CHAPTER – 1
INTRODUCTION

The present generation market is highly competitive than ever before. New technology, Globalization and customer demand for newly entered products are forcing companies to implement good business models and innovative managerial practices. The New management practices and business models are frequently changeable and constantly fade as managers dedicate to make the companies succeed in this less predictable business world. One such area that has majorly benefited from new technologies is Supply Chain Management (SCM). Supply Chain Management (SCM), in general, is a synthesis of what was previously considered to be the management of a number of separable business functions on the one side, and several relatively independent theoretic domains on the other. These domains include among others; purchasing, inward/outward logistics, inventory control, contracting, producing/outourcing, quality/efficiency theory, relational management, information systems, systems theory, mathematical and computer modelling, optimization etc. (Caper et al., 2004). Today, SCM could be an integrated single function that is highly responsible for all aspects of management functions, as well as financial and other information interchange between business partners among the chain. Today’s successful companies whether large or small, domestic or international are customer-centric and have a strong commitment to marketing. The companies are highly dedicating to satisfy the needs of customers in well-defined target markets (Kotler, 1965; Kotler and Keller, 2009).

1.1 Coffee

Coffee is the world’s most widely traded tropical agricultural commodity (ICO, 2011). In the world economy, revenue from the coffee trading was worth approximately US$ 18.5 billion by 2015 (ITC, 2014). It is a major source of revenue for the livelihood of many in more than 40 countries, and it generates employment of more than 120 million jobs (CIRAD, 2012). Around 125 million people worldwide depend on coffee for their livelihood (Fairtrade, 2012) and
people are involved in its various aspects from farm level to market level (Consumers International, 2005).

According to CIRAD (2012), coffee is grown on more than 10 million hectares worldwide. The world production for 2014/2015 was estimated at 141.4 million bags (ICO, 2014a), and the USDA (2015) has forecast a record 149.8 millions bags of coffee worldwide for the 2014/2015 harvest.

Coffee is considered as the largest traded commodity after Petroleum and hence aptly described as ‘Brown Gold’. India is one of the major producing as well as consuming countries in Asia. India occupies around 2% of global area and an average share of around 4% of world production as well as international trade. India ranks sixth in coffee production, with Brazil at the top and the other major producers and suppliers being Vietnam, Columbia, Indonesia, Ethiopia. India is the producer of both Arabica and Robusta varieties of coffee in the proportion of 33:67. Karnataka produces 71% of the coffee in India. In Karnataka, Coorg, Chikmagalur and Hassan are the major districts that produce both Arabica and Robusta in almost equal proportion, while Kerala specializes in Robusta and Tamilnadu in Arabica. Coffee production rose steadily from 1950-51 onwards and reached its peak in 2000-01 (3,00,600MT) but subsequently slumped during the period from 2001-06 mainly on account of the cumulative impact of slump in global coffee price, shortage of rainfall and outbreak of pests & diseases. In India, coffee is predominantly an export-oriented commodity with over 70% of the coffee produced in the country being exported earning a foreign exchange to the tune of over Rs. 3,700 crores (XIIth plan report, 2011). Italy, Russian Federation, Germany, Belgium and Spain are the major destinations where Indian Coffee is in great demand. Coffee Board undertakes periodical studies to assess the coffee consumption in the country and also the attitude to coffee drinking. Based on the national statistical report, to enhance the domestic coffee consumption, the Board has been participating in important national festivals/exhibitions, conducting training programmes in coffee brewing to the hotel and restaurant staff, organizing coffee fests around the country, making aggressive generic promotion efforts through public relation campaigns and providing intensive training on roasting and brewing of coffee for the benefit of private coffee entrepreneurs.
The Indian coffee is accepted by the world as bird-friendly, it is grown under the shades of the trees and the taste of the coffee is mild. Unlike in Mexico, Brazil and Uganda where coffee is cultivated under open conditions termed as ‘Sun coffee’ (Damodaran, A., 2002). Indian coffee is universally recognized as Bird-friendly coffee. Indian Coffee is with a fine aroma, mild and not too acidic and possesses an exotic full-bodied taste. The production of coffee in India in the year 2014-15 is 331,000 MT (Metric Tons) (Post monsoon estimates), out of which Arabica contributes 99600 MT (30%), and Robusta contributes 231,400 MT (70%) (Coffee Board, 2015). In spite of huge domestic consumption, a large amount, 75 percent of the coffee produced in India is annually exported to the international markets mainly to North and East American countries and to some of the European countries.

The history of coffee in India takes back to 1600 AD, the coffee plantation originally started in Chikkamagaluru district of Karnataka state. It is believed that the initial plantation was done by a saint named Bababudan. In the meanwhile coffee plantation was become popular in the neighboring places of Chikkamagaluru. Kodagu is another place where the high coffee plantation can be seen. The coffee was firstly planted in Nalaknad, a place of Kodagu district of Karnataka state. By the statistics of Coffee Board, Chikkamagaluru and Kodagu districts are highest coffee growing regions of India. The commercial activity of coffee was started during 1820s, by the British Establishment in India. Today the
Indian coffee planters are selling their coffee directly to any where in the world. The coffee planters sell their coffee at the farm gate to the intermediaries, periodically coffee auctions are held through reliable coffee export companies, through high profile facilitators and are shipped through established C&F agents.

**Figure 1.2: Production of Different Growing Region in India 2014/15 (Post Monsoon Estimates)**

![Pie chart showing distribution of coffee production by region.](image)

*Source: Coffee Board of India.*

According to Singh in 2002, the majority of the production from the agriculture is by small farms and the productivity is found to be efficient (Singh *et al.*, 2002). The following table shows how coffee plantations are distributed in terms of holdings. Nearly 99% of the coffee holdings are small planters, more than 70% of the coffee production is from them. The remaining planters are holding large coffee lands, producing the remaining 30%.
### Table 1.1: Area and Share of Production of Coffee under Different Coffee Holdings in India (2014-15)

<table>
<thead>
<tr>
<th>Si. No.</th>
<th>Size of holdings (Hectares)</th>
<th>Number holdings (Hectares)</th>
<th>% Area</th>
<th>% Production Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Small Holdings</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;2</td>
<td>178585</td>
<td>80.9</td>
<td>164296</td>
</tr>
<tr>
<td></td>
<td>2-4</td>
<td>27731</td>
<td>12.6</td>
<td>82225</td>
</tr>
<tr>
<td></td>
<td>4-10</td>
<td>11800</td>
<td>5.3</td>
<td>84658</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>218116</td>
<td>98.8</td>
<td>331179</td>
</tr>
<tr>
<td>II</td>
<td>Large holdings</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10-25</td>
<td>1789</td>
<td>0.8</td>
<td>36350</td>
</tr>
<tr>
<td></td>
<td>&gt;25</td>
<td>920</td>
<td>0.4</td>
<td>74120</td>
</tr>
<tr>
<td></td>
<td>Sub total</td>
<td>2709</td>
<td>1.2</td>
<td>110470</td>
</tr>
<tr>
<td>III</td>
<td>Total(India)</td>
<td>220825</td>
<td>100.0</td>
<td>450641</td>
</tr>
</tbody>
</table>

