# USING THE AHP AND THE FISHBEIN MODELS TO ANALYZE CUSTOMER PREFERENCES IN THE BANK SELECTION PROCESS

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## ABSTRACT

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In this thesis, AHP and Fishbein models have been used together and compared in analyzing the customer preferences. It has been observed that both methods have reflected the tendencies in the sample consistently but AHP has proved to be a technically weaker method in the analysis of customer preferences. In the study, it has been confirmed that Fishbein Model is a measurement technique that better suits to the way people think and make decisions, but still AHP is a useful method as a decision support technique.



Keywords: Attitude measurement, Fishbein, AHP, Bank marketing

# ÖZ

AHP VE FISHBEIN MODELLERİNİN BANKA SEÇİM SÜRECİNDEKİ MÜŞTERİ TERCİHLERİNİ İNCELEMEDE KULLANILMASI

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Bu tezde, müşteri tercihleri incelenirken AHP ve Fishbein modelleri beraber kullanılmış ve karşılaştırılmıştır. Her iki yöntemin de alınan örnekteki eğilimleri tutarlı şekilde yansıttığı, ancak müşteri tercihleri incelenirken AHP'nin teknik olarak daha zayıf bir yöntem olduğu gözlenmiştir. Bu çalışmada Fishbein modelinin insanların karar verme ve düşünme şekline daha uygun bir ölçme tekniği olduğu netleştirilmiştir, ancak AHP de bir karar destek tekniği olarak kullanılabilir bir yöntemdir.

Anahtar Kelimeler: Tutum ölçümü, Fishbein, AHP, Banka pazarlaması

To My Family

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# CHAPTER 1

# INTRODUCTION

Services marketing is becoming a recognized and accepted subset of the marketing discipline. Given the growth of the service sector throughout the world and the almost universal belief by scholars working in this area that services marketing, in key respects, is different from goods marketing, the rapid growth of services marketing literature in recent years is not surprising. An acceleration of academic interest and research activity in services marketing in the years immediately ahead is to be expected and is necessary because far more questions than answers exist at this time.

Today in banking, as a subset of the service industry, the bank manager must remain alert to constant environmental changes and be ready to redefine its business mission and reformulate its marketing policies and strategies to meet the needs of the evolving market place. Banks are no longer in the business of buying and selling money. They are rather in the business of offering a complete set of services to the banking public, a more customer oriented type of mission. Consequently, if meaningful market plans are to be made and strategies developed to implement them, banks

must have a comprehensive knowledge of customers' attitudes and perceptions of the various services they offer and the image which customers have of them. Therefore, banks' primary concern must be the needs of its customers, both present and potential, as well as how to satisfy them in the most effective way possible.

This is the essence of the modern marketing concept which has been defined as "the creation and delivery of customer satisfying goods and services at a profit" (Kaufman, 1968) hence, creating increased standards of living. One aspect of this definition should be emphasized in bank marketing, i.e., marketing is consumer oriented (Kaynak, 1986). Therefore, the marketing concept requires that service organizations including banks should think in terms of what customers want and buy. This approach necessitates identifying target markets and satisfying their banking needs in the most effective way possible by developing an appropriate marketing mix.

As a result, bank decision makers should be able to identify and understand customer preferences. The activities like assigning priorities, evaluating variables, making and justifying trade-offs and integrating multiple points of view are all parts of the decisions that customers make everyday. The quality of their decisions is critical to the customers and to the success of those who depend on customers -like bank marketers. Unfortunately, as decisions become more complex -with more alternative, more criteria, and more variables - like in a bank selection process , the ability to combine and evaluate all these factors in the decision making process gets more difficult.

Several approaches have been used to evaluate these preferences. In general terms, customers use five decision rules while they evaluate their choices, either singular or in combination: Conjunctive, disjunctive, lexicographic, elimination by aspects, and compensatory (each decision rule is explained in Chapter 4). In this research the Fishbein Model of Martin Fishbein and The Analytical Hierarchy Process (AHP) of Saaty have been planned to be introduced and used. The aim is to combine these two methods and consequently give the idea that AHP can be used to provide the necessary inputs while implementing the Fishbein Model in analyzing the customer preferences for the product/service attributes of banks. This combination may also enable us to understand customer preferences in their bank selection decisions.

