CHAPTER 1

INTRODUCTION

1.1 SUPPLY CHAIN MANAGEMENT

In the recent days, an evolutionary topic that rules around the industries taking the faster race in the business is Supply Chain Management (SCM) (Burt et al 2003). The formal definition of “Supply Chain Management” extending upon the above concept of business logistics management is as follows:

“The supply chain encompasses all activities associated with the flow and transformation of goods from the raw materials stage (extraction), through to the end user, as well as the associated information flows. Material and information flow both up and down the supply chain. Supply chain management is the integration of these activities through improved supply chain relationships to achieve a sustainable competitive advantage”.

Several parts of the preceding definition warrant significant further discussion. SCM is the process of coordinating three flows: physical, financial, and information. Classic business logistics also attempt to manage these flows to a point, but the main focus is on the flows within the company between the firm and its immediate suppliers and customers.

SCM extends this effort beyond the physical boundaries of the company to coordinate the flows with all of the entities involved in the entire process of obtaining raw materials from nature to the end-users’ consumption
of the product. The surplus information that recent technological advancements have made available (and affordable) has helped companies to implement initiatives with their supply chain partners for the betterment of each individual party.

Successful SCM programs can create a sustainable competitive advantage for each company in the chain because, at a bare minimum, the level of demand distortion between different levels of the distribution chain can be mitigated.

1.1.1 Stages of a Formal Supply Chain

A supply chain consists of all stages involved, directly or indirectly, in fulfilling a customer’s request (Chopra and Meindl 2001). The supply chain not only includes the manufacturers and suppliers, but also transporters, wholesalers, retailers, and customers themselves.

A typical supply chain may involve a variety of stages. Major five stages of SCM include the following:

- Customers
- Retailers
- Wholesalers/distributors
- Manufacturers
- Component/raw material suppliers

SCM is nothing but managing, controlling, smoothening the flow of information, money, men, and material flow between the chains of stages in an organization.
The five stages of SCM are shown in Figure 1.1. Each stage in Figure 1.1 need not be present in a supply chain.

![Figure 1.1 Stages in supply chain management](image)

If a single firm is considered within the context of this definition, both upstream supplier network and its downstream distributive network must be included. According to this definition the supply chain includes the management of information systems, sourcing and procurement, production scheduling, order processing, inventory management, warehousing, customer service, and after-market disposition of packaging and materials. The supplier network consists of all organizations that provide inputs, either directly or indirectly to the focal enterprise. Supply chains are essentially a series of linked suppliers and customers; every customer is in turn a supplier to the next downstream organization until a finished product reaches the ultimate end user.

### 1.1.2 The objective of a supply chain

The objective of every supply chain is to maximize the overall value generated. The value a supply chain generates is the difference between
what the final product is worth to the customer and the effort the supply chain expends in fulfilling the customer’s request. The value is the function of Product Quality, Cost, Delivery, Technical capability, etc.

### 1.1.3 Cycle View of Supply Chain Processes

All supply chain processes have ideally four process cycles (Chopra and Meindl 2001) as follows:

- Customer order cycle
- Replenishment cycle
- Manufacturing cycle
- Procurement cycle

Each cycle occurs at the interface between two successive stages of the supply chain. The five supply chain stages thus result in four supply chain cycles as shown in Figure 1.2. Not every supply chain will have all four cycles clearly separated. A cycle view of the supply chain is very useful when considering operational decisions, because it clearly specifies the roles and responsibilities of each member of the supply chain.

1. **Customer order cycle**: The customer order cycle occurs at the customer - retailer interface and includes all processes directly involved in receiving and filling the customer’s order. Typically, the customer initiates this cycle at a retailer site and the cycle primarily involves filling customer demand. The retailer’s interaction with the customer starts when the customer arrives or contact is initiated when the customer receives the order.
The processes involved in the customer order cycle shown in Figure 1.3 include the following:

- Customer arrival
- Customer order entry
- Customer order fulfillment
- Customer order receiving
2. **Replenishment cycle**: The replenishment cycle occurs at the retailer - distributor interface and includes all processes involved in replenishing retailer inventory. It is initiated when a retailer places an order to replenish inventories to meet future demand. A replenishment cycle may be triggered at a supermarket that is running out of stock of detergent or at a mail order firm that is low on stock of a particular shirt. In some cases replenishment takes place from a distributor who is holding finished – goods inventory. In other cases replenishment may occur directly from a manufacturer’s production line.