*Source: Coffee Board of India.*

Prior to liberalization, the Coffee Board of India was dealing the coffee trading. It was carried under auctioning with two separate systems for the domestic market and the export market by collecting coffee from different sources. After picking the ripe coffee fruits, the processing takes place by dry or wet processing leading to the next stage. The processed coffee was collected and sent to the coffee board licensed curing works. Sometimes Coffee Board makes the payment in advance to the coffee planters, or the payment is made after the coffee is auctioned. The coffee growers were not satisfied by this kind of transaction. This was accompanied by the problem of higher export tax that was a burden for the small growers. The growers were free from the hands of Coffee Board; Growers became the sole masters of their produce after liberalization in 1991. They were selling the coffee in cured or uncured form to the international market or domestic market. In every agricultural transaction the farmer or the planter are getting a very minimum price for the produced products. The mediators were making high margin of profit, so it makes the planters keeping away from the others.

The standard coffee supply chain system works in an international
way, there is no link between producers and consumers. The Coffee is supplied to the intermediaries, processors, roasters and the retailers.

### 1.2 Coffee Café History

During 1000 A.D., Arabs used to prepare a type of beverage called ‘qahwa,’ by roasting and boiling the coffee beans with a belief that it prevents sleep. Then coffee drink became broadly accepted as a sleep prevention beverage by the Arab traders; subsequently coffee started to grow in plantations. The history of coffee cafes is listed below.

**Table 1.2: Timeline of Coffee Cafes**

<table>
<thead>
<tr>
<th>Timeline</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>850</td>
<td>The coffee berries first discovered in Ethiopia by a goat herder. He noticed that the goats have eaten the coffee and started running here and there, and then he started eating and felt a different feeling of increase in the energy.</td>
</tr>
<tr>
<td>1100</td>
<td>The coffee trees are first cultivated in the Arabian Peninsula. Coffee is roasted and boiled by Arabs making a type of drink ‘qahwa’</td>
</tr>
<tr>
<td>1475</td>
<td>The first coffee shop in the world’ opens in Constantinople.</td>
</tr>
<tr>
<td>1554</td>
<td>Two more coffee cafes opened in Constantinople.</td>
</tr>
<tr>
<td>1600s</td>
<td>Through the port of Venice Coffee entered Europe. In the year 1654 the first coffee house opened in Italy.</td>
</tr>
<tr>
<td>1652</td>
<td>The coffee houses started in England, usually called as ‘penny universities’ (a penny is charged for admission and a cup of coffee) there the people started social meetings.</td>
</tr>
<tr>
<td>1672</td>
<td>A coffee house opened in Persia.</td>
</tr>
<tr>
<td>1683</td>
<td>The coffee café entered Vienna.</td>
</tr>
<tr>
<td>1688</td>
<td>Edward Lloyd’s coffee house opens. It eventually becomes Lloyd’s of London, the world’s best-known insurance company.</td>
</tr>
<tr>
<td>1695</td>
<td>The first sign of the French Revolution had its roots in Parisian cafés where the people’s movement started gathering steam.</td>
</tr>
<tr>
<td>1700</td>
<td>The coffee is commercially cultivated and transported by Dutch people, it is smuggled from Arabian peninsula and cultivated in India and Srilanka.</td>
</tr>
<tr>
<td>1721</td>
<td>The first coffee house opens in Germany.</td>
</tr>
<tr>
<td>1750</td>
<td>Coffee cafes entered Italy, By 1763, more than 2,000 coffee cafes opened in Venice, Italy.</td>
</tr>
<tr>
<td>1822</td>
<td>The first coffee espresso machine is created in France.</td>
</tr>
<tr>
<td>1885</td>
<td>The process of roasting coffee by mechanical system is founded.</td>
</tr>
<tr>
<td>Year</td>
<td>Event</td>
</tr>
<tr>
<td>------</td>
<td>-------</td>
</tr>
<tr>
<td>1905</td>
<td>The first coffee espresso machine for commercial purpose is manufactured in Italy.</td>
</tr>
<tr>
<td>1908</td>
<td>The first drip coffeemaker is invented by Melitta Bentz.</td>
</tr>
<tr>
<td>1933</td>
<td>The first automatic espresso machine is developed by Dr. Ernest Illy.</td>
</tr>
<tr>
<td>1940</td>
<td>The ‘India Coffee House’ was started by the COFFEE BOARD in India.</td>
</tr>
<tr>
<td>1945</td>
<td>The espresso machine with a piston that creates a high-pressure extraction to produce a thick layer of cream, this is developed by Achilles Gaggia.</td>
</tr>
<tr>
<td>1980</td>
<td>Coffee is now the world’s most popular beverage, which leads to a boom in retail and hotel cafés. The American retail café Starbucks is born.</td>
</tr>
<tr>
<td>1990</td>
<td>With the growth of the Internet, cyber cafés are born, providing Internet access and coffee to users.</td>
</tr>
<tr>
<td>1996</td>
<td>Café Coffee Day was started in India as a retail restaurant.</td>
</tr>
<tr>
<td>2000</td>
<td>With an increased penetration of PCs in homes, cyber café chains close, and re-immerge as retail coffee café chains.</td>
</tr>
<tr>
<td>2010</td>
<td>More than 3 lakh+ coffee cafes established in the world.</td>
</tr>
</tbody>
</table>

Source: Own compilation.

### 1.3 Coffee Café Industries

About 1.5 billion cups of coffee are consumed in the world every day. Coffee is a habit-forming stimulant but is also strongly associated with relaxation and sociability. Besides alcohol it is the major beverage for public consumption, and as a drink it is welcomed into almost any situation from the car to the boardroom, from the breakfast table to the public park, consumed alone or in company. Coffee has been offered as an antipode to alcohol and in recognition of a human need for joyfully mood-altering substances (Luttinger and Dicum, 2006).

The Coffee Café industry is presently one of the prime and fastest growing sectors in business, which consists of different types of cafes like Individual cafés, Hotel cafes, Retail café chains etc.

#### 1.3.1 Individual Cafés

The individual café is a type of café that comes under unorganized café sector. The coffee is served to the local customers earning a small amount of profit, typically run by families or a group of friends. There are enumerable such cafés in the world, serving customers to their satisfaction. The Majority of these are in Europe, where each and every city or village is filled by these types of cafes. The
customer visits these cafes for relaxing, chatting and general discussions.