In fact in the literature, both AHP and the Fishbein Models have been used separately to analyze the customer preferences in the bank selection process and to measure the attitudes towards specific banks but, in this research, AHP have not been planned to be used separately because of its some technical weaknesses which will be discussed later. On the other hand it has some positive features which may enable it to be used together with Fishbein.

Fishbein's model is the most well known multi-attribute model which has been developed specifically to understand the concept of attitude. It is used when the customer needs to consider many alternatives and many criteria in his selection process. This model has received wide application in marketing after 1970's because it became apparent to marketers that the

model provided a framework for analyzing brands based on the attributes that customers use for evaluation.

One of the main tasks in applying the Fishbein Model is selecting the "salient attributes" for the customers from a known set of attribute pool. Then these salient attributes are used to measure the attitude towards a selected attitude object (bank). While determining these salient attributes, several methods can be used. The most common one is asking the respondent the salient attributes by filling out a questionnaire but, as it is known, the researcher should be ready for some shortcomings. First the respondent may not take the questions seriously because he may not have the desire to put effort on it. Secondly, he may give socially acceptable answers or may want to please the respondent. Thirdly, because of time limitations, he may mark just any two or three attributes as the salient ones. Unfortunately all these end up with inconsistencies in the answers of the respondent so may not reflect the truth properly.

As an alternative method to measure the saliency, AHP can also be offered. Saaty (1980) states that AHP is particularly useful when the decision problem includes multiple objectives, conflicting criteria, incommensurable units and aims at selecting an alternative from a known set of alternatives. By requiring pairwise comparisons among the attributes, AHP assigns a weight for each attribute which may show the degree of saliency and consequently, these weights can be compared to determine the salient attributes. The consistency of the answers can also be observed in AHP. In this research, the salient attributes are planned to be obtained by AHP and

consequently the attitude measurement model of Martin Fishbein is planned to be implemented.

Designed to reflect the way people actually think (see Chapter 4; compensatory approach), the AHP was developed more than 20 years ago and continues to be one of the most highly regarded and widely used decision making theory in use. The Analytical Hierarchy Process devised by Thomas C. Saaty is a decision support method that enhances decision making by providing a logical and easy to use framework in which all the elements of a decision can be defined, organized, and carefully evaluated.

A fact that should be made clear is that AHP is originally not an attitude measurement model but a decision support model that is not restricted to a particular business function. In fact AHP has been applied to support decision making in business functions such as accounting (Apostolou and Hassell, 1993), marketing (Dyer and Forman, 1992), production and logistics (Min,1992; Mohanty and Venkataraman, 1993). Recently a few papers have been published describing case studies in which AHP is applied to particular case studies (Finnie, et. al., 1993; Lee 1993; Javalgi, et. al., 1989).

With the AHP, the objective (like to select a bank), and the related criteria are arranged in a hierarchical structure similar to a family tree. The process of building this structure not only helps to identify all the elements of the decision (like attributes) more accurately but also to recognize the interrelationship between them therefore it enables us to determine how the

prestated attributes are prioritized and weighted by the customers while they are selecting their banks and how different these weights from each other. Because we are able to compare these weights in AHP, we can differ the more salient attributes to be used in Fishbein.

The rationale of the Fishbein is that to measure a customer's overall rating or his attitude towards a bank, one should;

1. Identify the attributes that the customer considers during the decision process (which bank to select),
2. Measure the importance of each attribute for the decision, and
3. Measure his evaluation of how much of that attribute is contained in the particular bank.

