

## Supplier Selection Strategy of a Business Organization

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### **Abstract**

*In the present global, highly competitive, dynamic and ever-growing market environment, Consumers have increasingly showed preference to fast service delivery of excellent and high quality yet economical products. This has led management of supply chain in Organizations to consider and adopt beneficial supplier selection strategies as important to the success of an efficient Supply Chain Management in Business Organizations. The supplier selection decision making process involves multiple criteria problem which includes both qualitative and quantitative factors. Sometimes a balance between the tangible and intangible factors is essential in selecting the best supplier. This paper provides a picture of a number of Models such as buying center model of Kotler and Armstrong, buy Grid of Patrick, Robinson, Fari and wind framework, Webster and wind, provide some techniques developed to deal with selecting and evaluating of Suppliers, different selection methods concerning supplier selection are discussed, and the advantages and disadvantages of selection methods with emphasis on the Analytic Hierarchy Process (AHP) and Supplier selection, qualitative and quantitative criteria, emerging issues of supplier selection and the solutions for these problems are summarized, maximize supply security, make profit and reduce costs. It also recommended that all business firms should constitute the buying center known as Decision Making Unit (DMU) of the purchasing decision.*

**Keywords:** Supplier selection, Analytic Hierarchy Process (AHP), qualitative and quantitative criteria, Decision Making Unit (DMU).

### **Introduction**

Supplier selection is no doubt one of the crucial components of the purchasing function of a firm (Florez-Lopez, 2007). It has been described as a strategic decision when the purchasing organization attempts to establish a long-term and win-win business relationship with its suppliers. Companies have become gradually more dependent on suppliers to supply goods and to deliver services which were formerly provided internally in order to specialize and concentrate on their core competencies. In the Supply Chain Management concept, a strategic, long-term cooperation in partnership between the buyer and the supplier should be reached to avoid wastage of resources within the logistics chain (Lasch and Janker, 2005), developing closeness and long-term relationships between buyers and suppliers is effective in helping the company to achieve “Just-In-Time” (JIT) production (Li *et al.*, 1997) and with the increase in use of Total Quality Management (TQM) and Just-In-Time (JIT) concepts by a wide range of firms, supply Chain management is made effective.

Choosing the right method for supplier selection effectively leads to a reduction in purchase risk and increases the number of JIT suppliers and Total Quality Management production (TQM). Supplier selection is burden with a multiple criterion decision-making (MCDM) problem which is affected by several conflicting factors. Consequently, a purchasing manager must analyze the trade-off between the several criteria. MCDM techniques support the decision-makers (DMs) in evaluating a set of alternatives (Amid *et al.*, 2006). Supplier selection problem becomes one of the most important issues for establishing an effective supply chain system. The purchasing manager must know a suitable method, then use the best method from the different types of methods to select the right supplier.

The main objective of supplier selection process is to reduce purchase risk and maximize overall value to the purchaser, Therefore, an identification of decision-making criteria together with the right supplier selection methods are the driving factors to determining a firm’s growth and competitiveness. Developing a proper supplier evaluation system has become a must in building an effective and

successful Supply Chain Management. The success of outsourcing activity is considered to be highly dependent on the successful selection of suppliers.

Therefore, selecting the right decision-making criteria paralleled with the right decision-making technique is key to identifying the right supplier. Both elements ensure that decision maker's personal perceptions and objectives are supported in the pursuit of achieving the organization's procurement objectives. A well-structured and systematic decision-making technique is crucial for the corporate and business strategy of the purchasing organization to be aligned and achieved.

Suppliers are an essential component of the supply chain system, imbibing effective supplier selection and evaluation are considered important responsibilities of purchasing managers since the supplier evaluation process is purely meant to minimize purchase risk and maximize the overall value to the purchaser. The supplier selection is considered a key strategic decision in outsourcing, as it curtail errors. In order to select the right supplier, comprehensive and configurable metrics for supplier selection must be outlined early in the process, evaluation which involves rating a supplier's value by measuring the selected supplier's capability and performance follows.

Overtime decision makers have defined a set of criteria to determine the performance of prospective suppliers both in the previous and current contracts. This process will enable decision makers to rank the order of their preferred suppliers but due to the stringent process of decision making. it is always a difficult task for purchasing managers to select the right supplier. careful assessment of bidders' strengths and pitfalls must be conducted prior to the award of the contract. It would be a much easier task if considering supplier selection process was only one criterion in the decision-making process. However, in real practice, a wide range of criteria are carefully assessed by purchasing managers to select the best supplier.

Supplier selection is the outcome of a complex decision considering qualitative and quantitative criteria. There are numerous decision-making criteria that should be considered in supplier selection, bearing in mind that each criterion influences the decision-making process with an equal or different weighing factor.