**Fig 1.3: Individual Café**

![Individual Café](https://www.blogto.com)


The individual café are very different than the retail chain cafes or another type of cafes. These cafes accommodate thinkers, creative people and revolutionaries like J.K. Rowling wrote the book series ‘Harry Potter’ in this type of café.

### 1.3.2 Hotel Cafés

Every reputed hotel has separate space for café, with some hotels keeps it open 24 hours for their esteemed customers. In hotel cafes, the visitors can enjoy international standard coffees since the visitors come from different countries. The coffee cafes are very much needed as a subsidiary service for their guests, and it is a strategy of promoting the other services of the hotel.
1.3.3 Retail Café Chains

The retail cafe chains are the organized sector in the coffee café industry. These cafes are doing business in large scale; they are capable of entering the market anywhere in the world. The brand matters as coffee is also brand driven like any other commodities. In most of the developed countries café culture is very popular, so the café companies are managing the business in a systematic way. Also, the cafes are emerging in coffee growing countries; the people have started to visit the cafes and globally reckoned companies have started the business in these countries. The impacts of business environmental changes lead the café to enter globally. The branded café chains have their own strategies to enter and expand the business. To date, there are more than a 100 branded café chains operating around the globe. These companies have distinguished themselves and focus on their customer base.

The popularity of these retail cafes enables them to enter the international markets of brands like Starbucks, Costa Coffee, Dunkin Donuts, Café Coffee Day etc. across the world.
1.4 Coffee Café Industries in India

In Indian tradition, hot beverages are served with the food or alone to cherish guests, and it is a part of daily life. Coffee is consumed more in South India. Almost every house hold has the habit of taking the coffee at least once in a day. Some classes of Indian society practiced the habit of drinking coffee, which they acquired from the British during the 1930s. Gradually this tradition spread across every class in India.

The coffee beverage entered into the retail market, serving in hotels usually with milk and sugar. During that time retailing of coffee was done in the unorganized sector, which became an organized system with the entry of the Indian Coffee House in the market. The Indian Coffee House was managed by The Coffee Board, an Indian government enterprise. Usually the movie actors, politicians, poets etc. were the common visitors of the cafés during that time. In North India, the coffee was served in the hotels so that the coffee drinking trend slowly became a practice in the North. After independence, the Coffee Board came out of the coffee house business, followed by a group of people farming a cooperative society and has been running the coffee house.

Till 1991 coffee commodity was under the control of the coffee board, and after liberalization coffee entered the open market and became a high-value product. Most of the coffee grown in India is exported; leaving a very little quantity for domestic consumption. The new business policy of Indian government in 1991 leads the café companies of the world to enter the Indian market.
After liberalization in 1991 the lifestyle of Indians gradually changed, the education system and economical conditions were improved. The young Indians dominated the demography of India; the disposable money went up. This makes the café retailers to focus on this young group and expand their market by increasing café outlets. Today the outlets of coffee cafes are very different from that of the retailers, serving the customers beyond their satisfaction.

In India, the coffee café industries are making high profits, expanding themselves and creating customer value. The facilities designed by these cafes are distinct from their competitors and are developing their own customer base. Now in India there are loyal regular customers for the different café brands.

1.5 Supply Chain Management

Supply chain management is a primary business process. In the early 1980s, the concept of Supply Chain Management (SCM) was introduced by consultants as a business activity and founded the maximum benefits from this process. Then onwards the SCM is focused and monitored by giving utmost priority. M. Christopher from the Cranfield School of Management, a Professor of Marketing and Logistics explained that the supply chain is the network of organizations that are involved, through upstream (supplier end of the supply chain) and downstream (customer end of the supply chain) activities. The processes and activities of these organizations that produces value are linked together in order to deliver the products to the ultimate consumer (Christopher, 1998). He distinguishes SCM from vertical integration; while the latter concept involves ownership or at least control of upstream suppliers and downstream entities, SCM does not necessarily involve any such ownership or control of supply chain partners.

Stevens explained that the supply chain management is an activity with a series of planning, coordinating and controlling materials, its parts and finished products from suppliers to the customer (Stevens, 1989). Hence, marketers in search of ingredients for their marketing strategy have found supply chain management to be an important part of their overall approach. The world top service and manufacturing sectors are creating high business value by delivering
products and services efficiently and effectively, caused by proper designing and coordination of their supply chain activities (Tan, 2002; Sengupta et al., 2006). The degree of integration of suppliers and customers is one of the most pertinent competitive advantages (Ragatz et al., 1997; Frohlich and Westbrook, 2001; Kim, 2007).

1.6 Supply Chain Systems

The ultimate objective of Supply Chain System is to fulfill the requirements of supply chain partners by receiving the products at the right time, in the right quantity, and the supply-side information plays a second essential role. Enterprise systems represent a significant technology investment alternative for operations managers, and they have been commended in the practitioner and academic literature for their potential to improve business performance (Davenport, 1998; Akkermans et al., 2003).

Supply chain systems are computerized systems to manage the activities in the supply chain of the enterprise. And it can be an integrated partnership system among all links in the flow of goods and services to the customer. It is created for the purpose of improving quality, reducing costs and achieving competitive advantage in the business world. All the supply chain activities, including forecast, procurement, producing, supplying are handled as an integrated supply chain system to make the use of resources. Most of the times the Supply Chain Systems is referred as Enterprise Systems (ES) usually applicable to handle the Supply Chain Management.

1.7 Drivers of Supply Chain Systems

It is confirmed that firms adopt Supply Chain systems to gain greater efficiency (e.g., rational efficiency), but this is also due to external pressure (e.g., bandwagon effect). The rational efficiency theory holds that if more organizations adopt a technology, then greater knowledge and benefits are created (Abrahamson, 1996). When this knowledge is shared between companies, eventually more non-adopters will rationally adopt the concept (Frohlich and
Westbrook, 2001). The second rational efficiency argument for adopting Supply Chain systems is the anticipated performance improvement in the focal firm.

### 1.8 Supply Chain Integration

Porter stated that the linkage between suppliers’ value chains and a firm’s value chain provide opportunities in favor of the organization to improve its competitive advantage (Porter, 1998). Supply chain management seeks to improve competitive performance by closely integrating the internal functions within a company and linking them effectively with the external operations of suppliers, customers, and other channel members (Kim, 2006a). One of the most well-known strategies for improving competitiveness is supply chain management (Gunasekaran et al., 2008), which has been considered by While the supply chain is very wide, it is also an inter-company and boundary-spanning concept.

### 1.9 Competition Capabilities

Competition capabilities are defined as “potential points of differentiation between [a] firm and its competitors.” (Tracey et al., 1999). Managers do not control competition capabilities (CC) directly; nevertheless, they are the outcomes of critical management decisions and should enable firms to achieve high levels of performance (Tracey et al., 1999).