This is also the essence of the compensatory decision making approach which is used in complex decisions. The compensatory approach is mainly expressed as follows:

$$\text{Rating / Attitude} = \sum (\text{Desirability of an attribute})(\text{Beliefs about brand's performance on the attribute})$$

Because the Fishbein Model has been developed specifically to understand the concept of attitude, Martin Fishbein even offered several modifications of his basic model in an attempt to better explain the formation of brand attitudes and purchase intentions. For instance, he has included the act of purchasing to the measurement of an attitude towards a product but in this

study, the original form of the Fishbein model is planned to be introduced which means the behavior component is excluded .

Before doing all these analysis, we should first clarify the modern marketing concept or the consumer oriented approach in bank marketing because this is essential to determine what attributes might be important for customers while they are selecting their banks. Therefore, Chapters 2 and 3 give an insight on the basic trends and approaches in bank marketing. Chapter 4 mentions the concept of selection decisions. Then Chapters 5 and 6 explain the AHP and the Fishbein Models separately in analyzing the customer preferences. Consequently Chapter 7 gives a brief comparison of the 2 methods and tries to explain why they were not used separately but in combination. Then Chapter 8 displays the final research design in which AHP is planned to be used to provide the necessary input (salient attributes) for Fishbein. Finally, Chapter 9 gives the conclusions of the study.

# CHAPTER 2

## TRENDS IN THE BANKING SECTOR AND THE BASIC APPROACHES IN BANK MARKETING

As being interactive and closely related with other sectors of economic structure, banking sector plays an important role in the market economy by directing the transfer of money and providing professional services besides public service. Traditionally, the business of banks can be defined as collecting funds from personal savers in the form of deposit accounts and loaning them to firm-customers with a payback agreement because, all the commercial, manufacturing or agricultural corporates need external financial resources to operate their business. As a result, the history of banking is inevitably linked with the correspanding history of trade and industry.

In the beginning, the image of banks were comprised of clerks waiting behind the cashiers and filling orders whenever a customer orders a certain service. The focus was to have multi-branch network to reach every potential customer without considering the related benefits or losses. After the World War II, the industry and the market changed substantially,so did the nature of the banking concept. This change can be called as the shift from retail banking to corporate banking. The retail banking has traditionally been

supply-led. Through their branch networks, retail bankers had passive retail customers so they have benefited obtaining cheap retail deposits which were used as credits to corporate or retail customers. This traditional situation is rapidly changing. The day of the uninformed or financially unsophisticated retail customers are over. The increase in competition which has affected all types of markets caused by technological advancement, deregulation and socio-economic change has encouraged retail banks to broaden and improve the quality of their services and to extend their customer bases correspandingly.

Corporate banking may be defined broadly as "the provision by banks of a collection of services to companies, industrial, and commercial companies or corporates of all kinds" (Gardener and Molyneux, 1990). These services encompass a wide range of financial products or services, including facilities like cash and portfolio management. The transition phase from retail to corporate banking still continues. New types of services are emerging like developing client relationships, innovative delivery system which are both convenient to customers and cheap for the bank, financial planning services that attract the business of savers and building a sales force needed to market these services. These are discussed in the following chapters.

The transition phase also affected Turkey after 1980's. In 1950's and 60's, the retail banking system was popular where banks had multi-branch networks, focused mainly on collecting deposits from individual customers and employed unqualified personnel. Thrustworthiness was the most popular attribute. In the 1970's, new banks began to enter the market which

increased competition, but still, the former approach was in use. Improving the corporate image as well as the thrustworthiness came out to be more salient attributes.

In the beginning of 1980's, factors like alternative financial services provided by other financial enterprises, deregulation of banking, shrinkerage of profit margins, increasing competition and more active customers forced banks to change their nature. They recognized the opportunities to be found primarily in innovation so concentrated on broadening their range of services. For instance, the open market economy necessiate the import-export services that required skilled sales force who could bare the complexity and risk of the situation. The role of this sales force also extended up to maintaining customer loyalty and providing the bank less risky and more profitable firm-customers. Offering a complete set of services has become the most important issue. As a result, to create a sufficient demand, sustained growth, and profitable volume, the banking sector in the world needed to change their type of marketing. As Kotler and Connor (1977) mention, professional marketing has become popular rather than the minimal marketing or hard-sell marketing. These three types of marketing approaches are explained below.

