investments. Further, greater emphasis needs to be given to facilitating business access to capital needs by developing more small and medium-scale enterprise assistance schemes. At present, small and

medium-scale firms are at a greater disadvantage due to the limited availability and high cost of capital.

**7. Tea imports** – The present study raised the matter of the significance of tea imports in enhancing the performance of VAT producers. However, the granting of permits to import tea has changed markedly over the years and has become a highly controversial issue within the tea industry. This has created much uncertainty for new investments. There is no assurance of the stability of policy regarding tea imports. This has eroded a vast potential for the enhancement of Sri Lankan VAT production. Therefore, policies need to be stable in order to attract new investments from MNCs as well as from local investors, especially as tea imports enable VAT producers to have low priced teas as well as teas with varying tastes — which is most important for meeting buyers' demands. However, the main concern behind tea imports is the future viability of the plantation-base, and there is great pressure especially from plantation-owners to restrict tea imports. Even though this is a highly controversial issue, the first study on the implications of tea imports for the country was undertaken only in the year 2000 by the Institute of Policy Studies and has not yet been published. Therefore, based on the policy recommendations, a stable and healthy environment needs to be created.

**8. Policies related to tea plantations** – The analyses revealed that the VAT producing firms' backward integration with the plantation-base — which was initiated along with the privatisation scheme — has positively contributed to the enhancement of firm performance. This was considered to be one of the most significant policies implemented in increasing efficiency and decreasing the cost of production of primarily processed tea. Similarly, after the privatisation scheme a number of steps in terms of plant stock, labour and managerial improvements were taken. Further, the discussions held with the managers revealed that they have used this link as a key theme in their promotional efforts. Since the backward integration of a firm creates a unique position for the firm, it tends to continually improve its plantation-base in order to maintain it. This is very important for the enhancement of the efficiency of the plantation-base. Therefore, more assistance needs to be provided to enable local VAT firms to extend their links with the plantation-base. Most importantly, the future of the management companies needs to be assured through stable policies and credit facilities in order to improve the present condition of the plantations.

In general, the availability of low priced and high quality orthodox — as well as CTC — tea is important in enhancing the performance of VAT producers. But, as pointed out in chapter two, the plantation-base needs a significant improvement to enable it to achieve this goal. In order to reach this goal, the country has formulated and implemented a medium-term investment plan for the development of the plantation-base — although nothing has been done about the marketing and promotion of VAT. But these industry-level strategies need to be implemented effectively and strengthened in order to overcome the problems that are associated with the plantation-base. Similarly to tea imports, the other controversial issue related to tea plantations is the improvement of CTC tea production facilities. Improved local availability of CTC tea is important, given the greater emphasis on tea bag production and its fast growth. At present Sri Lanka contributes less than 10% of its total tea production as CTC tea — whereas her competitors are mainly CTC tea production-oriented. Therefore, it is most important to initiate a policy study similar to that for tea imports, and industry-level strategies should be developed accordingly.

### **8.2.2 Strategic Tasks at the Value-Added Tea Industry Segment Level**

This study pointed out the existence of three distinct strategic groups among the VAT producers based on the firms that were registered at the Chamber of Commerce in Sri Lanka in 1999. Two strategic groups that represented a majority showed a comparatively lower level of sources of competitive advantage than did the third, which comprised only four firms. Therefore, the results of this study raised the need to address the question of how the sources of competitive advantage could be enhanced, and to direct attention towards sustainable competitive advantages. As explained above, strategies developed at the industry level could have a significant influence in creating a favourable environment for VAT producers. Similarly, VAT producing firms as a group have a certain level of potential in strengthening their individual position. Some important issues that need more emphasis are discussed below.

**1. Increased co-operation and joint action** – Most importantly, the discussions held with firms revealed that co-operation and joint action among VAT producing firms were very weak. Given the small size of the majority of the firms, co-operation and joint action could play an important role in the activities that need economies of scale.

Thereby, they could strengthen their bargaining power and enhance their competitiveness. As pointed out in chapter three, many previous studies also have concluded that joint action has contributed to the enhancement of both firm performance and competitiveness. Therefore, it is important to recognise the advantages of collaboration amongst firms. Creation of awareness of the necessity for greater inter-firm co-operation could be achieved by either seminars or programmes initiated at the industry level, or by initiatives developed by the firms themselves. This of the utmost importance, given the limited support afforded by government organisations.

Firms as individual strategic groups, or as a collection of a few firms, could identify common problems and resolve them through joint action. Especially, collaboration among firms must be considered a crucial factor in overcoming the negative influences that are created by producing VAT under private brands. According to the analyses in this study, firms in group one were targeting mainly the strong and darker tea-preferring consumers — whereas the firms in group two were targeting mainly the mild and lighter tea-preferring consumers. The focus on consumers with similar preferences, along with a relatively high level of VAT production under private brands by the firms in these two groups, tends to increase within-group rivalry. As a result there is an increased possibility of competitive price-cutting and misconduct by the firms in obtaining an opportunity for producing VAT under private brands. This was clearly evident among the VAT producers of Sri Lanka, especially in catering to the highly price-conscious intermediaries. Some intermediaries take advantage of this competitive price cutting behaviour and at present this has become a serious problem among VAT producers. Therefore, firms should take joint action in developing a minimum price scheme for VAT that they offer to different intermediaries who request VAT to be produced under their own private brands. This would increase the benefits gained by VAT producers and — even more importantly — would help to maintain the quality of VAT.

**2. Benchmarking** – The strategic groups that were formed in this study can be used in answering two basic questions about firms. Firstly, what are the weaknesses or advantages that a firm has compared with those of its main rivals? Secondly, how can a firm improve its performance over others? Benchmarking could be considered as the most important process in answering these questions, and could be achieved by benchmarking between relatively high-performing firms both within a group and

between groups. Similarly, for mature groups such as strategic group three, it is important to benchmark against international firms that act as their main rivals. This would primarily reveal the strengths and weaknesses of a given firm compared with its closest rivals so that appropriate strategies could be undertaken in order to overcome weaknesses and to strengthen advantages. Further, benchmarking could be considered as an important process in raising awareness of the necessity for stronger efforts to build competitive advantages. Therefore, the arranging of seminars for training about benchmarking and increasing involvement in benchmarking needs to be actively pursued.

**3. Domestic market development** – Basic information gathered from the VAT producers revealed that, except for three firms, all were highly focused on the export market. Both government-owned VAT producing firms showed a fully domestic market orientation. As pointed out in chapter two, country's lower level of per capita consumption is not well specialised and the demand is primarily for loose tea. Therefore, a greater focus on enhancing the domestic consumption of tea could be considered as an important factor in achieving competitive success for the tea industry, along with enhancing the export market. The development of buyers who demand quality VAT within the domestic market would provide a strong incentive for innovations by the VAT producers as well as an alternative market to the export market.

### **8.2.3 Strategic Tasks at the Firm Level**

Superior performance by a VAT producing firm is determined partly by the environment surrounding it, and partly by the internal environment of the firm. In the two sections above, some of the implications for strategies needed to strengthen the environment surrounding an individual VAT producer were discussed. However, the individual VAT producing firm is primarily responsible for creating sources of competitive advantage and directing these in achieving a superior performance. In this process, a few issues that need more emphasis are diagrammatically represented in Figure 8.1 under "strategic tasks at the firm level". These broader issues that are important in creating strong and sustainable competitive advantage are briefly explained below.

As demonstrated earlier, a majority of the VAT producers are targeted more towards producing VAT under private brands and are less conscious of the need to develop competitive advantage. The discussions held with firms revealed that their main intention is to develop a product that is specified by the buyer, and many compete solely on price. A majority of the firms mentioned weaknesses of the environment in which they act, and pointed to those as being the main problem in developing a unique product. Proper strategic thinking could play a greater role in developing and strengthening unique advantages of firms that enhance performance. High levels of uncertainty of the VAT producers in producing VAT under private brands may be the main reason for the poor strategic focus of these firms. Since the strategic thinking process is initiated at the managerial level, they should recognise the need to enhance managers' awareness of, and knowledge about, the importance of the strategic management of their firms. Most importantly, changing the attitudes, values and beliefs of the managers is vital — as these directly influence the context within which their knowledge and expertise are applied.

In this process a greater awareness of the environment in which they act is necessary in establishing a correct strategic focus. As an initial step, a firm should develop a strong and challenging strategic vision, which identifies what it is going to achieve in the future. Most importantly, a firm needs to have a strategic plan which shows how this target can be achieved by using its available financial, technological, physical, human and organisational factors. This will enable a firm to identify the sources of competitive advantage that are necessary in competing successfully against its rivals. Similarly, this study revealed a weaker relationship between core resources and strategies and raised the matter of the greater importance of other internal factors in determining the strategy-based sources of competitive advantage. Therefore, a firm should have a proper strategic focus and a plan in order to identify how its available resources can be directed in creating sources of advantage in realising its vision. In this process, a firm needs to continually validate its strategic plan and should undertake appropriate changes.

Even though a firm develops sources of competitive advantage, these will not become actual competitive advantages unless they are unique to a firm. Therefore, firms should be strategically focused in identifying the possibilities of achieving a unique position. However, in creating sustainability of these advantages firms should incorporate

knowledge about their target markets and competitors in the strategic planning process. The assessment of the target market is important in order to have a proper customer orientation. Therefore, production strategies should be planned after assessing basic issues regarding the target market. Primarily, a firm should answer two basic questions in meeting consumer demands. Firstly, who is going to be served/which segment? and secondly, what benefits to provide? These will provide an understanding about the type and quality of tea as well as the standards of tea and packaging demanded by the consumers in the target market which, in turn, will enable a firm to pursue production strategies that direct it in producing a unique consumer-oriented product.

Along with that it is important to assess the policies and possible changes within the target market. Unlike the domestic market-oriented firms, the export market-oriented firms have to face higher tariff rates for VAT than for bulk tea. Therefore, this will create the need to incorporate outward FDI and joint ventures into their strategic planning process. Similarly, a firm needs to assess the competitors present in the target market. In terms of competitor assessment, a firm needs to assess the presence and size of the competitors, the quality and types of products served, and the existing basis of competitive advantage/entry barriers as well as possible newcomers and their advantages. The assessment of the target market in a broader perspective provides a better understanding of how a firm can convert its sources of competitive advantage into unique and sustainable advantages. A comprehensive analysis of the target market is important in developing the strategic plan where it provides the answers to the following questions:

1. How can a firm compete?
2. Does a firm need to look for a niche market?
3. If so, how can a firm develop barriers to imitation by using sources of advantage?
4. Can a firm develop a cost-effective competitive advantage which will enable it to achieve a performance superior to that of its rivals?

These basic concepts are crucial in the process of developing sustainable competitive advantages and thereby achieving a superior performance. This process should not be a final process. Firms need to upgrade and improve their sources of competitive

advantage through investments in order to sustain the unique positions achieved. Further, this whole process needs continual evaluation and adjustments in order to meet rival actions.

### **8.3 Suggestions for Future Research**

The following suggestions are made based on the outcomes of this research and from its limitations. Even though the tea industry dates back more than 100 years, the fact that it still lacks a database with respect to VAT production is serious. The database of the International Tea Committee has data pertaining only to primary tea manufacturing. This has created a serious limitation in conducting an empirical study of the VAT industry. Similarly, within Sri Lanka — except for tea exports — there are no databases regarding VAT producers. Given this serious weakness there is a necessity to create a database with respect to VAT in order to enhance future research opportunities.

This researcher is not aware of any previous studies that have applied the competitive advantage paradigm to the Sri Lankan VAT industry segment. Therefore, this study provides an initiation into research based on the competitive advantage paradigm. However, the main limitation was the small number of firms that were engaged in VAT production in 1999. Further, due to lack of time series data on the sources of competitive advantage of firms and performance growth were considered during the period 1998 to 1999 only. Although it is theoretically more desirable to examine the performance growth over a longer period, it was possible to consider performance growth during one year only in this study.