As McAfee and Brynjolfsson (2008) mentioned, “the link between technology and competition has become much stronger.” McAfee and Brynjolfsson (2008) asserted further that the Internet and enterprise systems impact not only firms’ products but also their processes; therefore, information technology appears to be much more strongly correlated with changes in competitive dynamics than research and development. It may be possible to replicate quickly a digital photo or a Web-search algorithm; however, the unique business process of a company is not easily reproducible (McAfee and Brynjolfsson, 2008).
1.10 Firm Performance

According to Webster’s Dictionary of the English Language (1987), performance is defined as “any recognized accomplishment.” According to Zou and colleagues (1998), one can question whether the obtainable results relating to performance are a consequence either of the variables related to performance or of their operationalization. Firm performance is defined as the entire value produced by the organization by its activities, which is the amount of the facilities formed for each stakeholder (Freeman, 2010). It is has even been asserted that performance is one of the least understood areas in international marketing and logistics (Katsikeas et al., 2000; Frohlich, 2002; Sousa, 2004; Dehning et al., 2007; Hendricks et al., 2007), and that the extensive diversity of employed performance conceptualizations have led to inconsistent and conflicting results (Aaby and Slater, 1989; Zou and Stan, 1998; Katsikeas et al., 2000; Sousa, 2004). This is a distinct weakness in extant research resources since it is argued that firms which implement robust performance measures will also be able to benefit from better marketing and managerial performance in general (O'Sullivan and Abela, 2007).

1.11 Research Problem and Purpose

Organizations in search of competitive advantage and better-quality performance invest heavily in different technologies. Supply chain management (SCM) has become a digitally facilitated inter-firm process that has been receiving significant attention. However, despite the key role of technology innovation in supply chain management, only limited scholarly investigation has been undertaken by the researcher community thus far (Handfield and Nichols, 2002; Rai et al., 2006; Hendricks et al., 2007).

Some of the theories show very positive results on the impacts of technology on Firm Performance, but unable to utilize totally (Shapiro et al., 1993; Davenport, 1998; Slone et al., 2007), and failure rates are relatively high (Tan, 2002). Many of the most promising supply chain opportunities are made possible by sophisticated technologies. There is an increase in the adoption of systems related to enterprises for the achievement of high level Supply Chain
Integration ad Performance, the research done on this area is very limited (Rai et al., 2006; Hendricks et al., 2007).

To date, the studies attempted in this area that seek to address some of the topical questions are fragmented and inconsistent since they report different and often contradictory findings, where some researchers revealed and discussed the benefits while others focus on the disadvantages of these systems. However, very few empirical studies have investigated the impact of supply chain systems on firm performance. It is also important to recognize that to the author’s knowledge, no study in the field has rigorously and empirically examined the subjects of supply chain systems, supply chain integration, competition capability, and firm performance in coffee café industries such as the one undertaken here.

The coffee beverage market is a huge business in the world market. In the present scenario, it is the business that can be included as the booming business that is associated customer directly through its outlets. The Starbucks which is the first business house which has especially opened the outlets in the form of houses in the home country America and also in many western countries which tasted the victory of business in the name of success. Hence, this concept is taken into consideration in India also to boom in such business with the profit. Hence, the Café Coffee Day had started its business in 1996 which made the business to go in the better way. Understanding the need of the business many other firms tries to establish their business and some have succeeded but the majority has not. Since these outlets are recent in India and the research has not done in the broader area especially in the field of the supply chain management. Hence, the need of the research has aroused to give better understanding to this new business, where the research can take the concept of supply chain management into the new height in the coffee beverage business.
1.12 Objectives of the Research

1. To examine the role of Supply Chain Systems in Café Coffee Day Company.
2. To assess the level of Integration among the supply chain partners.
3. To identify the supply chain strategies for competition capabilities.
4. To assess the level of firm performance by adopting the supply chain strategies

By interpreting the thesis through its more explicit objectives, this research aims specifically to contribute to the body of existing knowledge by, firstly, presenting the different drivers of the adoption of supply chain systems. Secondly, by discussing how different supply chain systems influence company in the service sector. Thirdly, by providing guidelines for managers and researchers concerned with the importance of adoption of supply chain systems and supply chain integration to achieve superior performance and output. The research model, combined with the completion of the study’s objectives and purpose, will contribute to the advancement of knowledge in the field on both a theoretical and a practical level.

1.13 Hypothesis of the Research

H1: An increase in expected access to new markets leads to an increase in the adoption of Supply Chain Systems.

H2: An increase in expected anticipated performance leads to the adoption of supply chain systems.

H3: An increase in expected external pressure leads to the adoption of supply chain systems.

H4: There is a positive relationship between adopting supply chain systems and supply chain integration.

H5: There is a positive relationship between supply chain integration and competition capabilities.
H6: There is a positive relationship between competition capabilities and firm performance.

H7: There is a direct positive relationship between supply chain integration and firm performance.

1.14 Research Methodology

1.14.1 Research Approach

A researcher can conduct academic research using various methods, inductive or deductive (Eriksson and Finn, 1997; Strauss and Corbin, 1998; Sullivan, 2001). The deductive approach is suitable for this study since the empirical research conducted for this study is guided by quantitative models and hypotheses that have been derived from pre-existing theories and previous research in the area.

1.14.2 Type of Research

For every researcher who is finding something new or expanding the existing body of knowledge there is always a question of which type of research, qualitative or quantitative, is best suited for the problem under study. Both approaches are intended to create a better perception of the surrounding environment and to gain comprehension of how individuals, groups, systems, and institutions act and influence one another (Sogunro, 2001; Sullivan, 2001). The availability of previous research in this area provided the impetus for construction of a conceptual framework and research hypothesis. This research is first and foremost quantitative in nature. As it has now been clarified that the dissertation undertakes a deductive and quantitative research approach.

To thoroughly evaluate the state of supply chain management in the Café Coffee Day Company a quantitative analysis approach was employed. In general, the use of quantitative analysis entails identifying a problem, making a series of assumptions (hypothesis) regarding the existence of some general truth or law, and then performing an experiment to yield measured data by which the hypothesis may be accepted or rejected (Eldin and Beheshti, 1985).
1.14.3 Research Design

After analyzing the problem of the research and the related factors it is decided that the Descriptive and the Cross-Sectional design is very much applicable.

1.14.4 Sources of Data

The secondary sources usually contain data that have been collected for a different purpose; their content might correlate poorly with the researcher’s current needs (Yin, 1994; Hair et al., 2000). This shortcoming is the main reason why primary data sources were chosen for this study. To achieve the objectives of the research, a limited number of secondary sources are available.

1.14.5 Research Strategy

The survey strategy is the most generally used research strategy when it comes to collecting descriptive, cross-sectional data (Zikmund, 1994; Hair et al., 2007; Kent, 2007). The observation method was not possible, because the nature of the research shows that the ability to collect sufficient information is not possible, so the Survey method is decided.