The replenishment cycle is similar to the customer order cycle except that the retailer is now the customer. The objective of the replenishment cycle is to replenish inventories at the retailer at minimum cost while providing the necessary product availability to the customer. The processes involved in the replenishment cycle are shown in Figure 1.4 and include the following:

- Retail order trigger
- Retail order entry
3. Manufacturing cycle: The manufacturing cycle typically occurs at the distributor - manufacturer (or retailer-manufacturer) interface and includes all processes involved in replenishing distributor (or retailer) inventory. The manufacturing cycle is triggered by customer orders (as is the case with Dell company), replenishment orders from a retailer or distributor (e.g. Wal-Mart ordering from P&G), or by the forecast of customer demand and current product availability in the manufacturer’s finished – product warehouse.

The processes involved in the manufacturing cycle are shown in Figure 1.5 and include the following:

- Order arrival from the distributor, retailer or customer
- Production scheduling
- Manufacturing and shipping
- Receiving at the distributor, retailer or customer
In general, a manufacturer produces several products and fulfills demand from several sources. One extreme in a manufacturing cycle is an integrated steel mill that collects orders that are similar enough to enable the manufacturer to produce in large quantities. In this case, the manufacturing cycle is reacting to customer demand (referred to as a pull process). Another extreme involves certain case, the manufacturing cycle is anticipating customer demand (referred to as a push process).

4. **Procurement cycle:** The procurement cycle occurs at the manufacturer-supplier interface and includes all processes that are necessary to ensure that materials are available for manufacturing to occur according to schedule. During the procurement cycle, the manufacturer orders components from suppliers that replenish the component inventories. The relationship is quite similar to that between a distributor and manufacturer, with one significant difference: retailer/distributor orders are triggered by uncertain customer demand, whereas component orders can be determined precisely once the manufacturer has decided what the production schedule will be. Component orders are dependent on the production schedule. Thus, it is important that suppliers are to be linked to the manufacturer’s production
schedule. Of course, the supplier has to forecast, as the manufacturer’s production schedule may not be fixed well in advance.

In practice, there may be several tiers of suppliers, each producing a component for the next tier. A similar cycle would then flow back from one stage to the next. The processes in the procurement cycle are shown in Figure 1.6.

![Procurement cycle diagram]

**Figure 1.6 Procurement cycle**

- Order based on Manufacturer’s Production Schedule or Supplier’s stocking needs
- Supplier Production Scheduling
- Component Manufacturing and Shipping
- Receiving at Manufacturer

In the four cycles, main input informations or orders such as order, order size, demand, delivery time, are received from the customer cycle. When satisfying the order or manufacturing the product, all inputs such as components and their value, services, material availability, test plan, approvals, etc. are received from the purchasing cycle. Focus is given to the
purchasing cycle, as the quality of the raw material decides the quality of the product that will satisfy the customer order.

1.2 PURCHASING OR PROCUREMENT

A.G. Pearson said
“The mission of today’s purchasing organization is the effective commitment of the company’s funds”. Its objective is the economic success of the business organization (Westing et al 1969).

Dr. Walter defines scientific purchasing as the (Telsang 2001)
“Procurement by purchase of the proper materials, machinery, equipment and supplies of stores used in manufacture of the product, adapted to marketing in the proper quantity and quality at the proper time and the lowest price consistent with the quality desired”

1.2.1 Purchasing Objectives

The objectives of a world-class purchasing organization move far beyond the traditional belief that primary role of purchasing is to obtain goods and services in response to internal needs (Monczka et al 2002). To understand how this role is changing, understanding should be made on what purchasing is all about by starting with the primary objectives of a world-class purchasing organization.

Objective 1: To support operational requirements
Objective 2: To manage the purchasing process efficiently and effectively
Objective 3: To select, develop, and maintain sources of supply
Objective 4: Develop strong relationships with other functional groups

Objective 5: Support organizational goals and objectives

Objective 6: Develop integrated purchasing strategies that support organizational strategies.

1.2.2 Some of the Ways of Achieving the Objectives of Purchasing

1. By maintaining the continuity of supply to facilitate schedule production with minimum investment for economic and safe operation.


3. Follow up to ensure prompt delivery with quality assurance of items by suppliers.

4. To maintain the right quality of purchased materials based on pre-determined standards, technical specifications and suitability.