Although, in this study, the dimensions of sources of competitive advantage were identified from the existing literature, only very few firms were strongly associated with a majority of the sources of competitive advantage. In addition, only few strategy patterns have significantly contributed to the explanation of firm performance. Similarly, this study revealed a weak relationship between resource and strategy patterns. Therefore, it is important to incorporate and address any other possible dimensions of sources of competitive advantage that can play a role in the VAT industry.

Even though this research considered only the firms that were operating within Sri Lanka, future studies could be extended by incorporating more tea-producing countries. For example, incorporation of countries like India and Kenya that are main competitors for Sri Lanka could have provided a broader perspective to this study and would have increased the generalisability of the results. Incorporation of more agribusiness firms from other developing countries would have strengthened the analysis and provided a strong background in addressing the relative importance of resource and strategy perspectives as well as their relationship. Given the growing interest in the relative position of a country with respect to its competitive advantage, similar studies could be used in assessing the comparative status of the sources of competitive advantage and their influence on firm performance in a given country. Even though this study considered Sri Lankan VAT industry segment specific variables only, future comparative studies should incorporate common sources of advantage that are specific to the VAT industry.

Similarly to the above, future studies could be extended by incorporating specific VAT producers — those who supply VAT to main geographic markets such as CIS, Middle-East, Australia, Germany and the like. Due to the differences in consumer demand in these geographic markets, the products offered, competitors present and their strengths vary. Through analysis of such data, the relative position of the sources of competitive advantage of the Sri Lankan VAT producers and the ways by which the sources of competitive advantage are enhanced could be identified. Extension of such an analysis is important given the higher level of involvement in exports by a majority of the VAT producers. Further, studies need to be extended in order to determine the growth opportunities for firms beyond the traditional tea consuming countries and conventional pattern of VAT production and exports.

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## **Appendix One**

### Sampling Frame

| No      | Name and Address of the Firm   | No       | Name and Address of the Firm   |
|---------|--|----------|--|
| 1.<br>* | Abidally Sons (Pvt) Ltd<br>23 Lilly Street, Colombo 3                                      | 10.<br>* | Ceylon Tea Marketing Ltd<br>46/10 Navam Mawatha, Colombo 2   |
| 2.<br>* | Adamexpo<br>264 Grandpass Road, Colombo 14   | 11.<br>* | Ceylon Tea Services Ltd<br>52 Maligawatta Road, Colombo 10<br>(Considered along with firm nos. 15,<br>16, 41 & 42) |
| 3.<br>* | Akbar Brothers<br>234 T.B. Jaya Mawatha, Colombo<br>10                                     | 12.<br>* | Co-operative Wholesale<br>Establishment, 27 Vauxhall Street,<br>Colombo 2  |
| 4.      | Anverally & Sons (Pvt) Ltd<br>26 Flower Road, Colombo 7                                    | 13.<br>* | Consolidated Business Systems Ltd<br>17 S De S Jayasinghe Mawatha<br>Kaduwela, Nugegoda                            |
| 5.<br>* | Bogawantalawa Plantations Ltd<br>275/75 Prof. Stanley Wijesundara<br>Mawatha, Colombo 7    | 14.<br>* | De Silva Jewellers Ltd B.P.<br>11 Havelock Road, Colombo 5<br>(Considered along with firm no. 55)                  |
| 6.<br>* | Bosanquet & Skrine Trading (Pvt)<br>Ltd, 80 Navam Mawatha, Colombo<br>2                    | 15.<br>* | Dilmah Central Asia (Pvt) Ltd<br>111 Negambo Road, Peliyagoda  |
| 7.<br>* | Brook Bond Ceylon Ltd<br>242 Union Place, Colombo 2<br>(Considered along with firm no. 34) | 16.<br>* | Dilmah Fine Teas & Herbs (Pvt)<br>Ltd, 111 Negambo Road, Peliyagoda  |
| 8.<br>* | Burns Philip Lanka (Pvt) Ltd<br>124 Templers Road, Mount Lavinia                           | 17.<br>* | Eastern Merchants Ltd<br>341 Union Place, Colombo 2  |
| 9.<br>* | Ceyexxe Ltd<br>55/20 Vauxhall Lane, Colombo 2  | 18.<br>* | Eswaran Brothers Exporters (Pvt)<br>Ltd, 14/11 Grandpass Road<br>Colombo 14  |

\* Denotes the firms that responded to the survey.

**The researcher is obliged to keep the primary data confidential.**

**Sampling Frame - Cont....**

| <b>No</b> | <b>Name and Address of the Firm</b>   | <b>No</b> | <b>Name and Address of the Firm</b>   |
|-----------|---|-----------|---|
| 19.<br>*  | Euro Scan Exports Ltd<br>44 Ward Place, Colombo 7   | 29.<br>*  | Imperial Teas (Pvt) Ltd<br>121 A Biyagama Road, Peliyagoda                      |
| 20.<br>*  | Expolanka Ltd<br>245/50 Avissawella Road,<br>Wellampitiya   | 30.<br>*  | Jafferjee & Sons (Pvt) Ltd<br>169 Sirimath Bandaranayake<br>Mawatha, Colombo 12 |
| 21.<br>*  | Ferntea Ltd<br>188 Vauxhall Street, Colombo 2   | 31.<br>*  | Jafferjee Brothers<br>150 St. Joseph's Street,<br>Colombo 14                    |
| 22.<br>*  | James Finlay & Company<br>(Colombo) Ltd, 186 Vauxhall Street,<br>Colombo 2<br>(Considered along with firm no. 23) | 32.<br>*  | Janatha Estate Development Board<br>55/75 Vauxhall Lane, Colombo 2              |
| 23.<br>*  | George Payne & Co. (Ceylon) Ltd<br>186 Vauxhall Street, Colombo 2   | 33.<br>*  | Jones (Exporters) Ceylon Ltd A.F.<br>T B Jayah Mawatha, Colombo 10              |
| 24.<br>*  | George Steuart & Co. Ltd<br>Janadhipathi Mawatha, Colombo 1<br>(Considered along with firm no. 25)                | 34.<br>*  | Lipton Ceylon Ltd<br>242 Union Place, Colombo 2                                 |
| 25.<br>*  | George Steuart (Teas & Marketing)<br>(Pvt) Ltd., 2 Vekanda Road<br>Colombo 2                                      | 35.<br>*  | M. E. H. Industries (Pvt) Ltd<br>Hemas Building, Colombo 1                      |
| 26.<br>*  | Harrisons (Colombo) Ltd.<br>7 Braybrooke Place, Colombo 2<br>(Considered along with firm nos. 33<br>& 37)         | 36.       | Marbroc Teas (Pvt) Ltd<br>722 Kotte Road, Rajagiriya                            |
| 27.<br>*  | Heritage Teas (Pvt) Ltd<br>96 Ambatale Road, Kohilawatta<br>Wellampitiya.   | 37.<br>*  | The Maharaja Organisations Ltd<br>146 Dawson Street, Colombo 2                  |
| 28.<br>*  | HVA Lanka Exporters (Pvt) Ltd.<br>138/5 Kynsey Road, Colombo 8  | 38.<br>*  | Meezan & Company (Pvt) Ltd<br>5 Old Moor Street, Colombo 12                     |

**Sampling Frame- Cont....**

| <b>No</b> | <b>Name and Address of the Firm</b>  | <b>No</b> | <b>Name and Address of the Firm</b>  |
|-----------|--|-----------|--|
| 39.<br>*  | Michael White & Company Ltd<br>72 Kew Road, Colombo 2  | 49.       | Ruby Tea Blenders<br>414/5 Bleomendhal Road,<br>Colombo 13.  |
| 40.       | Milford Exporters (Ceylon) Ltd<br>833 Sirimavo Bandaranayake<br>Mawatha, Colombo 14<br>(Considered along with firm no. 53) | 50.<br>*  | S. K.S. Exports (Pvt ) Ltd<br>492 Kandy Road, Dalugama,<br>Kelaniya  |
| 41.<br>*  | M.J.F. Exporters Ltd<br>111 Negambo Road, Peliyagoda   | 51.<br>*  | Senok Trade Combine Ltd<br>R.A. De Mel Mawatha, Colombo 4  |
| 42.<br>*  | M.J.F. Teas (Pvt) Ltd<br>111 Negambo Road, Peliyagoda  | 52.       | Standard Trading Co. (Pvt) Ltd<br>70 2 <sup>nd</sup> Floor, Lucky Plaza<br>St Anthony's Mawatha, Colombo 3 |
| 43.<br>*  | Nihal Exports (Pvt) Ltd<br>164 Kandy Road, Peliyagoda  | 53.       | Stassen Exporters Ltd<br>833 Sirimavo Bandaranayake<br>Mawatha, Colombo 14                                 |
| 44.       | K. Paul Associates Ltd<br>424C Ranabima Mawatha<br>Mulleriyawa North, Mulleriyawa  | 54.<br>*  | T. Suby (Pvt) Ltd<br>22/2 Thurstan Road, Colombo 3   |
| 45.<br>*  | Qualitea Ceylon (Pvt) Ltd<br>78, 5 <sup>th</sup> Floor, Mukthar Plaza,<br>Grandpass Road, Colombo 14                       | 55.<br>*  | Tea Tang Ltd<br>215 First Division Maradana<br>Colombo 10  |
| 46.<br>*  | Ranfer Teas (Pvt) Ltd<br>36 Ketawalamulla Place,<br>Colombo 10   | 56.<br>*  | Telon (Pvt) Ltd<br>78, 5 <sup>th</sup> Floor, Grandpass Road<br>Colombo 14                                 |
| 47.<br>*  | Renuka Enterprises Ltd<br>69 Sri Jinatratana Road,<br>Colombo 2  | 57.<br>*  | Union Commodities (Pvt) Ltd.<br>55/73 Vauxhall Lane, Colombo 2   |
| 48.       | Roop Exporters (Pvt) Ltd<br>128 Gregory's Road, Colombo 7  | 58.<br>*  | Van Rees Ceylon Ltd<br>51/27 New Nuge Road, Peliyagoda   |

## **Appendix Two**

# A Survey of Sri Lankan Value-Added Tea Production

## *Views of the Experts*

### **1.0 General Information**

1.1 Name: .....

1.2 Organisation: .....

1.3 Address: .....

.....

1.4 Telephone number: .....

1.5 Fax number: .....

### **2.0 Value-Added Tea Production in Sri Lanka**

2.1 Please indicate your overall view of value-added tea production in Sri Lanka.

2.2 What are the strengths and opportunities you believe that Sri Lanka has in producing more value-added tea?

2.3 In your opinion, what are the crucial problems that Sri Lanka faces in producing value-added tea?

2.4 In your opinion, what are the main steps that the country should take in improving value-added tea production?

## **Appendix Three**

## *Confidential*

# **A SURVEY OF SRI LANKAN VALUE-ADDED TEA PRODUCTION**

The purpose of this survey is to obtain primary information regarding the involvement of your organisation in value-added tea products. It is based on a questionnaire categorised under the following headings.

1. General information,
2. Information on value-added tea,
3. Information on firms' input and output chains,
4. Marketing, research and development information, and
5. Overall opinion about value-added tea in Sri Lanka.