1.14.6 Data Collection Method

The hypothesis posed in this study also required standardized answers using closed alternatives. For these kinds of questions, highly structured questionnaires are mainly suitable (Hair et al., 2000; Saunders et al., 2003). To collect the data for further proceedings of the research the self administered survey through closed-ended questionnaire is generated.
Table 1.3: The Conceptual Framework

<table>
<thead>
<tr>
<th>Code</th>
<th>Constructs</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>NM</td>
<td>New Markets</td>
<td>A construct capturing the extent of the chosen firm expectations to access to new markets by Supply Chain Systems</td>
</tr>
<tr>
<td>AP</td>
<td>Anticipated Performance</td>
<td>A construct capturing the extent of the chosen firm expectations to improve its business performance by adopting Supply Chain Systems</td>
</tr>
<tr>
<td>EXP</td>
<td>External Pressure</td>
<td>A construct capturing the extent of external pressure on the chosen firm in order to adopt Supply Chain Systems</td>
</tr>
<tr>
<td>SCS</td>
<td>Supply Chain Systems</td>
<td>A construct capturing the extent of Supply Chain Systems adoption by the chosen firm</td>
</tr>
<tr>
<td>SCI</td>
<td>Supply Chain Integration</td>
<td>A construct capturing the extent to which the chosen firm is integrated with other members of its supply chain</td>
</tr>
<tr>
<td>ING</td>
<td>Integration with Growers</td>
<td>A construct capturing the extent of the chosen firm integration with the Growers</td>
</tr>
<tr>
<td>INI</td>
<td>Integration with Intermediaries</td>
<td>A construct capturing the extent of the chosen firm integration with the Intermediaries</td>
</tr>
<tr>
<td>INC</td>
<td>Integration with Cooperatives</td>
<td>A construct capturing the extent of the chosen firm integration with the Cooperatives</td>
</tr>
<tr>
<td>INP</td>
<td>Integration with Processors</td>
<td>A construct capturing the extent of the chosen firm integration with the Processors</td>
</tr>
<tr>
<td>INR</td>
<td>Integration with Roasters</td>
<td>A construct capturing the extent of the chosen firm integration with the Roasters</td>
</tr>
<tr>
<td>CC</td>
<td>Competition Capabilities</td>
<td>A construct capturing the Competition Capabilities of the chosen firm</td>
</tr>
<tr>
<td>CL</td>
<td>Cost Leadership</td>
<td>A construct capturing the extent of cost leadership strategy the chosen firm emphasizing</td>
</tr>
<tr>
<td>CS</td>
<td>Customer Service</td>
<td>A construct capturing the extent of Customer Service strategy the chosen firm emphasizing</td>
</tr>
<tr>
<td>INM</td>
<td>Innovative Marketing</td>
<td>A construct capturing the extent of Innovative Marketing strategy the chosen firm emphasizing</td>
</tr>
<tr>
<td>DF</td>
<td>Differentiation</td>
<td>A construct capturing the extent of Differentiation strategy the chosen firm emphasizing</td>
</tr>
<tr>
<td>FOS</td>
<td>Focus Strategy</td>
<td>A construct capturing the extent of Focus Strategy the chosen firm emphasizing</td>
</tr>
<tr>
<td>FP</td>
<td>Firm Performance</td>
<td>A construct capturing the chosen firm’s performance relative to its main competitors</td>
</tr>
<tr>
<td>MPF</td>
<td>Market Performance</td>
<td>A construct capturing the chosen firm’s Market Performance relative to its main competitors</td>
</tr>
<tr>
<td>FPF</td>
<td>Financial Performance</td>
<td>A construct capturing the chosen firm’s Financial performance relative to its main competitors</td>
</tr>
<tr>
<td>CPF</td>
<td>Customer Performance</td>
<td>A construct capturing the chosen firm’s Customer performance relative to its main competitors</td>
</tr>
</tbody>
</table>

*Source: Adopted from Pejvak, O, 2009.*
1.14.7 Operationalization and Measurement of Variables

To enable the testing of the hypothesis and the objectives regarding the relationships between different constructs for this study were developed. Next, the conceptual constructs were to be transformed into measurable items. Pertinent scales should be developed in order to be able to empirically measure the constructs and test the Hypothesis. The most common classification of measurement scales in social sciences is nominal, ordinal, interval or ratio (Hair et al., 2007; Hair et al., 2006). For the present study the semantic differential scale with five-point Likert type scoring is selected.