The purpose of this paper is to address the supplier selection criteria being adopted by various organizations however the function of purchasing and supply shades lighter on the reason for the Supplier Selection.

## **Functions of purchasing and supply**

Onwulin (2013) gave the following as importance and functions of purchasing and supply to an organization.

### **Coordination**

Various departments in the firm may, for example, require computer systems, if they all go ahead and order independently, the firm could end up with systems which are incompatible so that information cannot be easily transferred between them and they cannot back each other up. This will solve some problems of incompatibility. However, this is not straight forward task companies sometimes suits no one very well, and the successful management of coordinate purchasing is therefore, potentially very demanding.

### **Supplier evaluation**

How good supplier at delivery supplies the right thing, to the right place, in the right quality, at the right time? Which suppliers offer the most favourable terms? Are all suppliers equally financially sound themselves?

### **Supplies sourcing**

Negotiation and placing of contracts may involve various processes for changing the supplier or suppliers. These systems have been increased in spread and efficiency from business to business. Markets have been created and online auction or tenders can achieve in hours what might previously have taken days, weeks or months to achieve.

### **Client feedback**

The client of purchasing department on whose behalf of purchase is being made; single purchasing department will lack technique expertise in respect of most items being purchased. It is important to consult carefully with the clients before making purchase and to check after words that the client was satisfied with the goods supplied. Dissatisfaction from the client may lead purchasing department to seek redress from supplier, whilst positive or negative comments will be recorded in the purchasing database to avoid future purchasing decisions.

### **Documentation**

Accurate documentation or purchasing records are essential for the audit trail. Auditors will wish to confirm that a firm has actually incurred cost as claimed in their accounts.

### **Purchasing ethics**

Because purchasing can involve sensitive external negotiations, these are always opportunities for conflicts of interest, i.e. conflict between employers and purchasing officers.

### **Gifts**

The purchasing officer will develop friendly tiers with people from purchasing firms. This will help during negotiations.

### **Partially**

Were two rival bird appear more or less equal, the purchasing officer may favours his friend or family members.

### **The purchasing mix**

Onwuliri (2013) listed the following of purchasing mix. They are

- a. Quantity – Can you get as much as you want.
- b. Quality – is the standard of the supplier adequate? Is the standard consistent?
- c. Timing – How long is the “lead time” between placing an order and receiving a delivery.
- d. Price – Is it reasonable? can it be upon in the future?

Any supplier tender will be balance give elements one supplier might be able to deliver quickly, but perhaps his quality has been in the past unreliable. Another might be quick but expensive, whilst a third supplies food stuff at a reasonable price but takes his time about doing it, which is the best deal defends partly upon the circumstance of your firm it also depends upon your evaluation of the reliability of the supplier. Sometimes firms will stick with an established and reliable supplier, even though he is not the cheapest.

### **Objectives**

1. To maximize overall value generated.
2. To effectively manage supplies for profitability.
3. To operate more successful relationship between suppliers and employers/employees.
4. To implement strategic planning process in making long term decisions.

### **Conceptual framework**

Participants in the producer markets is known as the buying center among them are

1. **Users.** Kotler and Armstrong (2012) These are those who initiate the buying project i.e. those who actually use the product or user department.
2. **Influencers.** These are the people who set specification and aspect of buying decisions because of their technical expertise, organizational position or even their political power in the organization.
3. **Deciders.** These are those with formal and informal power to select or to approve final buyers.
4. **Approvers.** These are those with formal authority for selecting the supplier and arranging the terms of purchase, i.e. those who interact with the suppliers.

5. **Buyers.** They are those with formal authority for selecting the supplier and arranging the terms of purchase i.e. those who interest with the suppliers.

6. **Gatekeepers.** They are those who control the flow information to others, they have the power to prevent sellers or information from reaching members of the buying Centre, e.g. purchasing agents, receptionist, technical personal, telephone operators etc.

## **Characteristics of industrial buyers**

### **Organizational buyers define**

This refers to person's government, or organizations that buy products from industrial manufacturers or producers. They consist of establishment in manufacturing and craft distributorship of goods, service industries, institutions, agriculture, forestry and fishing, mining building and construction and government.

They are broadly classified into

- a. Original equipment manufacturers (OEM)
- b. Users customers
- c. Industrial distributors and
- d. Government units or agencies

### **Demand for organizational products**

Demand for industrial product as derived in nature i.e. organizational products are not demanded for immediate consumption as is the case with consumer products but fir what they are used to produce. It is a derived demand for the demand for the consumer product in which the industrial item is used e.g. the demand for steel is derived or dependent partially upon consumer demand for automobiles, refrigerators etc. also the demand for flour depends largely on the consumer demand for bread cake etc.