*Note: Information obtained from this survey will be used only in my research work and will be retained by the possession of the principal researcher at all times. If you desire a summary of the principal findings please let me know, I will be pleased to post it to you.*

For further information or inquiries please contact:

Local : Anoma Ariyawardana  
Department of Agricultural Economics, Faculty of Agriculture,  
University of Peradeniya, Peradeniya  
TP: 077-363597  
E-Mail address: [anoma@agecon.pdn.ac.lk](mailto:anoma@agecon.pdn.ac.lk)

Overseas: Anoma Ariyawardana  
Institute of Food, Nutrition and Human Health  
Massey University, Private Bag 11222, Palmerston North, New Zealand  
E-mail Address: [Ariyawardana.Anoma.1@uni.massey.ac.nz](mailto:Ariyawardana.Anoma.1@uni.massey.ac.nz)

Questionnaire Number: .....

## 1.0 General Information

1.1 Type of organisation (*please circle the appropriate response*)

- |                                 |                             |
|---------------------------------|-----------------------------|
| 1. Individual ownership         | 2. Partnership              |
| 3. Private limited liability    | 4. Public limited liability |
| 5. Other, (please specify)..... |                             |

1.2 How many years has your firm been in operation?

.....Years

1.3 How many years has your firm been involved with **tea** related activities?

.....Years

1.4 Including yourself, approximately how many people are working in your firm?

*(please circle the appropriate response)*

- |                  |                  |
|------------------|------------------|
| 1. Fewer than 10 | 2. 10 to 24      |
| 3. 25 to 49      | 4. 50 to 99      |
| 5. 100 to 149    | 6. More than 150 |

1.5 In your firm, approximately how many employees are involved with **tea** related activities?

Number .....

1.6 In your firm, approximately how many skilled (supervisors and above) employees are involved with **tea** related activities?

Number .....

1.7 Is your firm dealing with anything other than tea?

- |        |       |
|--------|-------|
| 1. Yes | 2. No |
|--------|-------|

1.8 If yes, please circle the appropriate category/categories

- |                              |                                 |
|------------------------------|---------------------------------|
| 1. Plantation crops          | 2. Non plantation crops         |
| 3. Non agricultural products | 4. Others (please specify)..... |

1.9 Is your firm involved with tea exports?

- |        |       |
|--------|-------|
| 1. Yes | 2. No |
|--------|-------|

1.10 If yes, please indicate the percentage of **tea exports**, in terms of value, compared to total exports of the firm.

.....%

## 2.0 Managerial Characteristics

2.1 Which of the following categories best describes the highest level of formal education that you have attained? *(please circle the appropriate response)*

1. Undergraduate or diploma qualification
2. A graduate degree
3. A postgraduate degree
4. Technical or professional qualification
5. Other, (please specify) .....

2.2 Please indicate, your number of years of experience in tea related activities.

..... Years

## 3.0 Financial Performance

*(Confidentiality of the information is assured and all the figures will be used as industry averages.)*

3.1 Which of the following categories best describes the approximate net profit (in Rupees) of your firm for the 1999 financial year? *(please circle the appropriate response)*

- |                           |                           |
|---------------------------|---------------------------|
| 1. Loss                   | 2. < 500,000              |
| 3. 500,000 to 1,000,000   | 4. 1,000,001 to 2,000,000 |
| 5. 2,000,001 to 5,000,000 | 6. >5,000,000             |

3.2 Which of the following categories best describes the approximate net profit **from tea** of your firm (in Rupees) for the 1999 financial year? *(please circle the appropriate response)*

- |                         |                       |
|-------------------------|-----------------------|
| 1. Loss                 | 2. < 250,000          |
| 3. 250,000 to 500,000   | 4. 500,001 to 750,000 |
| 5. 750,001 to 1,000,000 | 6. >1,000,000         |

3.3 Please indicate the total **sales revenue from tea** (include domestic and export sales) of your firm for the financial year 1999.

Rs. ....

3.4 Please indicate the total **export revenue from tea** for the financial year 1999.

Rs. ....

3.5 Please indicate total equity of your firm (capital and reserves) for the financial year 1999.

Rs. ....

## 4.0 Information on Value-Added Tea

*This study will consider secondarily processed tea, packaged tea and speciality tea as value-added tea.*

*Secondary processing: flavouring, instant tea and any other type*

*Packaging: tea packets, tea bags, gift packs and other packaging types*

*Speciality tea: green tea, oolong tea and organic tea*

4.1 How many years has your firm been involved with value-added tea production?

.....Years

4.2 In your firm, approximately how many skilled (supervisors and above) employees are involved with secondary processing?

Number .....

4.3 In your firm, approximately how many skilled (supervisors and above) employees are involved with packaging?

Number .....

4.4 In your opinion, what is the principal difficulty that your firm faces in undertaking secondary processing and packaging of tea? (*please circle only one response*)

- |   |                                |
|---|--------------------------------|
| 1. Lack of capital                                  | 2. Lack of technology          |
| 3. Lack of knowledge                                | 4. Lack of market information  |
| 5. Inadequate support from government organisations |                                |
| 6. Government policy problems                       | 7. Other (please specify)..... |

4.5 In your opinion, what is the strategy that your firm undertakes in producing value-added tea?

1. Perform activities more efficiently than its competitors (low-cost)
2. Perform activities in a unique way that creates greater buyer value and which commands a premium price (differentiation)
3. Both low cost and differentiation

4.6 Do you perform any component of value addition outside the country?

- |        |       |
|--------|-------|
| 1. Yes | 2. No |
|--------|-------|

4.7 In your opinion, please indicate the degree of importance of **secondary processing** (blending, flavouring, instant tea and other manufacturings) in meeting the criteria below (*please circle the corresponding answer*)

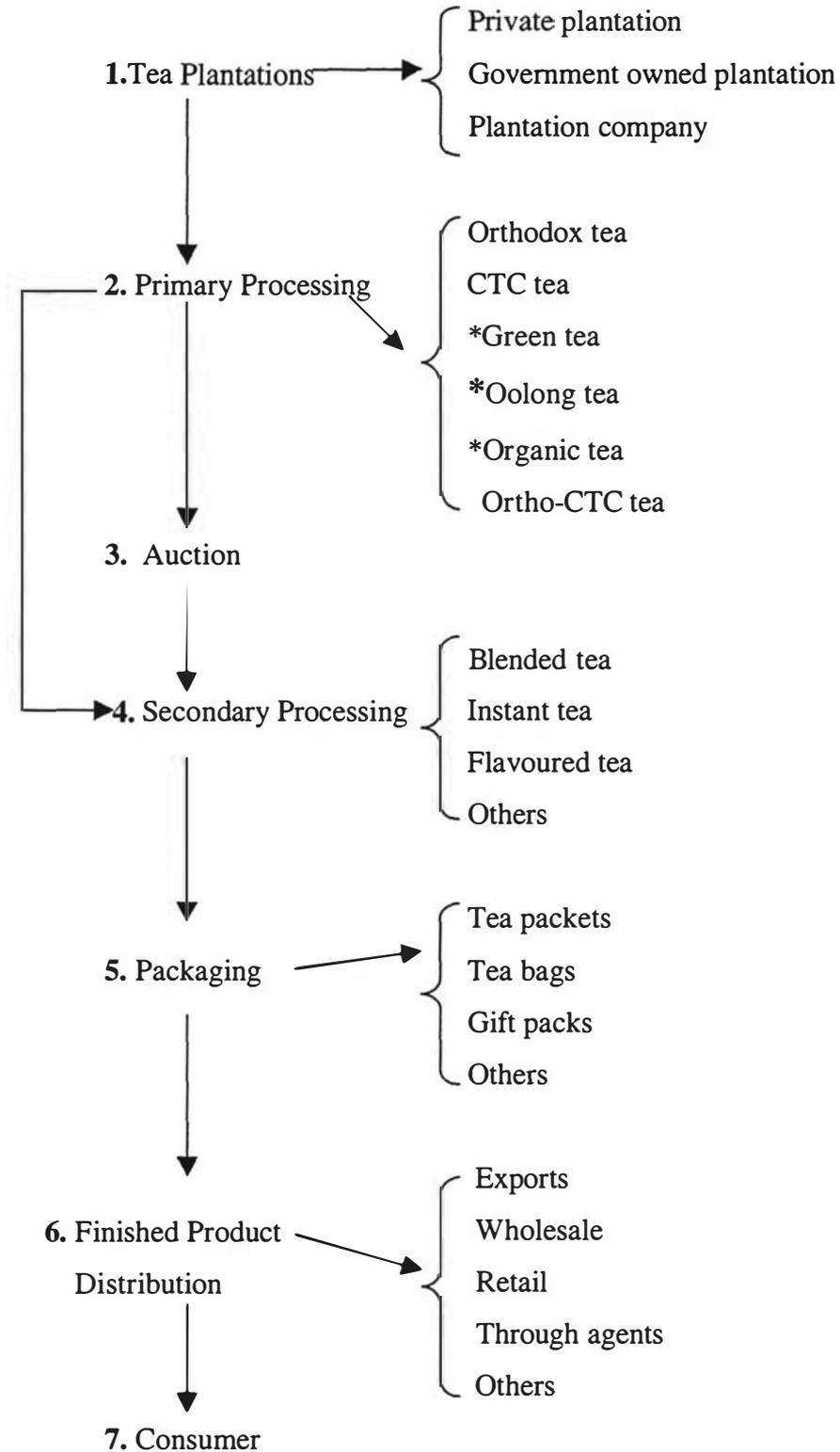
| Criteria   | Not important at all | Somewhat unimportant | Indifferent/ Neutral | Somewhat important | Extremely important |
|--|----------------------|----------------------|----------------------|--------------------|---------------------|
| To increase profit                                 | 1                    | 2                    | 3                    | 4                  | 5                   |
| To increase sales                                  | 1                    | 2                    | 3                    | 4                  | 5                   |
| To diversify potential markets                     | 1                    | 2                    | 3                    | 4                  | 5                   |
| To achieve a competitive edge over the other firms | 1                    | 2                    | 3                    | 4                  | 5                   |

4.8 In your opinion, please indicate the degree of importance of **packaging** (tea packets, tea bags, gift packs and other packaging) in meeting the criteria below (*please circle the corresponding answer*)

| Criteria   | Not important at all | Somewhat unimportant | Indifferent/ Neutral | Somewhat important | Extremely important |
|--|----------------------|----------------------|----------------------|--------------------|---------------------|
| To increase profit                                 | 1                    | 2                    | 3                    | 4                  | 5                   |
| To increase sales                                  | 1                    | 2                    | 3                    | 4                  | 5                   |
| To diversify potential markets                     | 1                    | 2                    | 3                    | 4                  | 5                   |
| To achieve a competitive edge over the other firms | 1                    | 2                    | 3                    | 4                  | 5                   |

4.9 By using the following diagram, please indicate how you are involved in the tea industry?

*(Please tick the appropriate involvement or if it deviates from this diagram please indicate your firm's involvement in the relevant place)*



\* Speciality tea.

4.10 Please indicate your firm's involvement (direct and/or any other contractual arrangements) with tea plantations during the 1999 financial year.

|                        | Direct ownership | Other |
|------------------------|------------------|-------|
| Year of initiation     |                  |       |
| Extent cultivated (Ha) |                  |       |

4.11 Please indicate your firm's involvement (direct and/or any other contractual arrangements) with the **primary processing of tea**.

| Type         | Total production (Kg)<br>in 1999 – Direct | Total production (Kg)<br>in 1999 – Other |
|--------------|---|--|
| Orthodox tea |   |  |
| CTC tea      |   |  |
| Green Tea    |   |  |

### Secondary Processing

4.12 Please indicate your firm's involvement (direct and/or any other contractual arrangements) with **instant tea**.

| Type               | Total production (Kg) in<br>1999 - Direct | Total production (Kg) in<br>1999 – Other |
|--------------------|---|--|
| Hot water soluble  |   |  |
| Cold water soluble |   |  |

4.13 Please indicate your firm's involvement (direct and/or any other contractual arrangements) with **blending**.

Number of tea blends produced during 1999: .....