Banks like other professional firms have three major objectives: To create sufficient demand, sustained growth, and profitable volume (Kotler and Connor, 1977). They must turn to some form of marketing to achieve these goals. Three different styles of marketing can be distinguished: minimal, hard-sell, and professional.

## 2.1. Minimal Marketing

A large number of professional firms practice minimal marketing which avoids developing a marketing program and aims to keep the existing clients. The explanation is that high quality of limited service will lead to satisfied clients who will place their new business with the bank or even recommend it to others, leading to a substantial inflow of new clients.

Although the logic is appealing, the problem is that it places too much confidence in the assumption that quality speaks for itself. Furthermore, it assumes that the bank will deliver distinctively better quality services than competitors. However, several banks usually pursue the same philosophy and thus no bank may strike the client as particularly exceptional in this respect. Besides, it ignores the fact that the competitors have the potential to practise a stronger form of marketing. As a result, it is a reactive rather than a proactive approach. The firm does little to shape its future clients or services.

## 2.2 Hard Sell Marketing

A few professional services firms practice hard-sell marketing (Kotler and Connor, 1977). Hard-sell marketing really reflects a sales orientation rather than a marketing orientation. It has two main faults:

1. It does not use a disciplined approach to identify and cultivate the market. It confuses sales (which is an outside job that requires an activity at the outside of the organization to find customers and make a sale) with marketing (which is an inside job that requires a strategic planning in the company before going outside). It neglects the basic marketing process which is to choose targets, develop services, formulate plans, set up information systems, and establish controls (Kotler and Connor, 1977).

2. Like other professional firms, when the banks use this approach, they often get carried away with the problem of attracting new clients and are drawn into using more extreme techniques which begin to violate the ethical code and this may result in acquiring uncredible clients .

### 2.3. Professional Marketing

Professional marketing is in fact the so called marketing orientation in which the customer is the focus. A bank that is marketing oriented must not only be aware of the needs of its customers but it must also be able to meet these needs efficiently and effectively. In this era of intense competition and sophistication, banks should continue to strive for customer satisfaction in order to survive and remain profitable (McCullough, Heng, and Khem, 1986).

As a result the question facing the bankers is not whether to do marketing. They are doing marketing. The question is how to do it effectively. As the

bank's competitors resort increasingly to installing organized programs for business development, it can no longer remain indifferent to the discipline of marketing (Kotler and Connor, 1977).

An article by McCullough, Heng, and Khein (1986) examines the relationship between the marketing orientation of a bank and consumer satisfaction with its retail operations. As a result, customers of marketing oriented banks were found to be significantly more satisfied with their banks than the customers of other banks suggesting that marketing orientation is related to customer satisfaction which is the requirement given by the modern marketing concept.

# CHAPTER 3

# THE MODERN BANK MARKETING CONCEPT

Gronroos (1982) calls the consumer oriented approach as "the interactive marketing function" and formulates a three stage model. The model holds that in order to satisfy the needs of its target market, the service firm will have to consider three stages in the customer's opinion of the need satisfying capabilities of the service offering. These are interest in the service firm and its offerings, purchase of a service, and repeat purchase of the same or similar services. The recognition of these three stages has substantial marketing consequences. At each stage, the objective of marketing and the nature of marketing will be different.

**The Three Stage Model**

| Stage | Objective of Marketing | Marketing Function |
|---|---|---|
| Internal Stage | To get customer-conscious and sales-minded personnel | The internal marketing function |
| Initial Stage | To create interest in the firm and its services | The traditional marketing function |
| Purchasing process | To turn the general interest into sales | The traditional and the interactive marketing function |
| Consumption process | To create resales and enduring customer contacts | The interactive marketing function |

Gronroos (1982)

According to the service marketing theory which is presented in the study of Gronroos (1982), interactive marketing activity is of vital importance. The company must continuously demonstrate its capability of handling the buyer/seller interactions.