### **Factors influencing industrial buying decision**

The buying decisions in industrial organization are influenced by several factors among these are:

#### **Environmental factors**

These factors are always there to reduce the freedom of the decision-making unit (DMU) of the organization. They include legal political, social and economic factors that have various influences on the buying decision of an industrial consumer.

#### **Intrinsic factors**

These are factor that are indigenous to the buying company and are sub-divided into four (4) viz

- a. **Company size.** The size of the company influences its buying decision a smaller company because of the size of the budget may use few trade publications to reach the suppliers.
- b. **Industry.** The number of the trade fairs and trade publications available varied from industry to industry this will influence the buying decision of each firm in the industry.
- c. **Company policy.** The policy of the company whether conservative or dynamic will determine the media it may use to reach suppliers which influences its buying decision.
- d. **Type of the product policy.** when the product has the right type of product policy and compliance is ensured, the customers are likely to live with it.

#### **Time available**

Decision making is fast in times of limited time and normally, it is the supplier that can supply fast that is chosen.

#### **Information available and digested**

The major information sources available to reach the customers are, salesmen, catalogues from suppliers, direct mail, trade fairs and exhibitions, trade, publications, seminars, conference etc. it is left for the industrial marketer to choose the best channel to reach his target market.

### Risk involved

Human beings could be risk lovers, indifferences or averters. The decision to purchase a product, delay purchase, decline purchase is subject to the amount of risk the company and decision-makers are ready to bear.

### Types of buying situation

The major reason for this classification is to categories the decision-making process in different organizations.

**Portfolio models** are said to assist with managing different kinds of supplier relationships. The portfolio model concept was originally developed by Markowitz (Markowitz, 1952; Dubois and Pedersen, 2001), who used it as an instrument for managing equity investments. His point of departure was that rational investors will select portfolios which maximize the individual investor's utilities by maximizing the expected return for a given level of risk or minimizing the risk for a given level of expected return. Faris et al. (1967) distinguished three typical situations of varying complexity as shown in Table 1. The differences between these three categories is the level of uncertainty regarding the purchase and the familiarity of prospective suppliers to the purchasing organization.

**Table 1.** Classification of purchasing situations (Faris et al., 1967)

Type of buying situation	Product/Service category	Nature of decision making	Supplier(s) category
New task situation	New items	No past experience, more information required for selection	Not known to decision makers
Modified rebuy	New and modified items	Considering past experience with the necessity of additional information	Known with inclusion of new ones
Straight rebuy	Recurring items	Past experience is considered sufficient for selection	Existing supplier(s)

One of the most famous models, Kraljic's portfolio approach took into account the complexity of the supply market and levels indicating the importance of purchasing (Caniels and Gelderman, 2005). These two variables influence decision makers in determining the type of supply strategy the purchasing company needs in determining the supply strategy of the purchasing company. Kraljic (1983) classified purchasing into strategic, bottleneck, leverage and routine purchases, as summarized in Table 2.

The purchasing company shall classify all its purchased products in terms of profit impact and supply risk. This will give the company the chance to weigh the suppliers' bargaining power against its own power. Where strategic items are products having high value to the organization in terms of a large impact on profit and a high supply risk. Examples are cables, capacitors, electric meters, poles (steel, concrete and wood), transformers and transmission towers. Bottleneck items such as breakers, condensers, bearings, seals, boilers (parts and services), turbine (parts and services) and substation equipment and parts have a moderate impact on the financial outcome of a firm; but the firm is placed in a vulnerable state with regard to their supply.

Leverage products can be obtained from various suppliers and routine items usually have small value per unit. Typical leverage products are advertising, corporate travel, printing, freight and environmental services. Examples of routine products are clothing, food services, office supplies, furniture and vehicle (fuel, lubricants and parts).

**Table 2.** Purchasing portfolio model (Kraljic, 1983)

	<b>Low supply risk</b>	<b>High supply risk</b>
<b>High profit impact</b>	Leverage items	Strategic items
	Many local suppliers	Established global suppliers
	Mix of commodities and specified materials	Scarce and high value materials
	Short to medium term contract	Long term contract
	Mainly decentralized decision making	Centralized decision making
<b>Low profit impact</b>	Routine items	Bottleneck items
	Established local suppliers	New suppliers with new technology
	Commodities and some specified materials	Mainly specified materials
	Short-term contracts	Medium term contracts
	Decentralized decision making	Decentralized but centrally coordinated decision making

To offer the Purchase Manager a manageable number different supplier selection situation, associated ways of carrying out and organizing the process, De Boer et al. (2001) incorporated both classifications into a modified framework (see shown in Table 3) In new task situations, the final decisions depend on the offerings made by the bidders as there have not had any prior business relationship between the purchasing company and the bidder. In Purchase of leverage items, there are many suppliers to be considered for the contract award. De Boer agrees that since there are many suppliers available for routine items, limitation to a maximum of two suppliers should be imposed in order to achieve a highly efficient ordering and administration procedure. High value and the savings potential of these items rationalize the frequency of supplier selection. but for strategic and bottleneck items, there are limited choices of suppliers and it is much preferred to continuously evaluate the existing supplier. This is attributable the unique specification and scarcity of required items. To ensure continuous business operation, firms usually have a large number of products or services accompanied by a variety of suppliers, which requires different treatment. Therefore, it is essential to have a deep understanding of the purchasing situation for the sustainable purchasing management practice.