Direct production of blended tea in 1999: .....

Total production of blended tea for any other contracts during 1999: .....

4.14 Please indicate your firm's involvement (direct and/or any other contractual arrangements) with **flavouring**.

Number of flavoured tea types produced during 1999: .....

Direct production of flavoured tea in 1999: .....

Total production of flavoured tea for any other contracts during 1999: .....

4.15 Are you involved with any other type of secondary processing of tea?

1. Yes

2. No

4.16 If yes, please give the details of all the other types of teas produced through direct and/or any other contractual arrangements.

.....  
 .....

### **Packaging**

4.17 Please indicate your involvement (direct and/or any other contractual arrangements) with the packaging of tea.

| Type        | Total production –<br>Direct | Total production –<br>Other |
|-------------|------------------------------|-----------------------------|
| Tea packets |                              |                             |
|             |                              |                             |
|             |                              |                             |
| Tea bags    |                              |                             |
| Gift packs  |                              |                             |
| Others      |                              |                             |
|             |                              |                             |

4.18 Please select the main reason which limits your involvement with activities other than those in which you are engaged.

1. Not interested

2. Not profitable

3. Lack of capital

4. Lack of technology

5. Government policy problems

6. Inadequate support from government organisations



6.2 Please indicate the following details of your final product/s.

| Final product/s | Total sales (Kg) during 1999 | Proportion of total |         | Average price (Rs/Kg) during 1999 |        |
|-----------------|------------------------------|---------------------|---------|-----------------------------------|--------|
|                 |                              | Domestic sales      | Exports | Domestic                          | Export |
|                 |                              |                     |         |                                   |        |
|                 |                              |                     |         |                                   |        |
|                 |                              |                     |         |                                   |        |
|                 |                              |                     |         |                                   |        |
|                 |                              |                     |         |                                   |        |

## 7.0 Firm's Marketing Strategy and Promotion

7.1 Please indicate the approximate proportion of tea exports.

.....%

7.2 Do you undertake any promotional activities for the sale of tea?

1. Yes

2. No

7.3 If yes, please indicate how you promote your tea sales (*circle the appropriate response*).

1. Advertisements in Sri Lanka

2. Advertisements in foreign countries

3. Attend overseas trade fairs

4. Other, (please specify).....

7.4 Please indicate, approximately, the total amount of money spent on advertising for the financial year 1999.

Rs. ....

7.5 Do you own a brand name/s?

1. Yes

2. No

7.6 If yes, please indicate the brand name/s owned.

.....

7.7 Do you cater for any other brands?

1. Yes

2. No



8.3 How do you up-date with new knowledge and technology for value-added tea?

- |                                      |                            |
|--------------------------------------|----------------------------|
| 1. Thorough own research             | 2. Through TRI             |
| 3. Through other local sources       | 4. Through foreign sources |
| 5. Through local and foreign sources |                            |

8.4 Please indicate, approximately, the total amount of money spent on research and development for the 1999 financial year.

Rs. ....

8.5 What is your staff strength in research and development?

Number .....

8.6 If you do not carry out any research and development presently, do you intend to invest in research and development in the future?

- |        |       |
|--------|-------|
| 1. Yes | 2. No |
|--------|-------|

## 9.0 Firm's Future Interests

9.1 Please indicate whether your firm plans to invest more in value-added tea activities in the future.

- |        |       |
|--------|-------|
| 1. Yes | 2. No |
|--------|-------|

9.2 If yes, please circle the appropriate area/s.

- |                     |                     |
|---------------------|---------------------|
| 1. In tea blending  | 2. In instant tea   |
| 3. In flavoured tea | 4. In tea packeting |
| 5. In tea bagging   | 6. In gift packing  |

## 10.0 Overall Comments

10.1 In your opinion, please indicate why the production of value-added tea is relatively low in Sri Lanka?

.....  
.....  
.....  
.....

10.2 In your opinion, please indicate the major strengths and opportunities that Sri Lanka possesses in improving value-added tea in the future?

.....  
.....  
.....  
.....

10.3 In your opinion, please indicate both internal and external threats presently being faced by the industry.

.....  
.....  
.....  
.....

10.4 In your opinion, please indicate the suggestions that you can make in improving the production of value-added tea in Sri Lanka. (This may include such things as future government assistance, tax concessions, low cost funds etc.).

.....  
.....  
.....  
.....

Any further comments that you wish to make are most welcome. Please use the space below for your comments.

.....  
.....  
.....  
.....

If you wish to contribute any recent annual reports, newsletters, leaflets etc. from your organisation, this would be very much appreciated.

***Thank you very much for your co-operation***

## **Appendix Four**



# University of Peradeniya

DEPARTMENT OF AGRICULTURAL ECONOMICS  
FACULTY OF AGRICULTURE  
PERADENIYA, SRI LANKA

*Telephone: (08) 387177 Fax: 94-8-388041*

.....  
.....  
.....

Dear Executive,

I am a lecturer attached to the above Department and currently reading for a PhD in Agribusiness Management at Massey University, New Zealand. Herewith, I am sending you a questionnaire that is designed to identify and clarify the factors that are instrumental in determining the level of value-added tea production in Sri Lanka.

Your time is extremely valuable and I realise that you probably receive many requests for survey information. However, your contribution is extremely important in completing this research. I very much appreciate your participation in this research effort and value your contribution. Therefore, please be kind enough to provide a convenient time during ..... in order to complete the attached questionnaire.

The information requested would not reflect any material that could be sensitive or proprietary to your organisation. All the information received will be held in complete confidence and used only in combination with that of other respondents for statistical analysis.

If you have any queries regarding this survey, please do not hesitate to contact me at 077- 363 597.

Thank you very much.

Yours truly,

Anoma Ariyawardana

## **Appendix Five**

## Appendix 5.1

### T-Test

**Paired Samples Statistics**

|        |                                     | Mean      | N  | Std. Deviation | Std. Error Mean |
|--------|-------------------------------------|-----------|----|----------------|-----------------|
| Pair 1 | Reported total sales revenue        | 1061.05   | 40 | 2089.51        | 330.38          |
|        | Adjusted total sales revenue        | 920.2856  | 40 | 1101.9603      | 174.2352        |
| Pair 2 | Value of total tea exports          | 1025.6625 | 40 | 2100.6246      | 332.1379        |
|        | Secondary data on total tea exports | 729.5026  | 40 | 1002.6328      | 158.5302        |
| Pair 3 | Reported total tea production       | 898.2557  | 40 | 1083.1994      | 171.2689        |
|        | Adjusted total tea production       | 1050.4288 | 40 | 2095.0840      | 331.2619        |
| Pair 4 | Reported VAT production             | 407.0840  | 40 | 478.7623       | 75.6990         |
|        | Adjusted VAT production             | 398.7680  | 40 | 474.8554       | 75.0812         |

**Paired Samples Correlations**

|        |  | N  | Correlation | Sig. |
|--------|--|----|-------------|------|
| Pair 1 | Reported total sales revenue & Adjusted total sales revenue      | 40 | .509        | .001 |
| Pair 2 | Value of total tea exports & Secondary data on total tea exports | 40 | .498        | .001 |
| Pair 3 | Reported total tea production & Adjusted total tea production    | 40 | .519        | .001 |
| Pair 4 | Reported VAT production & Adjusted VAT production                | 40 | .998        | .000 |

**Paired Samples Test**

|        |  | Paired Differences |                |                 |
|--------|--|--------------------|----------------|-----------------|
|        |  | Mean               | Std. Deviation | Std. Error Mean |
| Pair 1 | Reported total sales revenue - Adjusted total sales revenue      | 140.7644           | 1799.4413      | 284.5166        |
| Pair 2 | Value of total tea exports - Secondary data on total tea exports | 296.1599           | 1822.5334      | 288.1678        |
| Pair 3 | Reported total tea production - Adjusted total tea production    | -152.1730          | 1790.8829      | 283.1634        |
| Pair 4 | Reported VAT production - Adjusted VAT production                | 8.3160             | 27.5835        | 4.3613          |

**Paired Samples Test**

|        |  | Paired Differences                        |          | t     |
|--------|--|---|----------|-------|
|        |  | 95% Confidence Interval of the Difference |          |       |
|        |  | Lower                                     | Upper    |       |
| Pair 1 | Reported total sales revenue - Adjusted total sales revenue      | -434.7249                                 | 716.2536 | .495  |
| Pair 2 | Value of total tea exports - Secondary data on total tea exports | -286.7146                                 | 879.0343 | 1.028 |
| Pair 3 | Reported total tea production - Adjusted total tea production    | -724.9252                                 | 420.5791 | -.537 |
| Pair 4 | Reported VAT production - Adjusted VAT production                | -.5056                                    | 17.1377  | 1.907 |

**Paired Samples Test**

|        |  | df | Sig. (2-tailed) |
|--------|--|----|-----------------|
| Pair 1 | Reported total sales revenue - Adjusted total sales revenue      | 39 | .624            |
| Pair 2 | Value of total tea exports - Secondary data on total tea exports | 39 | .310            |
| Pair 3 | Reported total tea production - Adjusted total tea production    | 39 | .594            |
| Pair 4 | Reported VAT production - Adjusted VAT production                | 39 | .064            |

## Appendix 5.2

### Reliability

\*\*\*\*\* Method 1 (space saver) will be used for this analysis \*\*\*\*\*

#### RELIABILITY ANALYSIS - SCALE (ALPHA)

|    |          | Mean   | Std Dev | Cases |
|----|----------|--------|---------|-------|
| 1. | SPPROFIT | 4.7500 | .4935   | 40.0  |
| 2. | SPSALES  | 4.7500 | .4385   | 40.0  |
| 3. | SPMKT    | 4.6500 | .5335   | 40.0  |
| 4. | SPCOMPE  | 4.7500 | .5430   | 40.0  |
| 5. | PSPROFIT | 4.7000 | .5639   | 40.0  |
| 6. | PSALES   | 4.7500 | .4385   | 40.0  |
| 7. | PMAKT    | 4.7000 | .5639   | 40.0  |
| 8. | PCOMPE   | 4.7250 | .5541   | 40.0  |

| Statistics for | Mean    | Variance | Std Dev | N of Variables |
|----------------|---------|----------|---------|----------------|
| SCALE          | 37.7750 | 4.9481   | 2.2244  | 8              |

#### Item-total Statistics

|          | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Alpha if Item Deleted |
|----------|----------------------------|--------------------------------|----------------------------------|-----------------------|
| SPPROFIT | 33.0250                    | 4.3840                         | .1551                            | .6592                 |
| SPSALES  | 33.0250                    | 4.4353                         | .1735                            | .6515                 |
| SPMKT    | 33.1250                    | 4.2147                         | .2048                            | .6501                 |
| SPCOMPE  | 33.0250                    | 3.9737                         | .3139                            | .6218                 |
| PSPROFIT | 33.0750                    | 3.6609                         | .4492                            | .5826                 |
| PSALES   | 33.0250                    | 4.0763                         | .3837                            | .6062                 |
| PMAKT    | 33.0750                    | 3.4045                         | .5890                            | .5386                 |
| PCOMPE   | 33.0500                    | 3.6897                         | .4469                            | .5837                 |