5. To avoid wastages and obsolescence.

6. To create a good will for the company through good buyer-supplier relationship.

1.2.3 General Purchasing Procedure

The purchaser should know quality specifications, quantity required and the timing of requirements much in advance (Telsang 2001). Based upon this information, the purchasing department will locate the suppliers, place
orders and procure the materials. Each individual unit, department or production center sends its individual requisitions which are reviewed, processed and converted into orders. The executed orders are flown back to replenish the existing production supplies. The objective of making the items flow from suppliers to consumers in a most cost effective way with no unjust delays makes it important for the companies to have a reliable supplier. Delivery schedule have become all the more important to keep the companies operating without having additional cost of keeping high inventories. To supply their customers quality goods, companies are dependent on their suppliers to provide high quality components and materials.

1.2.4 Purchasing Procedure

Following are the major steps in purchase procedure:

- Recognition of need, receipt, and analysis of purchase requisition
- Selection of possible potential sources of supply
- Making request for quotation
- Receipt and analysis of quotations
- Selection of right source of supply
- Issuing the purchase order
- Follow-up and expediting the order
- Analyzing receiving reports and processing discrepancies and rejections
- Checking and approving vendor’s invoices for payment
- Closing completed orders
- Maintenance of records and files
1.2.5 5-R Principles of Purchasing

The concept of purchasing has been built up with five principles (Telsang 2001) as follows:

1. **Right quality**: This refers to suitability of the item for the intended use. Quality is to be judged in relation to the use to which the product is put. Quality is guided by the specification laid down by the engineering department. Quality refers to standardization, considering customer requirements and maintaining standards based on suitability for use.

2. **Right quantity**: Right quantity is an important concept in purchasing. The right quantity is influenced by price structure, discounts, availability of the item, etc. The right quantity is also called as, “Economic Order Quantity”.

3. **Right price**: Right price need not be the lowest price. Price structure is influenced by make or buy decision. The right price here means getting value for money.

4. **Right source**: The selection of the right source depends on reliability, cost, production quality, past performance, services etc. Source identification involves vendor selection, vendor development, and vendor rating.

5. **Right time**: One of the most important duties of the purchase department is ensuring that supplier is received by indenting department at the right time and at the right place. This depends a considerable extent on proper planning of materials both by indenting department and buyers. For
determining the right time, lead time, the information of all products is essential.

The four principles namely right quality, quantity, price, time can be achieved by selection of right suppliers, as suppliers have a large and direct impact on the cost, quality, technology, and time-to-market of new products. Hence, right source is a key principle to decide the other four principles; selection of right supplier has been given greatest significant attention in organizations.

1.3 SUPPLIER SELECTION

1.3.1 Selection of Right Source or Supplier Selection

One of the most important processes performed in organizations today is the evaluation, selection, and continuous measurement of suppliers. Traditionally, competitive bidding is the primary method for awarding purchase contracts. In the past, it was sufficient to obtain three bids and award the contract to the supplier offering the lowest price. Today, however, enlightened purchasers commit major resources to evaluate a supplier’s performance and capability across many different areas. The supplier selection process has become so important that teams of cross-functional personnel are often responsible for visiting and evaluating suppliers. A sound supplier selection decision today can reduce or prevent a host of problems tomorrow.

In the 5R principles, selection of right source or supplier is a critical part of supply chain management.
1.3.2 Sources of Information on Potential Vendors

Information about the vendors (Menon 1997) can be obtained from the following sources.

1. Existing suppliers
2. Trade directories
3. Trade journals
4. Telephone directories
5. Supplier’s catalogues
6. Trade exhibitions and fairs
7. Salesmen
8. Information databases
9. Company personnel
10. Purchase departments of other companies
11. Public tenders
12. Referrals from other sources of similar industry

1.3.3 Evaluation of Potential Suppliers

Potential suppliers are evaluated by following factors

1. Internal facilities
2. Financial adequacy and stability
3. Technological outlook
4. Reputation
5. After sales service
6. Industrial relations
7. Direct manufacturer or agent
1.3.4 Supplier Measurement and Evaluation

Every supplier measurement system is subjective to some degree. Even the implementation of a computerized measurement system requires subjective decisions. What data to analyze, what type of measurement system to use, what performance categories to include, how to weigh different categories, how often to generate performance reports, and how to use the performance data are all subjective decisions to some degree. Moreover, no hard rules exist regarding the specific attributes to include in the supplier measurement systems.