**Table 3.** Supplier selection framework (De Boer et al., 2001)

<b>New task</b>	<b>Modified rebuy (leverage items)</b>	<b>Straight rebuy (routine items)</b>	<b>Straight rebuy (strategic/bottleneck)</b>
Use a supplier or not?	Use more, fewer or other suppliers	Replacing the current supplier?	How to deal with the supplier?
One-off decision	Repeating decision	Repeating decision	Repeating Evaluation
	Historical data on	Historical data on suppliers available	Historical data on suppliers available
No historical data on suppliers available	suppliers available	Large set of initial suppliers	Very small set of suppliers
Small initial set of suppliers	Large set of initial suppliers	Ranking rather than sorting	Evaluation rather selection
Ranking rather than sorting	Ranking rather than sorting		

## Supplier selection problem

Supplier selection was supposedly a straightforward matter historically; in the present time the process is shadowed by great difficulties which are listed below

1. Growing number of potential suppliers
2. Growing number of attributes
3. an increasing number of situational contexts that affect the appropriateness of specific supplier attributes; and
4. difficulty in identifying and defining supplier selection parameters (Altinoz et al., 2010)

A large number of suppliers in the market has a positive impact on the purchasing client because dependency towards a particular supplier has been reduced over time. However, the drawback of this situation is the greater likelihood of not selecting the best supplier. Dickson (1966).

in his seminal work found 23 important attributes used for the evaluation and selection of suppliers. Embarking from Dickson's work, many articles have been published in subsequent years considering other factors (Lambert et al., 1997, Weber et al., 1991, Dickson, 1966). Due to the many factors to be considered, purchasing managers may decide to choose easier paths of evaluation based on certain important criteria and ignoring the rest. A larger number of attributes also contribute to the complication of being assigned consistent and meaningful weights.

Also, a major point in selection decision is that it becomes more difficult with the increased number of business rules to be considered. At times, different suppliers are selected although the characteristics and ratings of the suppliers have not changed. This happens due to changes in the current marketing policy and the company's strategic goals or manufacturing limitations which might override the choice of keeping the previous supplier.

Difficult situations are encountered when you take into considerations the quantification of certain criteria such as attitudes, flexibility and responsiveness as opposed to the ease of measuring pricing and delivery performance of a particular supplier. Sometimes, decision-makers are also forced to decide using incomplete data. Another common problem is the issue of how many suppliers can be used for each purchased item (Wisner et al., 2005). In single sourcing, suppliers are considered to be capable of satisfying the buyer's requirement (Xia and Wu, 2007).

The purchaser only needs to make one decision as to which supplier is the best. However, in multiple sourcing, purchasers need to decide which are the best suppliers and how big an order should be placed with each selected supplier. Table 4 shows the summary made by Wisner et al. (2005) on the reasons favouring single and multiple sourcing.

**Table 4.** Reasons favouring the use of single versus multiple sourcing (Wisner et al., 2005)

<b>Single Sourcing</b>	<b>Multiple Sourcing</b>
Easier to establish strategic alliance relationship	Demand exceeds the capacity of a single supplier
Less quality variability from other suppliers	Spread the risk of supply interruption
Ability to lower the purchase cost per unit	Encourages competition among suppliers in terms of price and quality
Transportation economies since volume is involved	More information on market conditions, new product and technologies
Proprietary product or process purchase	Boosts small, local, women or minority owned business
Volume too small to split	Spread the risk of supply interruption

Jobber and Lancaster (2009) distinguish three (3) major types of buying situation in industrial marketing. These are

1. **Straight re-buy.** It is a situation where an organization re-orders something without modification. It is a routine order and the purchasing officer is the major influencer.

2. **Modified re-buy.** This is a situation where the products purchased from straight re-buy fails to perform or perform below standard. Modification could be in terms of specification prices or other terms of suppliers.

3. **New task.** This is a situation where the decision to purchase is connected with purchase for new task, i.e. buying for the first time. The purchasing officer has no influence in the decision, but only collects data and information to be used in the decision process. Here also more people are involved in the buying decision because it is difficult and complex. Information is important and evaluation of alternatives should be critically done.