#### Reliability Coefficients

N of Cases = 40.0                      N of Items = 8  
 Alpha = .6461

## **Appendix Six**

**Table A6.1****Descriptive Statistics - Core Resources**

| <b>Core Resource</b>                                   | <b>Minimum</b> | <b>Maximum</b> | <b>Mean</b> | <b>Standard Deviation</b> | <b>Skewness Statistic</b> |
|--|----------------|----------------|-------------|---------------------------|---------------------------|
| 1. Total number of employees in tea                    | 5              | 700            | 113.77      | 166.99                    | 2.61                      |
| 2. Years in VAT  | 0.3            | 90.0           | 16.06       | 18.08                     | 2.82                      |
| 3. Number of skilled employees in secondary processing | 0              | 100            | 24.26       | 23.18                     | 1.56                      |
| 4. Number of skilled employees in packaging            | 0              | 100            | 23.00       | 24.80                     | 1.66                      |
| 5. Managerial experience (Years)                       | 0.30           | 49             | 20.60       | 11.49                     | 0.23                      |
| 6. Managerial education (Years)                        | 10             | 18             | 12.77       | 2.66                      | 0.23                      |
| 7. VAT production under own brand name/s (Rs. Million) | 0              | 124602.40      | 19870.28    | 32748.48                  | 2.11                      |
| 8. Ownership of a brand name/s                         | 0              | 1              | 52.38       | 38.80                     |                           |
| 9. Backward integration                                | 0              | 1              | 0.15        | 0.37                      |                           |
| 10. Involvement with businesses other than tea         | 0              | 1              | 0.77        | 0.43                      |                           |

**Table A6.2****Descriptive Statistics - Core Strategies**

| <b>Core Strategy</b>                         | <b>Minimum</b> | <b>Maximum</b> | <b>Mean</b> | <b>Standard Deviation</b> | <b>Skewness Statistic</b> |
|--|----------------|----------------|-------------|---------------------------|---------------------------|
| 1. Outward foreign direct investments in VAT | 0              | 1              | 0.13        | 0.34                      |                           |
| 2. Proportion of low-grown tea               | 4              | 90             | 50.67       | 27.31                     | -0.33                     |
| 3. Proportion of high-grown tea              | 2              | 95             | 33.51       | 26.45                     | 1.02                      |
| 4. Tea imports (Million Kg)                  | 0              | 2.40           | 0.11        | 0.39                      | 5.40                      |
| 5. Proportion of tea exports                 | 0              | 100            | 92.54       | 22.36                     | -3.92                     |
| 6. Proportion of brand marketing             | 0              | 100            | 52.38       | 38.80                     | -0.06                     |
| 7. Adoption of the Lion logo                 | 0              | 1              | 0.69        | 0.47                      |                           |
| 8. Overall differentiation strategy          | 0              | 1              | 0.85        | 0.37                      |                           |
| 9. Overall low-cost strategy                 | 0              | 1              | 0.67        | 0.48                      |                           |
| 10. Use of trade fairs                       | 0              | 1              | 0.67        | 0.48                      |                           |
| 11. Advertising intensity                    | 0              | 18.96          | 2.33        | 3.95                      | 2.78                      |
| 12. Research and development intensity       | 0              | 1.43           | 0.13        | 2.90                      | 3.11                      |
| 13. High perceived competitive advantage     | 0              | 1              | 0.18        | 0.39                      |                           |
| 14. Importance attached to sec. processing   | 3              | 5              | 4.74        | 0.55                      |                           |
| 15. Importance attached to packaging         | 3              | 5              | 4.72        | 0.56                      |                           |
| 16. VAT production intensity                 | 0.80           | 100            | 48.45       | 28.98                     | 0.13                      |

**Table A6.3**  
**Correlation Matrix for Core Resource Variables**

|  |                 | 1            | 2            | 3             | 4            | 5      | 6      | 7            | 8     | 9     | 10    |
|--|-----------------|--------------|--------------|---------------|--------------|--------|--------|--------------|-------|-------|-------|
| 1. Total number of employees in tea                    | coefficient     | 1.000        |              |               |              |        |        |              |       |       |       |
|  | <i>p</i> -value |              |              |               |              |        |        |              |       |       |       |
| 2. Years in VAT  | coefficient     | 0.123        |              |               |              |        |        |              |       |       |       |
|  | <i>p</i> -value | 0.457        |              |               |              |        |        |              |       |       |       |
| 3. Number of skilled employees in secondary processing | coefficient     | <b>0.620</b> | 0.040        |               |              |        |        |              |       |       |       |
|  | <i>p</i> -value | <b>0.000</b> | 0.808        |               |              |        |        |              |       |       |       |
| 4. Number of skilled employees in packaging            | coefficient     | <b>0.676</b> | 0.057        | <b>0.841</b>  |              |        |        |              |       |       |       |
|  | <i>p</i> -value | <b>0.000</b> | 0.729        | <b>0.000</b>  |              |        |        |              |       |       |       |
| 5. Managerial experience                               | coefficient     | <b>0.398</b> | 0.044        | <b>0.507</b>  | <b>0.467</b> |        |        |              |       |       |       |
|  | <i>p</i> -value | <b>0.012</b> | 0.792        | <b>0.001</b>  | <b>0.003</b> |        |        |              |       |       |       |
| 6. Managerial education                                | coefficient     | 0.050        | -0.033       | 0.007         | -0.144       | -0.182 |        |              |       |       |       |
|  | <i>p</i> -value | 0.764        | 0.843        | 0.967         | 0.382        | 0.268  |        |              |       |       |       |
| 7. VAT production under own brand name/s               | coefficient     | <b>0.575</b> | -0.020       | 0.212         | <b>0.400</b> | 0.095  | -0.015 |              |       |       |       |
|  | <i>p</i> -value | <b>0.000</b> | 0.902        | 0.196         | <b>0.012</b> | 0.566  | 0.929  |              |       |       |       |
| 8. Ownership of a brand name/s                         | coefficient     | -0.043       | -0.090       | -0.163        | -0.090       | -0.137 | 0.161  | <b>0.449</b> |       |       |       |
|  | <i>p</i> -value | 0.796        | 0.586        | 0.322         | 0.586        | 0.406  | 0.329  | <b>0.004</b> |       |       |       |
| 9. Backward integration                                | coefficient     | 0.174        | -0.051       | 0.294         | 0.203        | 0.171  | 0.041  | 0.164        | 0.123 |       |       |
|  | <i>p</i> -value | 0.289        | 0.759        | 0.069         | 0.216        | 0.299  | 0.806  | 0.318        | 0.455 |       |       |
| 10. Involvement with businesses other than tea         | coefficient     | -0.146       | <b>0.442</b> | <b>-0.333</b> | -0.263       | -0.217 | -0.023 | 0.051        | 0.299 | 0.065 |       |
|  | <i>p</i> -value | 0.374        | <b>0.005</b> | <b>0.038</b>  | 0.106        | 0.185  | 0.888  | 0.756        | 0.065 | 0.695 | 1.000 |

Spearman rank-order correlations  
*n* = 39

**Table A6.4****Un-Rotated Factor Matrix -Core Resources**

| Variable  | Factor Loadings |        |        |        | Communality |
|---|-----------------|--------|--------|--------|-------------|
|   | 1               | 2      | 3      | 4      |             |
| Total number of employees in tea                    | .575            | .708   | -.124  |        | .846        |
| Years in VAT  |                 | .506   | -.665  | -.233  | .753        |
| Number of skilled employees in secondary processing | .830            | -.281  |        | .128   | .789        |
| Number of skilled employees in packaging            | .788            | -.339  |        |        | .745        |
| Managerial experience                               | .724            |        | .157   | -.227  | .605        |
| Managerial education                                | -.108           | .302   | -.272  | .836   | .876        |
| VAT production under own brand name/s               | .631            | .630   |        |        | .797        |
| Ownership of a brand name/s                         | -.228           | .536   | .405   | .145   | .525        |
| Backward integration                                | .309            | .297   | .642   | .156   | .621        |
| Involvement with businesses other than tea          | -.391           | .508   |        | -.441  | .614        |
| <b>Eigenvalue<sup>1</sup></b>                       | 2.873           | 2.079  | 1.156  | 1.063  |             |
| <b>Percent of variance<sup>1</sup></b>              | 28.727          | 20.786 | 11.564 | 10.632 |             |
| <b>Cumulative percent<sup>1</sup></b>               | 28.727          | 49.512 | 61.076 | 71.708 |             |

<sup>1</sup> Values before the rotation

**Table A6.5**

**Varimax Rotated Factor Matrix - Core Resources**

| Variable  | Factor Loadings |             |              |             | Communality |
|---|-----------------|-------------|--------------|-------------|-------------|
|   | 1               | 2           | 3            | 4           |             |
| Number of skilled employees in secondary processing | <b>.861</b>     | .204        |              |             | .789        |
| Number of skilled employees in packaging            | <b>.831</b>     | .163        |              | -.165       | .745        |
| Involvement with businesses other than tea          | <b>-.685</b>    | .250        |              | -.286       | .614        |
| Managerial experience                               | <b>.569</b>     | .314        | .207         | -.374       | .605        |
| Ownership of a brand name/s                         | <b>-.485</b>    | .187        | <b>.482</b>  | .149        | .525        |
| Total number of employees in tea                    | .113            | <b>.895</b> | .152         |             | .846        |
| VAT production under own brand name/s               | .176            | <b>.835</b> | .260         |             | .797        |
| Years in VAT  | -.226           | <b>.621</b> | <b>-.561</b> |             | .753        |
| Backward integration                                |                 | .213        | <b>.756</b>  |             | .621        |
| Managerial education                                |                 | .124        |              | <b>.926</b> | .876        |
| <b>Eigenvalue<sup>1</sup></b>                       | 2.561           | 2.210       | 1.257        | 1.144       |             |
| <b>Percent of variance<sup>1</sup></b>              | 25.611          | 22.096      | 12.566       | 11.435      |             |
| <b>Cumulative percent<sup>1</sup></b>               | 26.611          | 47.707      | 60.273       | 71.708      |             |

<sup>1</sup> Values after the rotation  
 Significant values are in bold



**Table A6.7**

**Un-Rotated Factor Matrix - Core Strategies**

| Variable                                    | Factor Loading |        |        |        |        |        | Communality |
|---|----------------|--------|--------|--------|--------|--------|-------------|
|   | 1              | 2      | 3      | 4      | 5      | 6      |             |
| Outward foreign direct investments in VAT   | .491           | -.158  | .437   | .214   | -.106  | .252   | .576        |
| Proportion of low-grown tea                 | -.594          | .549   | .348   | .192   |        | -.280  | .893        |
| Proportion of high-grown tea                | .571           | -.342  | -.554  |        | .177   | .347   | .903        |
| Tea imports                                 | .207           | -.329  | .611   |        | -.204  | .426   | .756        |
| Proportion of tea exports                   |                | .544   | .260   | .395   |        | .415   | .695        |
| Proportion of brand marketing               | .271           | -.594  | .208   |        | .479   | .201   | .740        |
| Adoption of the Lion logo                   | .481           | .558   | .292   |        | .328   |        | .750        |
| Overall differentiation strategy            | .666           | .214   |        | -.329  | .121   |        | .623        |
| Overall low-cost strategy                   | -.409          | -.333  | .420   |        | .460   | .226   | .723        |
| Use of trade fairs                          | .515           | .554   | -.261  | .271   | .368   |        | .849        |
| Advertising intensity                       | .476           | -.333  |        |        | -.478  | -.370  | .710        |
| Research and development intensity          | .549           |        |        | .381   | -.343  | -.289  | .649        |
| High perceived competitive advantage        | .559           | -.352  | .325   | .461   | .185   |        | .791        |
| Importance attached to secondary processing | .579           | .393   | .261   | -.427  |        | .206   | .786        |
| Importance attached to packaging            | .657           | .222   | .102   | -.486  |        |        | .735        |
| VAT production intensity                    | .269           |        | -.310  | .519   |        | -.206  | .490        |
| <b>Eigenvalue<sup>1</sup></b>               | 3.824          | 2.422  | 1.727  | 1.494  | 1.179  | 1.024  |             |
| <b>Percent of variance<sup>1</sup></b>      | 23.901         | 15.135 | 10.791 | 9.335  | 7.370  | 6.399  |             |
| <b>Cumulative percent<sup>1</sup></b>       | 23.901         | 39.036 | 49.807 | 59.162 | 66.533 | 72.932 |             |