Table 1.4: Measurement and Scaling of Constructs

<table>
<thead>
<tr>
<th>Construct/Variable</th>
<th>Type of scale and its construction</th>
<th>Items used</th>
<th>Adopted from</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to new markets</td>
<td>Four items 5-point semantic differential scale anchored by: 5-Fully 1-Not at all</td>
<td>NM1-Access to another single market NM2-Access to global markets NM3-Greater market valuation NM4-Access to new partners</td>
<td>Frohlich and Westbrook, 2002; Tsikriktsis et al., 2004.</td>
</tr>
<tr>
<td>Anticipated performance</td>
<td>Four items 5-point semantic differential scale anchored by: 5-Fully 1-Not at all</td>
<td>AP1-Improving speed of response to suppliers AP2-Improving service/support AP3-Improving reliability of delivery AP4-Anticipated cost reduction</td>
<td>Frohlich and Westbrook, 2002; Iacovou et al., 1995; Tsikriktsis et al., 2004.</td>
</tr>
<tr>
<td>External pressure</td>
<td>Four items 5-point semantic differential scale anchored by: 5-Fully 1-Not at all</td>
<td>EXP1-Pressure from suppliers EXP2-Pressure from peers(e.g. consultants or partners) EXP3-Threat of competitors EXP4-Threat of substitutes</td>
<td>Frohlich and Westbrook, 2002; Iacovou et al., 1995; Tsikriktsis et al., 2004.</td>
</tr>
<tr>
<td>Supply chain systems</td>
<td>Five items 5-point semantic differential scale anchored by: 5-Fully 1-Not at all</td>
<td>SCS1-Web-based technology(e.g. online ordering, online brochure) SCS2-Integrated information technology(e.g. Internal networks) SCS3-Supplier Relationship Management Systems (SRM) SCS4-Electronic Data Interchange(EDI) SCS5-Enterprise Resource Planning(ERP)</td>
<td>Dehning et al., 2007; Vickery et al., 2003.</td>
</tr>
<tr>
<td>Level of supply chain integration</td>
<td>Integration with Growers</td>
<td>Integration with Intermediaries</td>
<td>Integration with Cooperatives</td>
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<tr>
<td>----------------------------------</td>
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<tr>
<td>Six items 5-point semantic differential scale anchored by:</td>
<td>ING1-Information exchange through Internet or Web-based technologies.</td>
<td>INI1-Information exchange through Internet or Web-based technologies.</td>
<td>INC1-Information exchange through Internet or Web-based technologies.</td>
</tr>
<tr>
<td>5-Very high</td>
<td>ING2-Level of strategic partnership</td>
<td>INI2-Level of strategic partnership</td>
<td>INC2-Level of strategic partnership</td>
</tr>
<tr>
<td>1-Very low</td>
<td>ING3-Participation level in the design phase</td>
<td>INI3-Participation level in the design phase</td>
<td>INC3-Participation level in the design phase</td>
</tr>
<tr>
<td></td>
<td>ING4-Participation level in the process of procurement and other processes.</td>
<td>INI4-Participation level in the process of procurement and other processes.</td>
<td>INC4-Participation level in the process of procurement and other processes.</td>
</tr>
<tr>
<td></td>
<td>ING5-Establishment of quick ordering system</td>
<td>INI5-Establishment of quick ordering system</td>
<td>INC5-Establishment of quick ordering system</td>
</tr>
<tr>
<td></td>
<td>ING6-Stable procurement through network (e.g. EDI)</td>
<td>INI6-Stable procurement through network (e.g. EDI)</td>
<td>INC6-Stable procurement through network (e.g. EDI)</td>
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<tr>
<td>Service</td>
<td>Attributes</td>
<td>Scale</td>
<td>References</td>
</tr>
<tr>
<td>---------------------</td>
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</tr>
<tr>
<td>Customer</td>
<td>Five items 5-point semantic</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>differential scale anchored by:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5-Major emphasis</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1-Not considered</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CL5-The capability to reduce production cost</td>
<td></td>
<td>Fitzsimmons and Fitzsimmons, 2008; Kim, 2006b; Vickery et al., 2003.</td>
</tr>
<tr>
<td></td>
<td>CL6-The ability to forecast market growth and demand</td>
<td></td>
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<tr>
<td></td>
<td>CL7-Reducing network costs</td>
<td></td>
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<tr>
<td>Innovative</td>
<td>Five items 5-point semantic</td>
<td></td>
<td>Kim, 2006b.</td>
</tr>
<tr>
<td>marketing</td>
<td>differential scale anchored by:</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>5-Major emphasis</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1-Not considered</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>INM1-Distributing the products broadly</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>INM2-Advertising and promoting the product</td>
<td></td>
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<tr>
<td></td>
<td>INM3-Developing a distinctive brand</td>
<td></td>
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<tr>
<td></td>
<td>INM4-Utilizing innovative marketing techniques</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>INM5-Controlling sales/distribution network(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Differentation</td>
<td>Six items 5-point semantic</td>
<td></td>
<td>Fitzsimmons and Fitzsimmons, 2008; Kim, 2006b.</td>
</tr>
<tr>
<td></td>
<td>differential scale anchored by:</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>5-Major emphasis</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1-Not considered</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DF1-Making the intangible tangible</td>
<td></td>
<td></td>
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<td></td>
<td>DF2-Customizing the standard service</td>
<td></td>
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<td></td>
<td>DF3-Giving attention to personal training</td>
<td></td>
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<tr>
<td></td>
<td>DF4-Controlling quality</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>DF5-Design flexibility depending on customer demand</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DF6-Delivering a broad product line</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Focus strategy</td>
<td>Four items 5-point semantic</td>
<td></td>
<td>Powers and Hahn, 2004.</td>
</tr>
<tr>
<td></td>
<td>differential scale anchored by:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5-Major emphasis</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1-Not considered</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>FOS1-Narrowing and limiting the range of services</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>FOS2-Emphasizing a particular buyer group</td>
<td></td>
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<tr>
<td></td>
<td>FOS3-Offering services in lower priced market segments</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>FOS4-Servicing specific geographic markets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm performance</td>
<td>Market performance</td>
<td>Five items 5-point semantic differential scale anchored by:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5-Much better</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1-Much worse</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MPF1-Sales volume</td>
<td></td>
<td>Frohlich and Westbrook, 2001; Kim, 2006b; Tracey, 1999.</td>
</tr>
<tr>
<td></td>
<td>MPF2-Sales growth</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>MPF3-New product sales</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>MPF4-Market Share</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>MPF5-Market share growth</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Financial performance</td>
<td>Six items 5-point semantic differential scale anchored by:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5-Much better</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1-Much worse</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FPF1-Total cost reduction</td>
<td></td>
<td>Kim, 2006b; Tracey, 1999; Vickery et al., 1998; Vickery et al., 2003.</td>
</tr>
<tr>
<td></td>
<td>FPF2-Return on investment</td>
<td></td>
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<tr>
<td></td>
<td>FPF3-Return on sales</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>FPF4-Return on assets</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>FPF5-Financial liquidity</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>FPF6-Net profit</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Customer performance</td>
<td>Five items 5-point semantic differential scale anchored by:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5-Much better</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1-Much worse</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CPF1-Customer satisfaction</td>
<td></td>
<td>Kim, 2006b; Tracey, 1999.</td>
</tr>
<tr>
<td></td>
<td>CPF2-Customer retention</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CPF3-New customer generation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CPF4-Customer referral</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CPF5-Customer service</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1.14.8 Pretesting and Assessing Validity

The pretesting of the questionnaire is necessary, because the data collection should be accurate and consistent as much as possible. For a group of respondents, who are having common features are selected and responses are composed. After testing, the questionnaire is to be reframed which is applicable commonly to all selected respondents. Ten interviews were conducted in person with supply chain managers and business development managers in Café Coffee Day involved under investigation. The intention of these interviews was to analyze the data collection instrument in depth. Since none of the stages of pretesting indicated any major problems in the measurement, wording, sequencing, or design of the questionnaire, and since relevance and clarity were improved at every stage, the decision was made to proceed.

1.14.9 Sampling Technique

Snowball sampling is the best appropriate sampling technique for the present study, since based on the reference from the selected respondent the other respondents are decided.

1.14.10 Sample Size

For the present study’s sample, 185 replied by returning their questionnaires. Subsequently, 31 questionnaires were excluded from further analysis because of considerable missing data, and another 32 were eliminated because they failed the post-hoc key informant quality tests. Consequently, 122 complete and usable questionnaires remained for an effective response rate of 65.8 %.
Table 1.5: Key Respondent Characteristics

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Category</th>
<th>Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Business Area Manager</td>
<td>14</td>
</tr>
<tr>
<td>B</td>
<td>Finance Manager</td>
<td>12</td>
</tr>
<tr>
<td>C</td>
<td>IT Manager</td>
<td>15</td>
</tr>
<tr>
<td>D</td>
<td>Logistics Manager</td>
<td>10</td>
</tr>
<tr>
<td>E</td>
<td>Marketing Manager</td>
<td>14</td>
</tr>
<tr>
<td>F</td>
<td>Product Manager</td>
<td>11</td>
</tr>
<tr>
<td>G</td>
<td>Supply Chain Manager</td>
<td>15</td>
</tr>
<tr>
<td>H</td>
<td>HODs of Different departments</td>
<td>09</td>
</tr>
<tr>
<td>I</td>
<td>Operations Manager</td>
<td>09</td>
</tr>
<tr>
<td>J</td>
<td>Regional Manager</td>
<td>04</td>
</tr>
<tr>
<td>K</td>
<td>General Manager</td>
<td>09</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>122</strong></td>
</tr>
</tbody>
</table>

Source: Own Compilation.