4. **Performance feedback and evaluation.** Feedback may flow through formal or informal channels. It is critical of a choosing supplier and supporting or rejecting alternatives.

It is worthy to note that those relative steps or stages vary from purchase to purchase.

## Theoretical framework

### Buying process/models of industrial marketing

#### Definition

This refers to the purchase and use behavior of industrial users well as the attitude and decision process which occur before, during and after product purchase. Selling to industrial markets requires an in-depth understanding of industrial buying behavior. Like ultimate consumers, industrial buyers are influenced by many factors on their purchase decisions.

#### Industrial buying process

This is the conceptualization of industrial buying process as a number of sequential stages. These may be procedural and mechanistic in nature and may also include an understanding of the behavioral process involve. They are usually presented as models of industrial buying behavior.

#### Robinson faris and wind model

This is one of the most popular models of industrial buying behavior. It suggests that the industrial buying process can be thought of as stages or buying phases called buying classes, the particular buying firm was confronted with grid frame work as shown overleaf.

**Table 5.** Buy grid framework

		<b>New Task</b>	<b>Modifies re-buy</b>	<b>Straight re-buy</b>
1	Anticipation or recognition of a problem (need) and a general solution	Yes	May be	No
2	Determination of characteristics and quality of need item	Yes	May be	No
3	Description of characteristics and quality of needed item	Yes	May be	No
4	Buying phases Search for and qualification of potential source	Yes	Yes	No
5	Acquisition and analysis of proposals	Yes	May be	No
6	Evaluation of proposals and selection of supplier (s)	Yes	May be	No
7	Selection of an order routine	Yes	May be	No
8	Performance of feedback and evaluation	Yes	Yes	Yes

**Source:** Ogwo et al. (2007)



## General model of webster and wind

This model outlines the four classes of various determinants of industrial buying behavior as individual, social organizational and environmental. Within each of these classes, there are two broad categories or variables task or non-task. Note should be taken of the fact that it is not always possible to classify given sets of variables as exclusively task or non-task, however, any given sets of variables will tend to be or have both task and non-task dimensions. The model explains that industrial buying behavior is a complex process that involves many persons, multiples goals and potentially conflicting decision criteria. As soon as an organization perceives a buying situation the formal organization sets out to buy.

**Table 6.** Classification and examples of variables influencing organizational buying behavior

	Task	Non-Task
<b>Individual</b>	Desire to obtain lowest price	Personal values and needs
<b>Social</b>	Meeting to set specifications	Informal, off the job interaction
<b>Organizational</b>	Policy concerning local supplier	Methods of personal evaluation
<b>Environmental</b>	Anticipated changes in prices	Political climate in an election year.

Source: Ogwo et al (2007)

## Marketing implication of the models

1. They contribute to our understanding of industrial buying behavior.
2. They show the relationship between steps in the buying process and buying situations.

## Processing strategy

Mintzberg in Lysons & Gillingham (2003) says it can be a specific maneuver intended to outwit an opponent or competitor. As a pattern, strategy is a stream of actions (demonstrating) consistency in behavior whether or not intended. As a position, strategy is a means of locating an organization in an environment. In short as you plan, an intended course of action. Therefore, Lysons and Gillingham (2003) describe purchasing strategy as the functional or operational level derived from corporate or business strategies, for single businesses, corporate and business strategy is synonymous. Jain (2002) says processing strategy uses research and information technology in information sharing between members of supply chain using EDI technology.

## The three purchasing strategies indicated are as follow

1. Exploit: make the most of your high buying power to secure good prices and long-term contract from a number of a supplier, so that you can reduce the supply risks involved in this important item. You may also be able to make “spot purchases” of individual barges of the items, if a particular supplier offers you a good deal.
2. Balance: take a middle part between the exploitation approach and the diversification approach describes bellow.
3. Diversity: reduce the supply risk by seeking alternative supplier or alternative product for example, in our logistics. Example, could you use the rail road to ship some of your over land, fright instead of relying solely on trucking company. you can also increase your buying power by consolidating to a single supplier. and in other situation, you bring the production of items in-house.

## Supplier selection strategies and criteria

Supplier selection criteria for a particular product of service category should be defined by a “cross-functional team of representative from different sector of your organization. in a manufacturing company, for example, members of a team typically would include representative from purchasing, quality, engineering and production. Team member should include personal with technical/application knowledge of product or service to be purchased, as well as members of the department that uses the purchase team.