Berry (1982) identifies some of the questions that should be asked in the concept of bank marketing. Among the questions being asked are:

- How do we attract the potential customers?
- How do we keep the customers we already have?
- How do we make our bank distinctive given the homogeneity in the industry brought by years of service and pricing regulation?
- How can we make our bank stand apart?

Berry (1982) also defines some priorities for bank marketing. Among the highest priorities facing the bank marketing field are:

1. Emphasizing relationship banking
2. Developing multi-tier delivery systems
3. Marketing to investors
4. Building a personal selling organization

### 3.1. Relationship Banking

Relationship banking concerns viewing customers as clients emphasizing client retention not just client acquisition, and approaching the want satisfying task from the stand point of the "whole" rather than from the stand point of the "part". In a sentence, relationship banking is attracting, maintaining, and enhancing client relationships. Successful implementation of a relationship banking program is not easily done. A strategic approach in which at least true key elements are present and carefully coordinated is necessary.

First, the bank must become a segmenter institution since it is more practical to seek relationships with definable market segments whose specific wants can be identified. However, the business should not be viewed as a homogeneous entity but rather as a collection of heterogeneous market segments comprising groups of customers with different needs, each of which may be better satisfied by the introduction of marginally or wholly different services (Yorke, 1982).

Second, there must be a core service around which the relationship can be built. The ideal core service is one that attracts new business by addressing important and unsatisfied wants of the target market, cements the business through its quality and multiple component parts, and enhances the relationship over time by providing a platform from which additional services can be sold.

A third vital element is the account representative: Someone the client can turn to when the need for nonroutine service arises. The account representative is the liaison between the bank and the customer, a person who can cut through bureaucracy and serve the customer as a client.

Fourth, bank services need to be priced to provide incentive for customers consolidating much or all of their financial business with one institution. There are several approaches to relationship pricing. One is to discount loan rates or service fees to customers maintaining a certain level of business with the bank. A second approach is to make available certain "special" services only to customers maintaining a given level of business with the bank, e.g. offering no commission for electronic money transfer (EFT) if the amount to be transferred is more than 5 billion TL.

A fifth element in relationship banking is communications management which involves educating both the staff and the client base. Education and training are critical because staff competence is an essential ingredient in forging client relationships.

Relationship banking is both a marketing objective and a marketing strategy; it is a way of thinking and a way of doing. An important challenge for the bank marketer is to help pave the way in the bank for this approach taking hold (Berry, 1982).

### 3.2. Multi Tier Service Delivery

Managing the cost problem requires, in part, banks restructuring service delivery from the high cost and labour intensive system to a muli-tier system involving a range of facility and service alternatives, e.g. full service branches, automatic teller machines, small limited service branches, and electronic in home banking facilities. Bank marketers have an important leadership role to play in planning and executing this transition (Berry, 1982).

The premise of multi tier service delivery is that it will better align service delivery costs with the customer requirements. Studies document that the vast majority of visits to full service banking offices are for routine deposits with withdrawals and cheque cashing (ref for 76 and 81 studies). Banks do not need - and can no longer afford -elaborate and expensive branch office facilities when providing frequent and routine services.

For most consumers, multi-tier service delivery should mean added convenience since more than one limited service facility can be instituted for the same cost as one full service facility.

Violano (1990) states that customers' needs and desires are not static. Customers also respond to different stimuli. Some prefer to open accounts at branches, other will send bankcard applications by mail, and some customers are getting comfortable with the phone, i.e., telemarketing but it is clear that more and more banking services are being served out of the bank which provides time and money saving.

### 3.3. Marketing to Investors

A large and growing quantity of bank customers in America can no longer be considered "savers". Considering high inflation rates to be a fact of life, many customers have been investing their money in tangible assets like land, homes, and collectibles instead of in financial instruments and when investing in financial instruments they have been investing in the highest yielding or most tax efficient instruments available.