1.3.5 Stages of Source Selection and Evaluation

There are four stages in source selection and evaluation:

(i) **Survey stage**: All possible sources are explored and their capabilities are evaluated on the basis of primary information by the supplier or by the vendor himself or through advertisements, catalogues, brochures, etc., a list is drawn up of those who have to be investigated further. Many companies keep a list of approved suppliers. A vendor wishing to be considered for such registration has to apply in a special form.

(ii) **Enquiry stage**: A detailed analysis is made after obtaining as much relevant information as is necessary. The vendor may be asked to furnish information in a standard enquiry form and this may be followed by a plant visit, if necessary. Enquiries may be made of his present customers regarding their performance.

(iii) **Negotiation and selection**: The enquiry stage may reveal that quite a few of those considered at the survey stage do not come up to
expectations. Those vendors who pass the enquiry stage may fruitfully be called in for negotiations to discuss business possibilities and clarify various terms like credit, quantity discounts, quality control procedures, etc. and finally a list of approved and selected vendors is drawn up.

(iv) **Experience stage:** At this stage, the buyer evaluates the performance of the vendor. There is a feeling in the minds of many people that the objective of supplier evaluation is to sift the good from the bad and throw out the bad. This is not true. The aim is to improve the performance of the vendors in the areas in which they are deficient; such as quality, delivery time, after-sale services, etc. It is the same as the annual appraisal of the employees of a company. The idea is to correct their faults and improve their performance. The evaluation is especially on two major counts:

(a) **Quality:** This is judged by the rejection of the materials supplied by the vendor. If the rejection is high, it means the vendor is not good enough. Rejections often entail a lot of production problems for the buyer’s company, especially if the material is a high-value item where usually buffer stocks are low and purchase is strictly in accordance with accrual usage. Production stoppages may occur with its attendant consequences.

(b) **Delivery:** If the delivery is not according to schedule, similar problems as above can arise. For example, the buyer’s production unit might be working on a tight inventory. If slippages in delivery take place, stock outs may occur.

There are various ways in which a supplier can be evaluated. Three of these, namely the categorical method, the weighted point method and the cost –ratio method are the most popular. These are described below:
(i) **Categorical method**

This is not a very scientific method and no quantitative measurements are done. The method depends heavily on the experience and ability of the buyer and the charge is, therefore, made that the evaluation can be very subjective.

The buyer makes out a list of all the factors, which he considers necessary for evaluation and at periodic intervals, say once a quarter he makes out a performance report.

The buyer may also seek the help of others concerned with the vendor’s supplies such as stores, production, or quality control departments, in order to determine the grading to be given. A performance standard may be decided upon. For example, a vendor may be graded, based on the points he scores, shown in the following Table 1.1.

**Table 1.1 Points and grading of the vendor**

<table>
<thead>
<tr>
<th>Points scored</th>
<th>Grade of the vendor</th>
</tr>
</thead>
<tbody>
<tr>
<td>90 points and above</td>
<td>Excellent</td>
</tr>
<tr>
<td>80-90 points</td>
<td>Very good</td>
</tr>
<tr>
<td>70-80 points</td>
<td>Good</td>
</tr>
<tr>
<td>60-70 points</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>50-60 points</td>
<td>Good</td>
</tr>
<tr>
<td>40-50 points</td>
<td>Average</td>
</tr>
<tr>
<td>Below 40 points</td>
<td>Poor</td>
</tr>
</tbody>
</table>
On the basis of this evaluation, a meeting should be held with the suppliers to give a clear appraisal of their performance. Those with low ratings should be warned to improve their performance. If they are given with one or two chances, but do not show any signs of improvement, they should be removed from the approved list of vendors.

It is a very inexpensive method for detailed performance records need not be maintained. Since it relies mainly on the memory and judgment of the individual buyer, it can be operated easily. However, if the buyer is lazy and does not do the evaluation at regular intervals, it can deteriorate in a routine and lose all its importance and validity.

(ii) **The weighted point method**

Here the evaluation criteria are quantified on a points rating basis for the quality of goods received, the promptness of deliveries made and the quality of the service rendered by the vendor. There can be any number of attributes and each can be given a weighted rating in accordance with their relative importance as determined by the buyer. However, the total of all these points should be 100, and grading similar to the categorical plan can be prescribed. These can be given as points, as

- Quality - 50 points
- Delivery - 30 points
- Price - 20 points

In this method, each performance criterion is quantified based on actual performance. For example, take the quality aspect. Let us say that of 160 lots received during the year, 16 lots were rejected on account of poor quality.
The rating would be

\[
\frac{\text{Number of lots accepted}}{\text{Number of lots received}} \times 50
\]

\[
= \frac{144}{160} \times 50 = 45
\]

where, ‘50’ is the weight given for quality.