According to Stephen & Ross (2009) Common supplier selection criteria are as follows

1. Previous experience and past performance with the product/ service to be purchased.
2. Relative level of sophistication of the quality system, including meeting regulatory requirement or mandated quality system registration (for example, ISO9001, QS9000).
3. Ability to meet current and potential capacity requirement, and do so on the desired delivery schedule.
4. Financial stability
5. Technical support availability and willingness to participate as a partner in developing and optimizing design and long-term relationship.
6. total cost of dealing with the supplier (including material cost, communication method, inventory requirement and incoming verification required).
7. The supplier's track record for business-performance improvement. total cost assessment.

It is important to understand why a firm chooses one method over another. Usually when a company sets out to develop or choose a supplier selection method, the result is a combination of several different methods with different strengths suited to meet the company's specific selection needs. Therefore, it is important to explore a range of different selection methods and to discuss their different applications as there are several supplier selection methods available. Certain methods have been popular selection choices for years, while other methods have only emerged recently.

Usually when a company sets out to develop or choose a supplier selection method, the result is a combination of several different methods with different strengths suited to meet the company's specific selection needs. Therefore, it is important to explore a range of different selection methods and to discuss their different applications. There are several supplier selection methods available.

"Some authors propose linear weighting models where suppliers are rated on several criteria and ratings are combined into a single score known as the categorical model. The categorical model is a simple method, but it is also the quickest, easiest, and least costly to implement. it may be influenced by recent events and usually implies a high level of subjectivity and therefore it is imprecise (Petroni, 2000). The weighted point model is also easy to implement, flexible, and fairly efficient in the optimization of supplier selection decisions.

It is costlier than the categorical method, but tends to be more objective, even though it relies on the buyer's assessment of the supplier performance. Total cost approaches attempt to quantify all costs related to the selection of a vendor in monetary units. This approach includes cost ratio (Timmerman, 1986) and Total Cost of Ownership (TCO) (Ellram, 1990). The cost ratio method is very flexible. It is a complex method that requires a developed cost accounting system. The total cost model is precise, expensive to implement due to its complexity and requires more time and implies the ability to identify the more important elements.

Mathematical programming models often consider only the more quantitative criteria; this approach includes the Principal Component Analysis (PCA) and the Artificial Neural Network (ANN). According to Bello (2003), the PCA method has two advantages that are accessible and capable of handling multiple conflicting attributes. The ANN model saves money and time. The weakness of this model is that it demands specialized software and requires qualified personnel who are expert on this subject.

Another very useful method is the Analytical Hierarchical Process (AHP), it is a decision-making method developed for prioritizing alternatives when multiple criteria must be considered and allows the decision maker to structure complex problems in the form of a hierarchy, or a set of integrated levels. The AHP is relatively simple to use and understand. This method incorporates qualitative and quantitative criteria.

A review of the supplier selection literature shows that the AHP method to be one of the most commonly applied methods in practice. AHP is an ideal method for ranking alternatives when multiple criteria and subcriteria are present in the decision-making process. The AHP was introduced by (Saaty, 1980). There has been wide discussion about the empirical effectiveness and theoretical validity of this technique. AHP allows the decision-maker to structure complicated problems in the form of a decision hierarchy. The hierarchy usually consists of three different levels, which include goals, criteria, and alternatives".

### **Some of the advantages and disadvantages of the AHP method**

One advantage of AHP is that it illustrates how possible changes in priority at upper levels have an effect on the priority of criteria at lower levels. Moreover, it provides the buyer with an overview of criteria, their function at the lower levels and goals as at the higher levels. A further advantage of AHP is its stability and flexibility regarding changes within the hierarchy. In addition, the method is able to rank criteria according to the needs of the buyer which also leads to more precise decisions concerning supplier selection. The main advantage of AHP is that the buyer is able to get a good picture of the supplier's performance by using the hierarchy of the criteria and evaluating the suppliers (Omkarprasad and Kumar, 2006).

However, AHP also has some weak points. One of these is the complexity of this method which makes its implementation quite inconvenient. Moreover, if more than one person is working on this method, different opinions about the weight of each criterion can complicate matters. AHP also requires data based on experience, knowledge and judgment which are subjective for each decision-maker. A further disadvantage of this method is that it does not consider risks and uncertainties regarding the supplier's performances (Yusuff *et al.*, 2001).

The strength of the AHP method lies in its ability to structure complex, multi-person, multi-attribute, and multi-period problems hierarchically and it is simple to use and to understand. It necessitates the construction of a hierarchy of attributes, sub-attributes, alternatives and so on, which facilitates communication of the problem and the recommended solutions. In addition, the AHP method provides a unique means of quantifying judgmental consistency. AHP does not require preferences independent of its complement (i.e., the preference order of consequences, for any pair of attributes does not depend on the levels at which all other attributes are placed) as MAUT model. Some benefits of AHP method provided the following explanation. a. The strength of the AHP method lies in its ability to structure a complex, multi person, multi attribute, and multi period problem hierarchically (Saaty, 1980). b. It is simple to use and understand (Chan, 2003).