<sup>1</sup> Values before the rotation

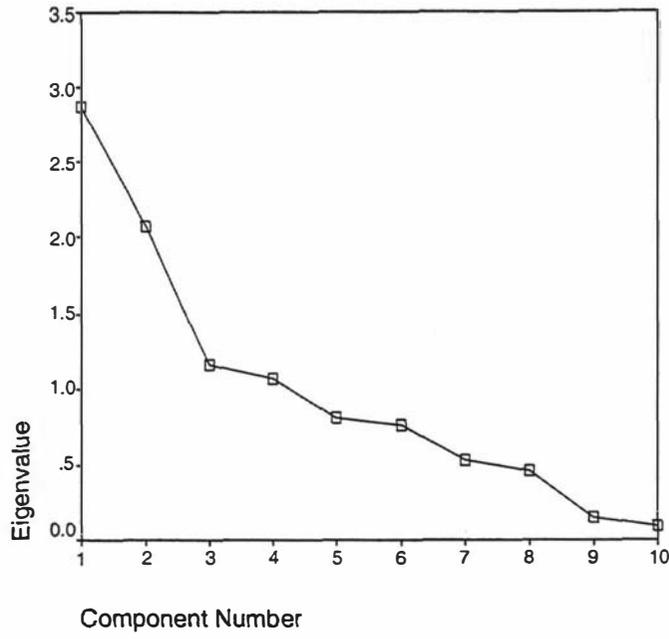
Table A6.8

## Varimax Rotated Factor Matrix - Core Strategies

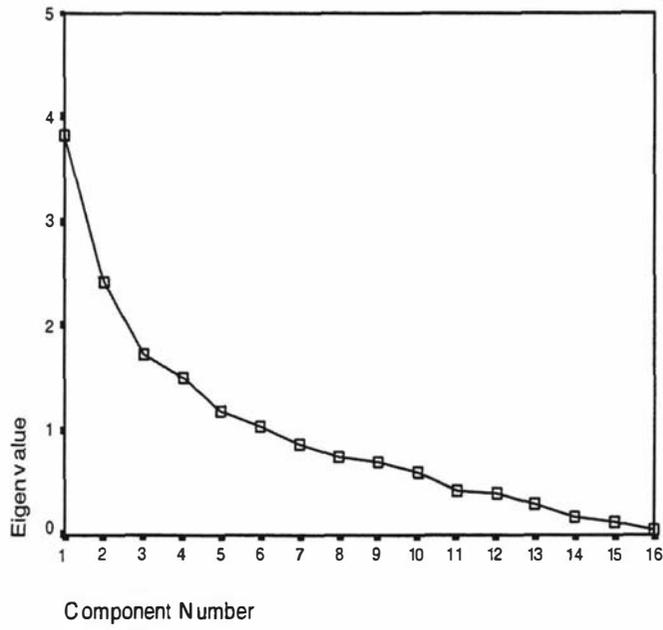
| Variable                                    | Factor Loading |              |             |             |             |             | Communality |
|---|----------------|--------------|-------------|-------------|-------------|-------------|-------------|
|   | 1              | 2            | 3           | 4           | 5           | 6           |             |
| Importance attached to secondary processing | <b>.867</b>    |              |             | .111        |             |             | .786        |
| Importance attached to packaging            | <b>.820</b>    | .184         |             |             | .142        |             | .735        |
| Overall differentiation strategy            | <b>.696</b>    | .305         |             | .193        |             |             | .623        |
| Proportion of high-grown tea                |                | <b>.935</b>  | .121        |             |             |             | .893        |
| Proportion of low-grown tea                 | -.167          | <b>-.876</b> | -.137       | .176        | -.178       | .127        | .903        |
| Research and development intensity          | .179           |              | <b>.765</b> |             | .118        |             | .649        |
| Advertising intensity                       | .287           |              | <b>.655</b> | -.393       | .192        |             | .710        |
| VAT production intensity                    | -.190          | .192         | <b>.592</b> | .209        | -.149       |             | .490        |
| High perceived competitive advantage        |                | .178         | <b>.501</b> | .271        | <b>.472</b> | -.461       | .791        |
| Use of trade fairs                          | .286           | .206         | .191        | <b>.795</b> | -.215       | .101        | .849        |
| Adoption of the Lion logo                   | <b>.495</b>    | -.168        |             | <b>.673</b> |             |             | .750        |
| Proportion of tea exports                   | -.106          | -.260        |             | <b>.577</b> | .337        | .407        | .695        |
| Tea imports                                 |                |              | -.104       | -.190       | <b>.835</b> |             | .756        |
| Outward foreign direct investments in VAT   | .136           | .102         | .250        | .152        | <b>.675</b> |             | .576        |
| Proportion of brand marketing               |                | .256         | .110        |             | .155        | <b>.797</b> | .740        |
| Overall low-cost strategy                   | -.207          | -.308        | -.306       | -.133       |             | <b>.688</b> | .723        |
| <b>Eigenvalue<sup>1</sup></b>               | 2.500          | 2.162        | 1.887       | 1.865       | 1.704       | 1.551       |             |
| <b>Percent of variance<sup>1</sup></b>      | 15.625         | 13.514       | 11.793      | 11.654      | 10.650      | 9.695       |             |
| <b>Cumulative percent<sup>1</sup></b>       | 15.625         | 29.139       | 40.932      | 52.586      | 63.236      | 72.932      |             |

<sup>1</sup> Values after the rotation

Significant values are in bold



**Figure A6.1 Scree Plot-Core Resources**



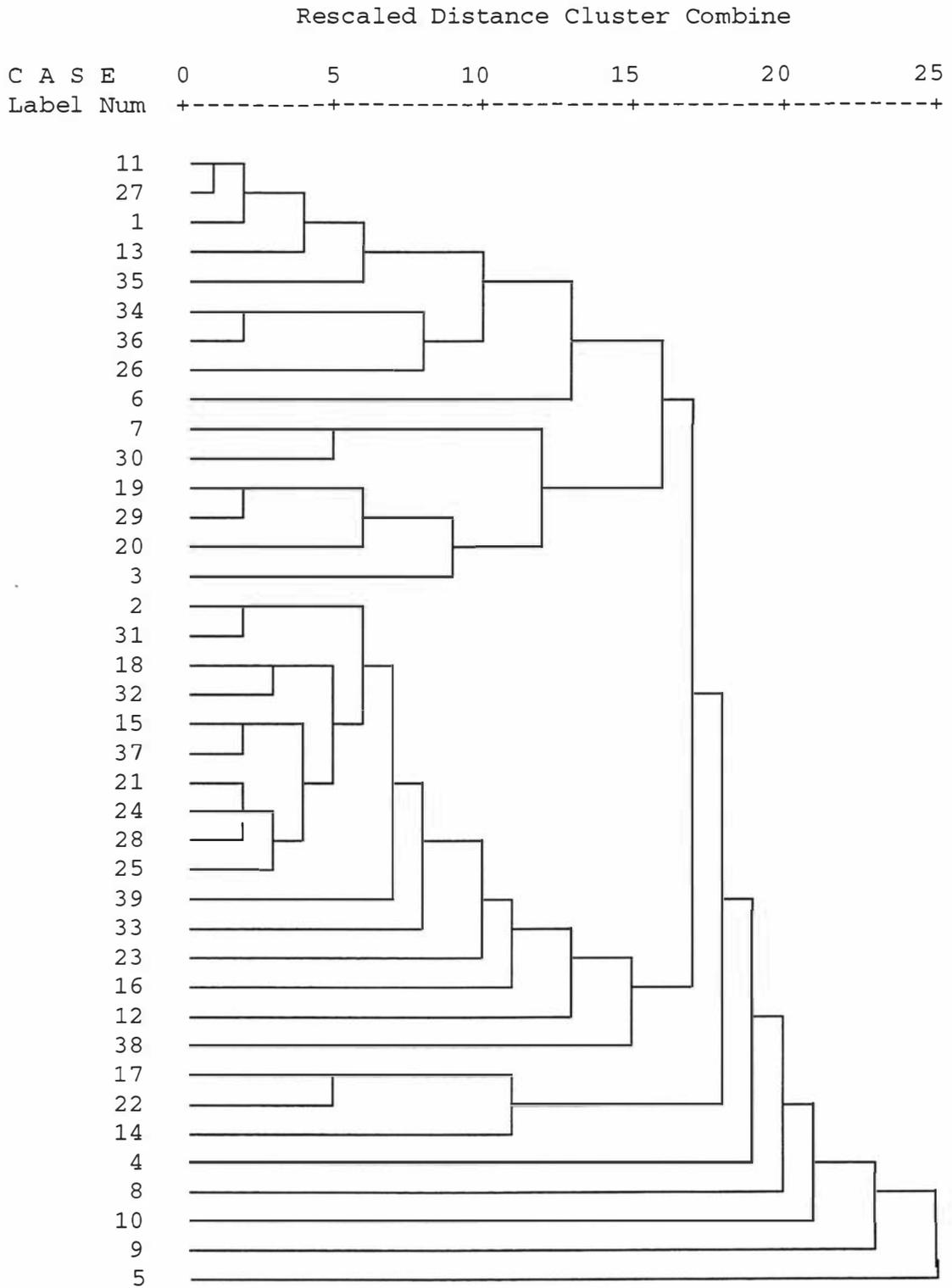
**Figure A6.2 Scree Plot-Core Strategies**