Similarly, delivery rating can be evaluated as follows:

\[
\frac{\text{Number of lots delivered on time}}{\text{Number of lots delivered}} \times 30
\]

For price, a similar method of calculation is used,

\[
\frac{\text{Least offer received}}{\text{Suppliers offer}} \times 20
\]

Such a rating can be used for any number of factors that are considered important with respect to the vendor.

(iii) Cost ratio method

This method is slightly little bit complicated, for it involves an intricate system of determining the actual costs incurred on purchasing, follow-up, transportation, packaging, duties receiving, etc., and determining the unit cost incurred by the buyer on the material when actually received. The higher this cost, the lower the supplier’s comparative rating.
The costs to be allotted depend on the products. The usual factors are quality, delivery, service, and price. Costs relating to quality may include factory visits, approval of samples, inspections, rejections of incoming materials, losses arising in production, like reworking costs, rejections, etc., besides the usual purchase costs. Similarly, costs relating to delivery will include the cost of following – up like telephone, telegrams, correspondence, visits to plants for expediting, adopting costlier mode of transport (for example, a truck instead of a railway wagon) to speed up deliveries, etc.

The three methods of evaluation described above are intended to enable buyer to exercise better judgement over retaining his vendors, based on integrity, behaviour, attitudes towards progressiveness, etc. Here the buyer’s experience and judgement would ultimately be counted.

1.3.6 Developing an Initial Supplier Evaluation and Selection Survey

Survey on supplier reveals the exact scenario of what buyers (Monczka et al 2002) look on the suppliers.

This process involves the following steps as shown in Figure 1.7.

1. Identify key supplier evaluation categories
2. Weight each evaluation category
3. Identify and weight subcategories
4. Define scoring system for categories and sub categories
5. Evaluate supplier directly
6. Review evaluation results and make selection decision
7. Review supplier performance continuously
1. **Identify key supplier evaluation categories:** Here categories are indicating the supplier selection criteria. Typically, a purchaser may evaluate a supplier’s cost structure, expected delivery performance, technological and process capability, quality systems and management capability.
2. **Weigh each evaluation category:** The performance categories usually receive a weight that reflects the relative importance of that category. For example, if quality performance is important, a purchaser may assign a greater weight to that category. The assigned weights reflect the relative importance of each category. The total of the combined weights must be equal to 1.0.

3. **Identify and weigh subcategories:** This process requires identifying any performance subcategories, if they exist, within each broader performance category. For example, the quality systems category may require the identification of separate subcategories. If this is the case, the supplier’s evaluation should include any sub categories or items that make up the quality systems category. Equally important, the purchase manager must decide how to weigh each subcategory within the broader performance evaluation category.

4. **Define scoring system for categories and sub categories:** This process defines each score within a performance. A 5 or 10 point scale can be used to assess a performance category. A clearly defined scoring system takes criteria that may be highly subjective and develops a quantitative scale for measurement. Scoring metrics are effective if different individuals interpret and score similarly the same performance categories under review.

5. **Evaluate supplier directly:** This step requires that the reviewer visit supplier’s facilities to perform the evaluation. Site visits require at least a day and often several days to complete. When factorizing in travel time and post-visit reviews, it can be realized that an organization must select carefully those suppliers it has planned to evaluate. In many cases, a cross functional team will perform the evaluation, which allows team members with different knowledge to ask different questions.
6. **Review evaluation results and make selection decision:** At some point a reviewer must decide whether to recommend or reject a supplier as a source. What actually happens is a function of the particular situation under review. An organization may review a supplier for consideration for expected future business and a specific contract. Evaluating suppliers before an actual purchase requirement can provide a great deal of flexibility to a purchaser. Once an actual need materializes, the purchaser is in a position to move quickly because it has a pre-qualified supplier.

The primary output from this step is a recommendation about whether to accept a supplier for the business. A purchaser may evaluate several suppliers who might be competing for purchase contract. The initial evaluation provides an objective way to compare suppliers side-by-side before making a final selection decision. A purchaser may decide to use more than one supplier based on the results of the supplier survey. The purpose of the evaluation is to qualify potential suppliers for current or expected future purchase contracts.