All questions were formatted in a five-point Likert scale anchored by (1) “very low” and (5) “very high.” On the foundation of the threshold (Kumar et al., 1993) for high informant competency, all questionnaires with a rating of 2 or lower on at least one of these four items were eliminated from further analysis (32 in total). The mean composite rating after deletion was 4.78, thus providing some confidence in key respondent quality.

1.14.11 Data Analysis Techniques

Once the fieldwork was finished, the data was collected, compiled, edited, coded, and computerized. The next phase included the statistical analysis. This research utilized a number of different statistical methods, each of which is explained below in more detail. The main statistical packages utilized for this study were SPSS (version 22.0) and SPSS AMOS.

1.14.12 Data Examination and Descriptive Statistics

After the extensive data collection phase was completed, the next step involved examination of data. Because of the nature of the research it was determined that multivariate data analysis would be required. A number of
descriptive statistical methods were utilized throughout the analysis of the data. Further analysis includes the measures of frequency distribution, central tendency (mean, median) and measures of dispersion (standard deviation, range, skewness, kurtosis) is being adopted. It is expected that these types of statistics explains the descriptive findings in the study. Further, the data will be examined in terms of normality to determine their impact if any, on the results of the study.

1.14.13 Measure Validation

For assessing the suitability of the measures employed in this study, exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were utilized. Confirmatory factor analysis is a technique that uses structural equation modeling (SEM) for validating measures by testing the multidimensionality of a theoretical construct (Byrne, 2006). By applying Factor Analysis a large set of variables can be cut-down to a manageable set of variables by keeping the original information of the research. Confirmatory Factor Analysis can be considered same as Exploratory Factor Analysis (EFA) in some respects.

EFA is conducted to determine the extent to which the item measurements or the observed variables can be related to the constructs’ settings, which are represented as factor loadings. For the present study Principal Component Analysis (PCA) is performed. The statistical software package utilized in this study when performing the Confirmatory Factor Analysis was SPSS AMOS.

1.14.14 Exploratory Factor Analysis

Despite the fact that Exploratory Factor Analysis can be completed in various ways, Principal Components Analysis, which is the most frequently used approach, is employed in this study. By using varimax rotation, a clear separation of constructs was retained. This method compared to others such as Quatimax and Promax, appears to give a clearer separation (Hair et al., 2006b). Also, by using Bartlett’s test of sphericity an overall measure of intercorrelation among variables in the analysis was obtained. This measure indicated that sufficient correlation exists among the variables at a level of >0.05 (Hair et al., 2006b).
Another measure to quantify the degree of intercorrelation among variables and the suitability of factor analysis in this research was done via a Kaiser-Meyer-Olkin (KMO) test, which measures the overall measure of sampling adequacy (MSA) for both the overall test and each individual variable. The MSA value must exceed 0.5; variables with values less than 0.5 were omitted from the factor analysis one at a time (Hair et al., 2006b). Latent root is the most commonly used technique; the concept behind it is “any individual factor should account for the variance of at least a single variable if it is to be retained for interpretation” (Hair et al., 2006b). In component analysis each variable contributes a value of 1 to the total eigenvalue, which means that factors having latent roots or eigenvalues less than 1 is considered as insignificant and are disregarded (Hair et al., 2006b).

Another criterion in Exploratory Factor Analysis is the percentage of variance, which is obtained by extracting the cumulative percentage total variance by successive factors. The principle is to certify the reality for the resulting factors by ensuring that they clarify at least a particular amount of variance (Hair et al., 2006b). No absolute threshold has been espoused for all applications (Hair et al., 2006b).

The factor loadings and communalities of variables were assessed to examine the suitability of each item in the factor solution. Variable communality represents the amount of variance accounted for by the factor solution for each variable (Hair et al., 2006b). The researcher should specify the threshold (Hair et al., 2006b). Factor loadings represent the correlation between the variable and the factor. The correlation should be above 0.3 in order to be statistically significant; nevertheless, to ensure practical significance, loadings should be 0.5 or above (Hair et al., 2006b). These guidelines were used in this study for measuring whether to retain or remove variables in the factor solution.

1.14.15 Assessing Confirmatory Factor Analysis and Fit

In contrast to many other multivariate statistical techniques, it is not recommended that one relies on a single statistical test when assessing the goodness-of-fit of constructs designed in the research. As an alternative,
researchers have developed a number of measures that can be categorized as either absolute fit measures, incremental fit measures, or parsimonious fit measures (Byrne, 2006; Hair et al., 2006b). Absolute fit measures determine the degree to which the overall model predicts the observed covariance or correlation matrix. The commonly used measures of absolute fit are the Chi-square statistic and the root mean square error of approximation (RMSEA) (Bentler, 2006; Byrne, 2006). The RMSEA has only recently been acknowledged as one of the most informative criteria in covariance structure modeling.

This inconsistency, as measured by RMSEA, is expressed per degree of freedom. Values less than 0.05 indicate a very good fit, and values as high as 0.08 represent reasonable errors of approximation in the population (Browne and Cudeck, 1993; Byrne, 2006). According to McCallum in 1996, in some of the researches where the measurement of RMSEA has applied, the values from 0.08 to 0.1 indicates medium fit and more than 0.1 indicates poor fit.

If the Chi-square statistic is divided by the degrees of freedom, the normed Chi-square is then estimated as a parsimonious fit measure. Parsimonious measures relate the goodness-of-fit of the model to the number of estimated coefficients required to achieve the fit. Their basic objective is to identify whether model fit has been achieved by over-fitting the data with too many coefficients (Hair et al., 2002; Hair et al., 2006b). Besides the absolute and parsimonious fit indices, a number of incremental indices were also used in this project, namely the normed fit index, the non-normed fit index, (also known as the Tucker Lewis Index [TLI]), and the comparative fit index. The incremental fit indices should be as large as feasible and differ from the other two types of measures in that they evaluate the proposed model to a baseline or null model (Bentler, 2006; Byrne, 2006; Hair et al., 2006b).

Additionally, fitness of the constructs can be assessed through an examination of residual covariance matrices since they show the discrepancy between the sample covariance matrix and the covariance matrix estimated from the hypothesis. The standardized residuals should be small and evenly distributed, and a practical index for assessing whether they are the average off-diagonal
standardized residual (Bagozzi and Yi, 1988; Byrne, 2006). Table 1.6 shows a summary of the fit indices that are employed for assessing fit in this study.