**Table A6.9**

**Agglomeration Schedule**

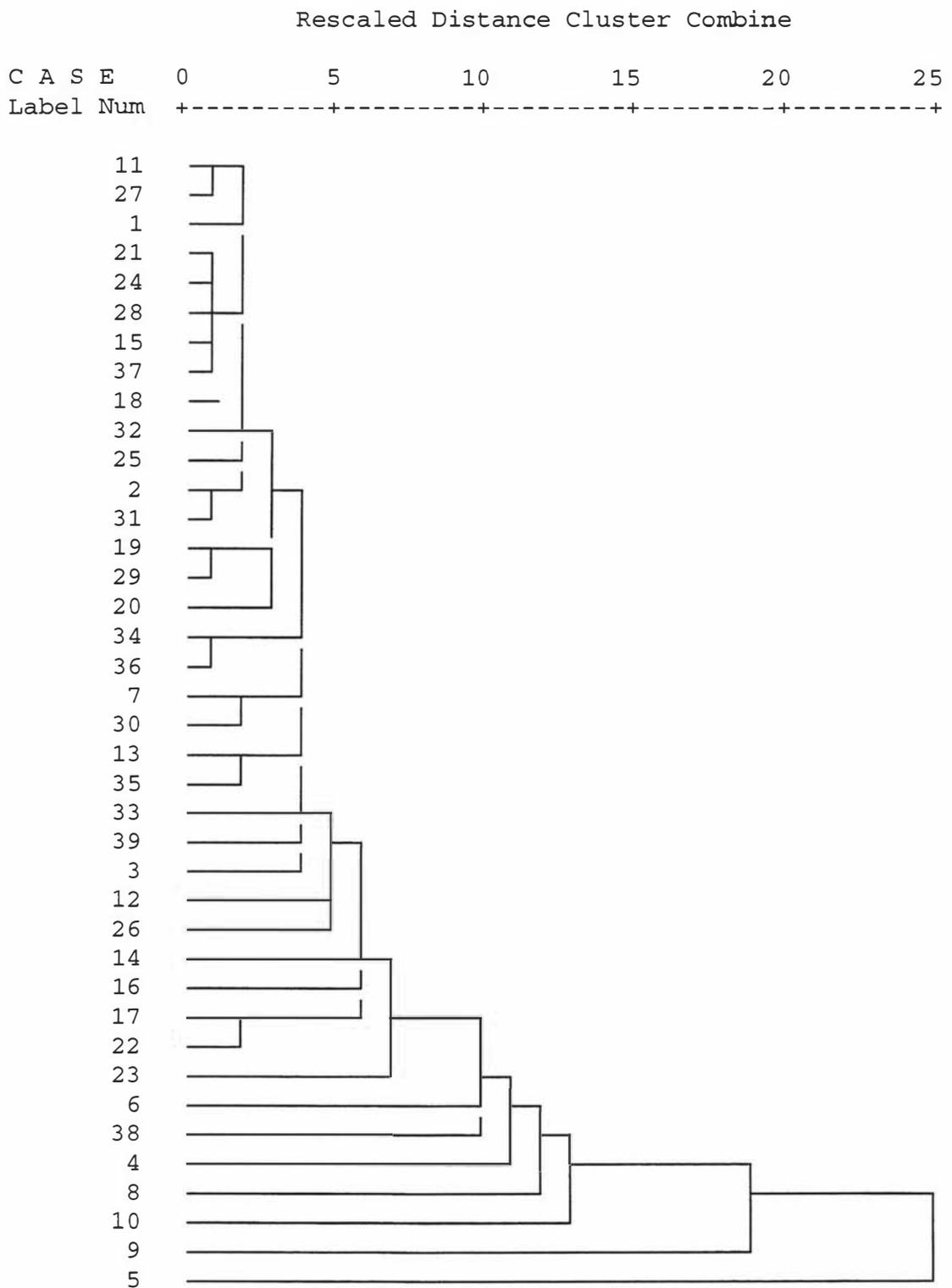
| Stage | Cluster Combined |           | Coefficients | Stage Cluster First Appears |           | Next Stage |
|-------|------------------|-----------|--------------|-----------------------------|-----------|------------|
|       | Cluster 1        | Cluster 2 |              | Cluster 1                   | Cluster 2 |            |
| 1     | 11               | 27        | 0.660        | 0                           | 0         | 15         |
| 2     | 21               | 24        | 1.703        | 0                           | 0         | 7          |
| 3     | 19               | 29        | 2.753        | 0                           | 0         | 16         |
| 4     | 2                | 31        | 3.895        | 0                           | 0         | 18         |
| 5     | 15               | 37        | 5.081        | 0                           | 0         | 19         |
| 6     | 34               | 36        | 6.291        | 0                           | 0         | 22         |
| 7     | 21               | 28        | 7.827        | 2                           | 0         | 13         |
| 8     | 18               | 32        | 9.552        | 0                           | 0         | 14         |
| 9     | 1                | 15        | 11.489       | 0                           | 5         | 15         |
| 10    | 13               | 35        | 13.648       | 0                           | 0         | 25         |
| 11    | 17               | 22        | 15.867       | 0                           | 0         | 32         |
| 12    | 7                | 30        | 18.093       | 0                           | 0         | 24         |
| 13    | 21               | 25        | 20.558       | 7                           | 0         | 14         |
| 14    | 18               | 21        | 24.404       | 8                           | 13        | 23         |
| 15    | 1                | 11        | 28.522       | 9                           | 1         | 28         |
| 16    | 19               | 20        | 32.790       | 3                           | 0         | 24         |
| 17    | 12               | 26        | 37.301       | 0                           | 0         | 20         |
| 18    | 2                | 39        | 42.519       | 4                           | 0         | 19         |
| 19    | 2                | 3         | 48.363       | 18                          | 0         | 29         |
| 20    | 12               | 38        | 54.879       | 17                          | 0         | 34         |
| 21    | 16               | 33        | 61.516       | 0                           | 0         | 27         |
| 22    | 14               | 34        | 68.456       | 0                           | 6         | 25         |
| 23    | 18               | 23        | 76.509       | 14                          | 0         | 28         |
| 24    | 7                | 19        | 85.195       | 12                          | 16        | 30         |
| 25    | 13               | 14        | 95.147       | 10                          | 22        | 30         |
| 26    | 6                | 10        | 105.961      | 0                           | 0         | 35         |
| 27    | 4                | 16        | 116.903      | 0                           | 21        | 31         |
| 28    | 1                | 18        | 127.895      | 15                          | 23        | 29         |
| 29    | 1                | 2         | 139.777      | 28                          | 19        | 34         |
| 30    | 7                | 13        | 135.110      | 24                          | 25        | 33         |
| 31    | 4                | 8         | 168.654      | 27                          | 0         | 33         |
| 32    | 9                | 17        | 184.207      | 0                           | 11        | 36         |
| 33    | 4                | 7         | 206.956      | 31                          | 30        | 35         |
| 34    | 1                | 12        | 233.166      | 29                          | 20        | 37         |
| 35    | 4                | 6         | 261.748      | 33                          | 26        | 37         |
| 36    | 5                | 9         | 292.008      | 0                           | 32        | 38         |
| 37    | 1                | 4         | 326.258      | 34                          | 35        | 38         |
| 38    | 1                | 5         | 380.000      | 37                          | 36        | 0          |

Dendrogram using Average Linkage (Within Group)



**Figure A6.3**  
**Dendrogram using the Average Linkage Method**

Dendrogram using Centroid Method



**Figure A6.4**  
**Dendrogram using the Centroid Method**

**Table A6.10****Group Statistics and Testes of Equality of Group Means**

| <b>Variable</b> | <b>Strategic Group One (N=19)</b> | <b>Strategic Group Two (N=16)</b> | <b>Strategic Group Three (N=4)</b> | <b>Wilks' Lambda</b> | <b>F-ratio</b> | <b>p-value</b> |
|-----------------|-----------------------------------|-----------------------------------|------------------------------------|----------------------|----------------|----------------|
| R <sub>1</sub>  | -0.3732                           | 0.4155                            | 0.1106                             | .856                 | 3.02           | .061           |
| R <sub>2</sub>  | -0.2192                           | -0.3240                           | 2.3374                             | .357                 | 32.46          | .000           |
| R <sub>3</sub>  | -0.4507                           | 0.3705                            | 0.6588                             | .795                 | 4.64           | .016           |
| R <sub>4</sub>  | -0.1217                           | 0.0803                            | 0.2573                             | .983                 | 0.31           | .733           |
| S <sub>1</sub>  | -0.2157                           | 0.2261                            | 0.1199                             | .954                 | 0.87           | .426           |
| S <sub>2</sub>  | -0.6367                           | 0.8356                            | -0.3180                            | .493                 | 18.53          | .000           |
| S <sub>3</sub>  | -0.2387                           | -0.0280                           | 1.2443                             | .808                 | 4.27           | .022           |
| S <sub>4</sub>  | 0.1291                            | -0.2805                           | 0.5088                             | .931                 | 1.33           | .278           |
| S <sub>5</sub>  | -0.2273                           | -0.1713                           | 1.7648                             | .634                 | 10.39          | .000           |
| S <sub>6</sub>  | -0.1762                           | -0.0463                           | 1.0219                             | .874                 | 2.60           | .088           |

**Table A6.11****Comparison of the of the Original Core Resource and Strategy Variables - Kruskal-Wallis One-way Analysis of Variance**

| Variable                                       | Mean Rank                  |                            |                             | Chi-square | P- Value <sup>1</sup> |
|--|----------------------------|----------------------------|-----------------------------|------------|-----------------------|
|  | Strategic Group One (N=19) | Strategic Group Two (N=16) | Strategic Group Three (N=4) |            |                       |
| Total number of employees in tea               | 14.68                      | 21.94                      | 37.50                       | 14.08      | .000                  |
| Years in VAT                                   | 23.45                      | 14.34                      | 26.25                       | 6.92       | .026                  |
| Number of skilled employees in sec. processing | 15.21                      | 23.78                      | 27.63                       | 6.93       | .024                  |
| Number of skilled employees in packaging       | 15.53                      | 23.59                      | 26.68                       | 6.00       | .050                  |
| Managerial experience                          | 16.66                      | 23.00                      | 23.88                       | 3.21       | .199                  |
| Managerial education                           | 18.95                      | 20.47                      | 23.13                       | 0.56       | .754                  |
| VAT production under own brand name/s          | 16.11                      | 20.25                      | 37.50                       | 11.6       | .001                  |
| Proportion of low-grown tea                    | 28.34                      | 10.50                      | 18.38                       | 21.47      | .000                  |
| Proportion of high-grown tea                   | 13.05                      | 28.25                      | 20.00                       | 15.64      | .000                  |
| Tea imports                                    | 16.74                      | 21.44                      | 29.75                       | 7.09       | .029                  |
| Proportion of tea exports                      | 23.21                      | 15.75                      | 21.75                       | 5.21       | .074                  |
| Proportion of brand marketing                  | 16.18                      | 21.44                      | 32.38                       | 7.18       | .028                  |
| Advertising intensity                          | 17.03                      | 21.28                      | 29.00                       | 4.02       | .134                  |
| Research and development intensity             | 18.16                      | 18.50                      | 34.75                       | 9.39       | .009                  |
| Importance attached to secondary processing    | 18.71                      | 20.53                      | 24.00                       | 1.56       | .459                  |
| Importance attached to packaging               | 17.21                      | 23.34                      | 19.88                       | 4.66       | .097                  |
| VAT production intensity                       | 18.26                      | 20.31                      | 27.00                       | 1.96       | .385                  |

<sup>1</sup> The exact significance based on the Monte Carlo method, which provides better estimates for small data sets or unbalanced tables.

**Table A6.12**

**Comparison of the of the Original Core Resource and Strategy Variables - Chi-square Test**

| Variable                                   |     | Percentage within the group |                            |                             | Chi-square | P- Value <sup>1</sup> |
|--|-----|-----------------------------|----------------------------|-----------------------------|------------|-----------------------|
|  |     | Strategic Group One (N=19)  | Strategic Group Two (N=16) | Strategic Group Three (N=4) |            |                       |
| Ownership of a brand name/s                | No  | 10.5                        | 6.3                        | 0.0                         | .595       | 1.00                  |
|  | Yes | 89.5                        | 93.8                       | 100.0                       |            |                       |
| Backward integration                       | No  | 100.0                       | 75.0                       | 50.0                        | .827       | .017                  |
|  | Yes | 0.0                         | 25.0                       | 50.0                        |            |                       |
| Involvement with businesses other than tea | No  | 10.5                        | 37.5                       | 25.0                        | 3.57       | .201                  |
|  | Yes | 89.5                        | 62.5                       | 75.0                        |            |                       |
| Outward foreign direct investment          | No  | 94.7                        | 93.8                       | 25.0                        | 15.43      | .005                  |
|  | Yes | 5.3                         | 6.3                        | 75.0                        |            |                       |
| Adoption of the Lion logo                  | No  | 26.3                        | 43.8                       | 0.0                         | 3.22       | .200                  |
|  | Yes | 73.7                        | 56.3                       | 100.0                       |            |                       |
| Overall differentiation strategy           | No  | 26.3                        | 6.3                        | 0.0                         | 3.50       | .217                  |
|  | Yes | 73.7                        | 93.8                       | 100.0                       |            |                       |
| Overall low-cost strategy                  | No  | 26.3                        | 43.8                       | 25.0                        | 1.33       | .493                  |
|  | Yes | 73.7                        | 56.3                       | 75.0                        |            |                       |
| Use of trade fairs                         | No  | 36.8                        | 31.3                       | 25.0                        | .262       | 1.00                  |
|  | Yes | 63.2                        | 68.8                       | 75.0                        |            |                       |
| High perceived competitive advantage       | No  | 100.0                       | 81.3                       | 0.0                         | 22.45      | .000                  |
|  | Yes | 0.0                         | 18.8                       | 100.0                       |            |                       |

<sup>1</sup> The exact significance based on the Monte Carlo method, which provides better estimates for small data sets or unbalanced tables.