7. **Review supplier performance continuously:** The supplier survey or visit is only the first step of the evaluation process. If a purchaser decides to select a supplier, the supplier must then perform according to the purchaser’s requirements. The emphasis of purchase managers shifts from the initial evaluation and selection of suppliers to the evidence of continuous performance improvement of suppliers.

1.3.7 **Supplier Measurement Decisions**

Organizations face some key decisions when developing a supplier measurement system. These decisions are critical to the final design and implementation of the system.
Decisions should be based on what to measure and how to weigh the performance categories. An organization should decide which performance attributes are objective (quantitative) measures and which criteria are subjective (qualitative) measures. Most of the objective, quantitative variables lie within the following major categories.

- Delivery performance
- Quality performance
- Supplier cost reduction

Moreover other attributes have to be included in the supplier selection problem. Dickson (1966) had categorized 23 attributes in the supplier selection.

### 1.4 SUPPLIER SELECTION ATTRIBUTES

While the supplier selection decision needs to be made, the buyer establishes a set of evaluation criteria. Supplier selection factors can be classified into critical, objective, and subjective. The critical factor must or must not be present for a supplier to be considered further. Typical examples of critical factors include Price, Quality, and Delivery date. For instance, if the quality is considered critical, any supplier whose quality falls below a certain limit can be eliminated from consideration. Objective factors are those that can be evaluated in monetary terms. Subjective factors are those that are difficult to quantify, but are important enough in the decision making process to warrant their consideration.
1.4.1 **Importance of Supplier Selection Attributes**

In all supplier evaluation and selection processes, supplier selection criteria are playing a vital role in making decisions. These criteria play primary role on initial evaluation and selection of suppliers. Based on the weights given on the supplier selection criteria, the various processes namely site visits, revise of evaluation, decision and follow-ups are carried out.

After a list of possible suppliers has been compiled, the next step is to evaluate each supplier, so that the list may be narrowed down to the predetermined number with whom the buyer chooses to place order.

The process of evaluation is conducted by comparing the suppliers in terms of their ability to provide the attributes such as desired quality, quantity, price, service etc.

Even in supplier evaluation, the weights are given to the supplier selection criteria in weighted point method. In other evaluation also, suppliers are evaluated based on the supplier selection criteria.

In supply chain management, purchasing starts and decides the cycles and in purchasing, source selection is a significant decision making issue and further in the supplier selection, criteria play a key role in making the evaluation and selection of suppliers.

These criteria had been handled in different ways by many researchers in making decisions on the evaluation and selection of suppliers. Different works on the attributes are discussed in the literature.
1.5 MOTIVATION FOR THIS RESEARCH WORK

A study by Verma and Pullman (1998) investigated whether actual importance of selection criteria is consistent with their perceived importance in the eyes of purchasers. While quality was determined to be the most important selection criterion, selection decisions were more likely to be made on the basis of cost and delivery performance. Verma et al’s result makes much more distinction between the perceived importance of supplier selection criteria before selection of suppliers and actual importance when selecting the suppliers. This different perspective is a more distinct approach than the previous works. Attention should be paid to this issue of making the decision in supplier selection problem and managerial implications. Verma et al’s work had been carried out their study in manufacturing companies, specifically metal processing and producers of small machine tools and tooling in the western United States (Utah and Arizona).

Contemporary to the literature, in India, this type of work has not been carried out yet. This research work has made an attempt to find the difference between the perceived importance of the supplier selection criteria and the actual importance of the supplier selection criteria in Automobile industry in India during the period of December 2005 – December 2006.

1.6 ORGANIZATION OF THE THESIS

In the forthcoming chapters, literature review, research methodology, the approaches to find the perceived importance and actual importance of supplier selection criteria, results, discussion, conclusion, managerial implications, future work relevant to this work are discussed elaborately.
Chapter 2 starts with the overview of importance of purchasing and supplier selection and elaborates discussion on the review on supplier selection methods and supplier selection attributes.

Chapter 3 gives the outline of the methodology of research. Chapter 4 describes the supplier selection attributes selected for the research.

In chapter 3, AHP approach to find out perceived importance of supplier selection criteria is discussed. The brief literature, methodology, application in this work and results of AHP are discussed.

In chapter 4, DCA approach to find out actual choice supplier is elaborated. The origin, methodology and application in supplier selection problem of DCA are discussed.

In chapter 5, the results of AHP and DCA are compared and discussed with implications and scope for future research.