The bank marketing "mind-set" must shift from deposit gathering to funds gathering. More specifically, bank marketers need to think in terms of marketing investment portfolios tailored to a specific liquidity, convenience, return, safety, and tax sheltering preferences of the individual customer

investor. As a result, yesterday's saver is now an investor with many non-bank investment alternatives.

### 3.4. Building a Selling Organization

If the developments mentioned before like the impact of inflation, transformation from saver to investor, and rising costs have not occurred, the traditional under use of personal selling in bank marketing would not matter so much but they did. As a result, simply by placing advertising and taking orders, more complex investment and financial planning services can not be marketed any more. Nor can the advertising alone effect the client relationship which is so important to the bank profitability. More and more, it will be advertising's role to open the door for the salesperson rather than to make the sale. Making the sale will require graphically explaining complicated services, discussing the advantages and disadvantages of the alternative courses of action, answering questions, addressing confusion, and building credibility and trust; it will require personal selling.

As mentioned before, marketing orientation must be operationalized in order to exert any influence on customer satisfaction. To implement the marketing concept effectively, a bank must be able to identify the needs and wants of the various segments of its markets and develop specific programmes or services tailored to the various requirements. A major problem lies in the identification of customers' needs which are constantly changing and therefore difficult to ascertain. For instance in the research of McCullough,

Heng and Khem (1986) efficiency and courtesy were the most important attributes in determining the customer preferences in bank selection. Other important attributes were convenience of location, range of services, reputation, and availability of innovations.

In another study conducted by Kaynak (1986), parking facility was the most significant attribute. Then came the service offerings, reputation of the bank, and availability of the credit.

# CHAPTER 4

# ISSUES ON CUSTOMER EVALUATIONS AND SELECTION DECISIONS

## 4.1 EVALUATIVE CRITERIA

### 4.1.1. The Underlying Assumptions

Consumer decision processes vary considerably in their complexity. Most of the decisions consumers are required to make are probably rather simple ones such as the purchase of staple goods. However, consumers also must make decisions that are comparatively complicated especially when they become a customer. The range of difficulty of customer decision processes extends even further to problem solving that may be characterized as being highly complex like the selection of a bank as Reidenbac and Pitts (1986) assume.

The decision making process may be generalized toward a typical problem solving model consisting of four basic types of activities in the process of purchasing. These steps are:

1. Problem recognition

2. Information search and evaluation

3. Purchase decision

4. Post purchase evaluation

The assumptions underlying this and other decision approaches seem to be the following.

1. Two or more alternatives (banks) exist so that a choice must be made by the consumer

2. Consumer evaluative criteria (attributes) facilitate the forecasting of each alternatives' consequences for the customer's goals or objectives.

3. The consumer uses a decision rule or evaluative procedure to determine the chosen alternative

4. Information obtained from external sources and/or memory is used in the application of the decision rule or evaluative procedure.

AHP and Fishbein are two methods that both hold these assumptions except the fourth one. Their decision rule is the same which is the compensatory decision rule.

If AHP is used alone to analyze the customer preferences, it places the first assumption as the first level in its hierarchy. Then it places the second assumption to its second level in the hierarchy and the third assumption as the third level in the hierarchy. Then, using matrix algebra, it shows how these interact with each other to reach a final selection decision but it does not bring an explanation for the fourth assumption. The Fishbein model, on the other hand, does not built hierarchies, but still considers the first three

assumptions. It also excludes the 4th assumption like AHP. Because these two methods have been planned to be combined in this research, the consumer evaluative criteria (attributes) mentioned in item 2 have been determined by AHP, and the measurement process has been done by the Fishbein Model.