### **Method for determining how well a potential fit the criteria**

1. Obtaining a Dun & Bradstreet or other publicly available financial report.
2. Requesting a former quote, which includes providing the supplier with specification and other requirements (for example, testing).
3. Visited to the supplier by management and/or the selection team,
4. Confirmation of quality system status either by on-site assessment a writing survey or request for a certificate of quality system

### **Supplier selection process**

Choosing the right supplier involves much more than scanning a series of price lists. Your choice will depend on a wide range of factors such as value for money, quality, reliability and service. How you weigh up the importance of these different factors such will be based on your business; priorities and strategies. A strategic approach to choosing suppliers can also help you to understand how your own potential customer weighs up their purchasing decision.

1. thinking strategically when selecting suppliers
2. what you should look for in a supplier
3. identifying potential suppliers
4. drawing up a short list of suppliers
5. choosing a supplier
6. getting the right supplier for your business

### **Thinking strategically when selecting suppliers**

The most effective suppliers are those who offer products or services that match or exceed the needs of your business. So, when you are looking for suppliers, it is best to be sure of your business need and what you want to achieve by buying rather than simply paying for what suppliers want to sell you. For example, if you want to cut down the time it takes you to serve your customers, suppliers that offer

you faster delivery will rate high than those that compete on price alone for some point to help you identify what you want from supplier, see the page in this guide and what you should look for in a supplier.

### **The numbers game**

It's well what examining how many suppliers you really need. Buying from a carefully targeted group could have number of benefits

1. it will be easier to control your supplier your business will become important to them
2. you may be able to make deals that gives you an extra competitive advantage

for example, if you have got a worse job for an important customer, your supplier may be more like to go the extra mile \$ 1000 a month than if spend \$250.

However, it is important to have a choice of sources. buying from only one supplier can be dangerous-where do you go if they let you down, or even go out of business? equally while exclusivity may spur some supplier to offer you better service others may simply become complacent and drop their standards.

### **What you should look for in a supplier**

#### **Reliability**

Remember-if they let you down, you may let your customer down

#### **Quality**

The quality of your supplier needs to be consistent your customer associate poor quality with you not your suppliers

#### **Value for money**

The lowest price is not always the best for money if you want reliability and quality from supplier you will have to decide how much you are willing to pay and the balance you want to strike between cost, reliability, quality and service.

#### **Strong service and clear communication**

You need your supplier to deliver on time, or to be honest and give you plenty of warning. if they can't. The best supplier will want to talk with you regularly to find out what need you have and how they can serve you better.

#### **Financial security**

It always what making sure your supplier has sufficiently strong cash flow to deliver what you want, when you need it. A credit check will help reassure you that they won't go out of business when they need you most.

#### **A partnership approaches**

A strong relationship will benefit both side. You want your supplier to acknowledge how your business is important to them, so they make every effort to provide the possible. And you are more likely to create this response by showing your supplier how important they are to your business.

#### **Identifying potential supplier**

You can find suppliers through a variety of channel. it is best to build up a **shortlist** of possible supplier true a combination of source to give you broader base to choose from

#### **Drawing up a shortlist of supplier**

Once you have clear ideal of what you need to buy and you have identified some potential supplier, you can build a shortlist of sources that meet your need.

When considering the firms on your shortlist ask yourself the following question

1. can this supplier deliver what you want, when you want it?
2. Are they financially secured?
3. How long have they been established?
4. Do you know anyone who has used and can recommend them?
5. are they on any approve supplier list from trade association or government?

do some research and try to slim down your list to no more than four or five candidate it's a waste of time for you and your potential supplier if you approach them when there's little chance of fulfilling your requirements.

### **Choosing a supplier**

Once you have a manageable shortlist, you can approach the potential supplier and ask for a **written quotation** and, if appropriate, a sample. It's best to provide them with a clear brief summarizing what level of business you hope to place.

### **Get a quotation**

It's worth asking potential suppliers to give you a firm price in writing for, say, three months. you can also ask about discounts for long-term or high-volume contracts.

### **Compare potential suppliers**

When you've got the quotation, compare the potential suppliers in terms of what matters most to you. for example, the quality of their product or service may be most important, while their location may not matter

Price is important, but it shouldn't be the only reason you choose a supplier. Lower prices may reflect poorer quality goods and service which, in the long run, may not be the most cost-effective option. be confident that your supplier can make a sufficient margin at the price quoted for the business to be commercially viable.

Check that the supplier it is always a good idea to meet a potential supplier face to face and see how their business operates. Understanding how your supplier works will give you a better sense of how it can benefit your business.