### Table 1.6: Overview of CFA Model Fit Indices

<table>
<thead>
<tr>
<th>Index</th>
<th>Type of measure</th>
<th>Recommended threshold values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-square</td>
<td>Absolute fit</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>Normed Chi-Square</td>
<td>Parsimonious fit</td>
<td>&lt;3.00</td>
</tr>
<tr>
<td>Normed Fit Index (NFI)</td>
<td>Incremental fit</td>
<td>&gt;0.90</td>
</tr>
<tr>
<td>Non-Normed Fit Index (NNFI)</td>
<td>Incremental fit</td>
<td>&gt;0.90</td>
</tr>
<tr>
<td>Comparative Fit Index (CFI)</td>
<td>Incremental fit</td>
<td>&gt;0.90</td>
</tr>
<tr>
<td>Root Mean Square Error of Approximation (RMSEA)</td>
<td>Absolute fit</td>
<td>&lt;0.09</td>
</tr>
<tr>
<td>Standardized Root Mean Residual (SRMR)</td>
<td>Absolute fit</td>
<td>&lt;0.09</td>
</tr>
</tbody>
</table>

Source: derived from Bagozzi and Yi, 1988; Byrne, 2006; Hair et al., 2006; Schermelleh Engel et al., 2003.

### 1.14.16 Quality Criteria

In every aspect of academic research, the quality and the validity of findings are crucial. For this reason, it is important to use good measures when establishing the quality standards (De Vaus, 2002, Yin, 1994). Yin (1994) explains that the quality of research can be assessed in terms of different measures of validity and reliability. In this section of the chapter, issues related to reliability and validity as well as efforts made to assure research quality is discussed.

### 1.14.17 Validity

In social science research where it is necessary to measure rather abstract concepts with relatively concrete measures, it is not easy to establish whether the instruments actually measure what they are supposed to measure. This potential gap is referred to as the issue of validity. (Peter, 1979) defines validity as “the degree to which instruments truly measure the constructs that they are intended to measure.” Based on this definition, it is clear that validity in a measure is fundamental for the credibility of a study’s results (Cooper and Schindler 2003; Blumberg et al., 2005).
In this study, convergent and discriminant validity were assessed through Confirmatory Factor Analysis (Gerbing and Anderson, 1988). The criterion for acceptable convergent validity was that all items in a certain scale load strongly on its intended factor with the recommended thresholds of at least 0.5 but preferably showing 0.7 or higher (Cooper and Schindler 2003; Hair et al., 2006). For discriminant validity to be present, different constructs should not correlate too highly (Bagozzi et al., 1991). The constructs’ discriminant capacities is evaluated following the procedure, where discriminant validity is confirmed when the variance shared between two latent constructs (i.e., the square of their intercorrelations) is inferior to the average variance removed by the items forming the constructs (Fornell and Larcker, 1981).

Finally, criterion validity can be assessed by comparing the outcome of a measure with the outcome of a well established other measure of that construct and determining whether they are correlated (De Vaus, 2002). In this study, the criterion validity of the constructs was assessed through the hypothesis testing, in which constructs with better prognostic abilities are considered as possessing higher criterion validity.

1.14.18 Reliability

The reliability of a measure mainly concerns two aspects: repeatability (consistency of the results when data is collected in the same way at another point in time) and internal consistency (how stable the measurement is across its items); construct reliability is assessed when a researcher evaluates whether the utilized measures are free from random error and are consequently capable of generating results that are consistent (Zikmund, 1994). One of the well-recognized measures of internal consistency is to calculate the Cronbach (1951) alpha coefficient. The alpha ($\alpha$) coefficient has an advantage, giving a summary measure of the intercorrelations that exist between a sample of items on a range between 0 and 1 (Hair et al., 2002; Peter, 1979). This value should ideally be above 0.7 (Hair et al., 2002).
Furthermore, since the present study did not allow a test for measuring repeatability, reliability was assessed through the calculation of the (Cronbach, 1951) alpha. Additionally, the average variance extracted (AVE), calculated as the amount of common variance along with the latent construct indicators (Hair et al., 2002), and which should be above 0.5, and composite reliability (Bagozzi, 1980) of higher than 0.7 (Fornell and Larcker, 1981), were also calculated.

The internal consistency of the measurement scales was also assessed by performing Item-to-Total Correlation (ITC) analysis, the aim of which was to identify and eliminate items that did not belong to the content domain of the constructs examined (Churchill, 1979; Zaichkowsky, 1985). Moreover, in order to achieve an acceptable level of reliability the minimum number of items in a scale that measures a particular concept was considered to be at least four, slightly more than the three recommended by Hair et al. (2007).

1.15 Scope of the Research

Coffee café companies in India are still in the primitive stage to adopt the overall concepts of Supply Chain Management. The present research deals with the Supply Chain Management concepts of Café Coffee Day company. The Supply Chain Systems, Supply Chain Integration, Competition Capabilities and Firm Performance are considered as the success factors of Café Coffee Day, these factors are studied in terms of Supply Chain Management. This research is an initiative for this company that is adopting or willing to adopt the Model that is the result of this study.

- The research is conducted in Bengaluru, Kodagu, Chikkamagaluru and Hassan districts of Karnataka state, India, where the major Supply Chain Management operations are located.
- The result of this research is based on the survey addressed to the top level executives of the Café Coffee Day Company.
1.16 Limitations of the Research

The researcher has identified some limitations of this study.

- The study is limited to the Café Coffee Day Company.
- The research majorly is based on primary data sources collected through questionnaire, where some possibilities of inaccuracies may occur in the results.
- Café Coffee Day promotes varieties of products, but the present study has covered only coffee.
- The research has been done on Café Coffee Day company, Hence the results of the research cannot be generalized for other café industries.

1.17 Outline of the Thesis

In order to achieve the objectives of the research the whole report is divided into five chapters. Each chapter represents the different stages of the research process.

**Chapter 1:** This chapter explains the introduction of the research. It highlights the theoretical concepts used in the research. Furthermore, it gives the idea of developing the objectives, hypothesis and related constructs for the research. Overall the chapter produces a bird’s view for the further proceedings of the research.

**Chapter 2:** This chapter produces the available literature related to the main theme of the research. It identifies the theoretical foundations for the research.

**Chapter 3:** This chapter produces the conceptual idea of Supply Chain Management of Coffee and the Organization details of the Café Coffee Day company.

**Chapter 4:** In this chapter the data analysis and Interpretation are explained. Furthermore, the findings, testing of hypothesis and Model for the company are represented.
Chapter 5: In this chapter the implications, suggestions and conclusions are developed.

The outline of the research is diagrammatically represented below.