**Table A6.13**

**Correlation Matrix for Performance Indicators, Resource and Strategy Patterns - All Three Strategic Groups**

|   | Mean   | Std Dev. |                 | 1            | 2            | 3      | 4            | 5            | 6      | 7      | 8      | 9      | 10     | 11     | 12     | 13    |
|---|--------|----------|-----------------|--------------|--------------|--------|--------------|--------------|--------|--------|--------|--------|--------|--------|--------|-------|
| 1. VAT production share                                 | 2.00   | 2.30     | coefficient     | 1.000        |              |        |              |              |        |        |        |        |        |        |        |       |
|   |        |          | <i>p</i> -value | .            |              |        |              |              |        |        |        |        |        |        |        |       |
| 2. VAT export market share                              | 1.92   | 2.41     | coefficient     | <b>0.927</b> |              |        |              |              |        |        |        |        |        |        |        |       |
|   |        |          | <i>p</i> -value | <b>0.000</b> |              |        |              |              |        |        |        |        |        |        |        |       |
| 3. VAT export market share growth                       | -19.41 | 138.41   | coefficient     | 0.067        | 0.128        |        |              |              |        |        |        |        |        |        |        |       |
|   |        |          | <i>p</i> -value | 0.684        | 0.438        |        |              |              |        |        |        |        |        |        |        |       |
| 4. R <sub>1</sub> (Single product-skill based)          | 0      | 1        | coefficient     | <b>0.545</b> | <b>0.634</b> | 0.164  |              |              |        |        |        |        |        |        |        |       |
|   |        |          | <i>p</i> -value | <b>0.000</b> | <b>0.000</b> | 0.318  |              |              |        |        |        |        |        |        |        |       |
| 5. R <sub>2</sub> (Firm size and brand awareness based) | 0      | 1        | coefficient     | <b>0.348</b> | 0.300        | -0.163 | 0.059        |              |        |        |        |        |        |        |        |       |
|   |        |          | <i>p</i> -value | <b>0.030</b> | 0.063        | 0.321  | 0.724        |              |        |        |        |        |        |        |        |       |
| 6. R <sub>3</sub> (Ownership and experience based)      | 0      | 1        | coefficient     | 0.109        | 0.104        | 0.240  | 0.225        | -0.094       |        |        |        |        |        |        |        |       |
|   |        |          | <i>p</i> -value | 0.511        | 0.529        | 0.141  | 0.168        | 0.570        |        |        |        |        |        |        |        |       |
| 7. R <sub>4</sub> (Professional knowledge based)        | 0      | 1        | coefficient     | -0.073       | -0.077       | -0.023 | -0.055       | -0.124       | 0.136  |        |        |        |        |        |        |       |
|   |        |          | <i>p</i> -value | 0.659        | 0.643        | 0.891  | 0.741        | 0.453        | 0.408  |        |        |        |        |        |        |       |
| 8. S <sub>1</sub> (VAT production oriented)             | 0      | 1        | coefficient     | 0.100        | 0.066        | 0.162  | 0.131        | -0.008       | 0.172  | 0.199  |        |        |        |        |        |       |
|   |        |          | <i>p</i> -value | 0.544        | 0.688        | 0.325  | 0.426        | 0.960        | 0.294  | 0.224  |        |        |        |        |        |       |
| 9. S <sub>2</sub> (Consumer preference oriented )       | 0      | 1        | coefficient     | -0.127       | -0.194       | 0.018  | 0.093        | -0.020       | 0.276  | -0.047 | -0.130 |        |        |        |        |       |
|   |        |          | <i>p</i> -value | 0.440        | 0.237        | 0.914  | 0.572        | 0.906        | 0.089  | 0.776  | 0.430  |        |        |        |        |       |
| 10. S <sub>3</sub> (Differentiation oriented)           | 0      | 1        | coefficient     | 0.213        | 0.194        | 0.135  | -0.016       | 0.002        | 0.181  | -0.029 | -0.282 | 0.031  |        |        |        |       |
|   |        |          | <i>p</i> -value | 0.194        | 0.238        | 0.412  | 0.923        | 0.992        | 0.269  | 0.859  | 0.082  | 0.852  |        |        |        |       |
| 11. S <sub>4</sub> (Exports and quality oriented)       | 0      | 1        | coefficient     | 0.077        | 0.181        | 0.095  | 0.094        | <b>0.398</b> | 0.231  | -0.120 | 0.043  | 0.064  | -0.016 |        |        |       |
|   |        |          | <i>p</i> -value | 0.642        | 0.270        | 0.564  | 0.569        | <b>0.012</b> | 0.156  | 0.467  | 0.797  | 0.700  | 0.923  |        |        |       |
| 12. S <sub>5</sub> (Global strategy oriented)           | 0      | 1        | coefficient     | 0.056        | 0.184        | 0.247  | <b>0.326</b> | 0.169        | -0.055 | 0.037  | -0.193 | 0.097  | -0.035 | -0.168 |        |       |
|   |        |          | <i>p</i> -value | 0.735        | 0.263        | 0.129  | <b>0.043</b> | 0.302        | 0.739  | 0.823  | 0.239  | 0.559  | 0.832  | 0.307  |        |       |
| 13. S <sub>6</sub> (Brand and cost oriented)            | 0      | 1        | coefficient     | -0.134       | -0.261       | -0.145 | -0.289       | <b>0.352</b> | 0.211  | 0.155  | -0.029 | -0.052 | 0.074  | 0.201  | -0.052 | 1.000 |
|   |        |          | <i>p</i> -value | 0.415        | 0.108        | 0.377  | 0.074        | <b>0.028</b> | 0.197  | 0.347  | 0.862  | 0.752  | 0.652  | 0.219  | 0.753  | .     |

Spearman rank-order correlations

*n*=39



**Table A6.15**

**Correlation Matrix for Performance Indicators, Resource and Strategy Patterns - Startegic Group Two**

|   | Mean  | Std. Dev. |                 | 1             | 2             | 3             | 4             | 5      | 6      | 7            | 8      | 9      | 10     | 11     | 12            | 13    |
|---|-------|-----------|-----------------|---------------|---------------|---------------|---------------|--------|--------|--------------|--------|--------|--------|--------|---------------|-------|
| 1. VAT production share                                 | 1.52  | 1.51      | coefficient     | 1.000         |               |               |               |        |        |              |        |        |        |        |               |       |
|   |       |           | <i>p</i> -value | .             |               |               |               |        |        |              |        |        |        |        |               |       |
| 2. VAT export market share                              | 1.38  | 1.65      | coefficient     | <b>0.965</b>  |               |               |               |        |        |              |        |        |        |        |               |       |
|   |       |           | <i>p</i> -value | <b>0.000</b>  |               |               |               |        |        |              |        |        |        |        |               |       |
| 3. VAT export market share growth                       | -8.36 | 45.84     | coefficient     | 0.268         | 0.270         |               |               |        |        |              |        |        |        |        |               |       |
|   |       |           | <i>p</i> -value | 0.316         | 0.313         |               |               |        |        |              |        |        |        |        |               |       |
| 4. R <sub>1</sub> (Single product-skill based)          | 0.41  | 1.24      | coefficient     | <b>0.588</b>  | <b>0.666</b>  | 0.193         |               |        |        |              |        |        |        |        |               |       |
|   |       |           | <i>p</i> -value | <b>0.017</b>  | <b>0.005</b>  | 0.473         |               |        |        |              |        |        |        |        |               |       |
| 5. R <sub>2</sub> (Firm size and brand awareness based) | -0.32 | 0.38      | coefficient     | -0.193        | -0.174        | 0.199         | -0.037        |        |        |              |        |        |        |        |               |       |
|   |       |           | <i>p</i> -value | 0.473         | 0.518         | 0.460         | 0.892         |        |        |              |        |        |        |        |               |       |
| 6. R <sub>3</sub> (Ownership and experience based)      | 0.37  | 0.9       | coefficient     | 0.031         | 0.031         | -0.353        | -0.325        | -0.161 |        |              |        |        |        |        |               |       |
|   |       |           | <i>p</i> -value | 0.911         | 0.909         | 0.180         | 0.219         | 0.551  |        |              |        |        |        |        |               |       |
| 7. R <sub>4</sub> (Professional knowledge based)        | 0.08  | 1.04      | coefficient     | -0.121        | -0.081        | -0.125        | 0.143         | -0.240 | 0.124  |              |        |        |        |        |               |       |
|   |       |           | <i>p</i> -value | 0.656         | 0.767         | 0.644         | 0.596         | 0.370  | 0.647  |              |        |        |        |        |               |       |
| 8. S <sub>1</sub> (VAT production oriented)             | 0.23  | 0.69      | coefficient     | 0.306         | 0.200         | 0.163         | 0.155         | -0.120 | 0.049  | <b>0.666</b> |        |        |        |        |               |       |
|   |       |           | <i>p</i> -value | 0.248         | 0.458         | 0.545         | 0.566         | 0.657  | 0.858  | <b>0.005</b> |        |        |        |        |               |       |
| 9. S <sub>2</sub> (Consumer preference oriented )       | 0.83  | 0.9       | coefficient     | <b>-0.569</b> | <b>-0.663</b> | -0.064        | <b>-0.526</b> | 0.366  | -0.113 | -0.271       | -0.355 |        |        |        |               |       |
|   |       |           | <i>p</i> -value | <b>0.022</b>  | <b>0.005</b>  | 0.813         | <b>0.036</b>  | 0.164  | 0.678  | 0.311        | 0.177  |        |        |        |               |       |
| 10. S <sub>3</sub> (Differentiation oriented)           | -0.03 | 1.06      | coefficient     | 0.042         | 0.007         | <b>-0.505</b> | 0.040         | -0.057 | 0.100  | 0.183        | -0.069 | -0.224 |        |        |               |       |
|   |       |           | <i>p</i> -value | 0.876         | 0.980         | <b>0.046</b>  | 0.820         | 0.835  | 0.712  | 0.498        | 0.799  | 0.404  |        |        |               |       |
| 11. S <sub>4</sub> (Exports and quality oriented)       | -0.28 | 1.29      | coefficient     | -0.263        | -0.160        | 0.019         | 0.147         | 0.416  | 0.178  | -0.252       | -0.188 | 0.354  | -0.135 |        |               |       |
|   |       |           | <i>p</i> -value | 0.324         | 0.553         | 0.946         | 0.587         | 0.109  | 0.509  | 0.346        | 0.485  | 0.178  | 0.619  |        |               |       |
| 12. S <sub>5</sub> (Global strategy oriented)           | -0.17 | 0.71      | coefficient     | 0.114         | 0.278         | 0.116         | 0.342         | 0.173  | -0.272 | -0.138       | 0.054  | -0.028 | -0.235 | 0.261  |               |       |
|   |       |           | <i>p</i> -value | 0.675         | 0.298         | 0.669         | 0.195         | 0.521  | 0.308  | 0.610        | 0.844  | 0.917  | 0.381  | 0.329  |               |       |
| 13. S <sub>6</sub> (Brand and cost oriented)            | -0.05 | 1.22      | coefficient     | -0.429        | <b>-0.515</b> | 0.057         | <b>-0.551</b> | 0.138  | 0.065  | -0.057       | 0.024  | 0.295  | -0.079 | -0.134 | <b>-0.544</b> | 1.000 |
|   |       |           | <i>p</i> -value | 0.097         | <b>0.041</b>  | 0.834         | <b>0.027</b>  | 0.610  | 0.812  | 0.835        | 0.930  | 0.267  | 0.770  | 0.620  | <b>0.030</b>  | .     |

Spearman rank-order correlations

*n* = 16