And remember that your business reputing may be judged on the labor practices of your suppliers. it makes good business sense to consider the ethical dimensions of your supply chain.

### **Negotiate terms and conditions**

Once you've settled on the suppliers you'd like to work with, you can move on to negotiating terms and conditions and drawing up a contract.

### **Getting the right supplier for your business**

#### **Know your need**

Make sure you know what you need. Don't be tempted by sales pitches that don't match your requirements. Understanding the difference to your business between strategic suppliers, who provides goods or services that are essential to your business – such as high-value raw materials – and non-strategic suppliers who provide low-value supplies such as office stationery you will need to spend much more time selecting and managing the former group than the latter.

#### **Spend more time on research**

Chosen the right supplier is essential for your business. don't try to save time by buying from the first supplier you find that may be suitable.

#### **Ask around**

People or other businesses with firsthand experience of suppliers can give you useful advice.

### **Credit check potential supplier**

It is always worth making sure your suppliers have sufficiently strong cash flow to deliver what you want, when you need it. A credit check will also help reassure you that they won't go out of business when you need them most

### **Price isn't everything**

Other factors are equally important when choosing a supplier-reliability and speed, for example. if you buy cheaply but persistently let down your customers as a result, they will start to look elsewhere.

### **Don't buy from too many suppliers**

It will be easier for you to manage- and probably more cost- effective- if you limit the number of sources you buy from. This is particular the case low value-added suppliers.

### **but don't just have a single supplier**

It's always worth having an alternative supply source ready to help in difficult time. This is particularly important with regard to suppliers strategic to your business' success.

### **Steps in industrial buying**

There are a variety of stages or steps that have to be followed to affect the purchase of industrial goods. The procedure however, varies from one organization to another.

According to Robinson and Faris Ogwo et al (2007), some of the widely used stages or step is

1. **Anticipation or recognition of a problem or need and general situation.** here the organization recognizes that there is a difference between what is desired and the actual state of affairs, hence the need for a solution.
2. **determination of characteristic and quantity of needed item.** i.e. what do we need or desired and in what quantity and quality
3. **description of characteristic of needed item.** i.e. having determine the characteristic and quantity of what is desired a description of what is desired is made
4. **Search for and qualification of potential source.** here the buyer tries to identify the most appropriate vendors. buyer look at things like trade directories, computer search phone other companies for recommendation etc. buyer spent a lot of time on search in cases of newer buying tasks, complex and expensive items
5. **Acquisition and analyses of proposal.** when the information need of the buying organization is known the search for and qualification of potential source will go at the same time with acquisition and analysis of the proposals.
6. **Evaluation of proposals and selection of supplier.** evaluate the different proposals sent by the different supplier after your analysis and select a supplier or suppliers.
7. **Selecting of another routine.** at this stage procurement procedure are established for the item and the supplier; in term of the size and frequency of orders, i.e. select an order method.

### **Factors affecting industrial purchasing**

1. **Environment.** the level of primary demand, economic outlook cost of money, supply condition, rate of technological change, political and regulatory development and competitive development in the environment affect the industrial purchasing.
2. **Objective of the organization.** organizational objective, policies, procedure, structure and system also affect industrial purchasing
3. **Interpersonal dimension.** although product performances are highly considered in industrial purchasing human attitudes, behavior and motivational forces also play similar roles. industrial purchasing involves several people being persuaded to make the same choice.
4. **individual dimension.** age, income, education, job position, personality and attitude towards risks also affect individual purchasing.

## **Conclusion**

Purchasing is the organization unit responsible for carrying out the function. In many organizations, purchasing is still part of segmented, departmentalized structure in which the procurement of supplies is a separate activity in the sequence of production. One concludes that due to challenges of global competitions companies should constitute or establish the buying Centre to reduce costs, build suppliers-employers relationship and increase profitability.

## **Recommendations**

Ask friend and business acquaintances. You are more likely to get an honest assessment of business strength and weaknesses for someone who has used its services.

## **Directories**

If you are looking for a supplier in your local area it's worth trying directories such as yellow pages and Thomson.

## **Trade associations**

If your need is specific to a particular trade or industry they will properly be by a trade association that can match you with suitable suppliers.

## **Business advisors**

Local business support organization such as chambers of commerce can often point you in the direction of potential suppliers.

## **Exhibitions**

Exhibition talk with a number of potential suppliers in the same place and the same time before you go to an exhibition, it's a good idea to check that the exhibitors are relevant and SUITABLE for your business.

## **Trade press**

Trade magazines feature advertisement from potential supplier. Lastly, industrial organizations whether large or multinational or small should constitute a buying center team (DMU) to build a long-term relationship between suppliers and employers cum employees. This will reduce costs and increase profitability for the organization.

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