### 4.1.2. The Nature of Evaluative or Choice Criteria

A customer evaluates his alternatives on the basis of a number of choice criteria (attributes). These criteria are the standards and specification the customer uses in evaluating the service. This evaluative criteria may vary from one customer to another yet they are likely to differ in their importance, usually with one or two criteria being more important than others. Thus, while several evaluative criteria are salient (important) to the customer, some are determinant (they are the most important and are also perceived to differ among alternatives). In this research, these salient attributes have been obtained by the AHP. The AHP methodology is explained in detail in the following chapters.

### 4.1.3. Measuring Evaluative Criteria

In order for the bank marketer to develop a successful marketing mix, there must be an understanding of what criteria are used by customers in making a selection decision for his alternative, as well as how important each criterion is, and how the customer rates each alternative on the various criteria. The Fishbein Model measures all these factors and reach the final result as the

product of the importance of each attribute and their respective amount found in each alternative. The details of the methodology are explained in the following chapters.

**i. Determining Which Criteria are Used by Customers:**

The bank marketer first needs to determine which evaluative criteria are used by customers in a selection decision. This may be accomplished by directly asking customers what factors they consider important when they are to compare their alternatives for selection. It might be done in a survey questionnaire format or perhaps through a focus group meeting. The greatest drawback of this approach is that it assumes that the respondents are willing to provide the requested information. For example, they may provide the researcher with "socially acceptable" responses rather than their true feelings.

If the marketer believes that customers can not or will not directly reveal their evaluative criteria then an "indirect" approach may be utilized. In this situation the marketer may, for instance, ask the customer what evaluative criteria he thinks "someone else" would use but, this time some other factors like time limitation, willingness...etc. may disturb the respondent and he may not answer the questions seriously. Unfortunately the researcher may not realize it. The AHP methodology still does not guarantee the accuracy of the answers but at least it requires the respondent to compare the attributes in pairs which may force him to put effort on his answers. Besides, AHP

provides a measure of consistency which shows how realistic the respondent was in his answers.

### ii. Determining The Importance Of Criteria Used By Customers

Once the evaluative criteria are determined by AHP, a second measure that the marketer will find useful is the relative importance customers place on each criteria. That is, the marketer is seeking to know the importance of each attribute in a selection decision. A direct method for researching this could involve the use of a rating scale method like Fishbein.

### iii. Determining Customers' Evaluations Of Brand Criteria Performance

In this case, the marketer is seeking judgments by customers relating to performance on various evaluative criteria by the alternative. In Fishbein, this information is obtained by evaluating each alternative separately for each salient attribute obtained by AHP. Such information may allow the marketer to better judge the strengths and weaknesses of a bank on dimensions of importance to customers.

## 4.2. KINDS OF DECISION RULES

In real life consumers do not assign weights to the importance of attributes nor do they assign numerical scores to the performance levels of various

brands. The following models are merely representations of the vague decision rules commonly used by customers in their selection decisions.

**a. The Conjunctive decision rule :** It establishes minimum required performance standards for each evaluative criterion and selects *all* brands that surpass this minimum level on *each* relevant evaluative criterion. It first eliminates those alternatives which do not meet minimum standards. In other words, the customer considers a brand only if it meets acceptable standards on key attributes.

**b. The Disjunctive decision rule :** It establishes a minimum level of performance for each important attribute. It selects all brands that surpass a satisfactory level on *any* relevant evaluative criterion.

**c. The elimination by aspects decision rule :** It requires the customer to rank the evaluative criteria in terms of their importance and to establish a cut-off point for each criterion. All brands are considered on the most important criterion. Brands that do not surpass the cut-off point are eliminated. If more than one brand passes the cut-off point, the process is repeated on the remaining brands for the second most important criterion. This procedure continues until only one brand remains.

**d. The lexicographic decision rule :** It requires the consumer to rank the criteria in order of importance. The consumer then selects the brand that performs *best* on the most important attribute. If two or more brands tie on

this attribute, they are evaluated on the second most important attribute. This continues until one brand outperforms the others.

**e. The compensatory decision rule :** The four previous rules are noncompensatory since very good performance on one evaluative criterion can not compensate for poor performance on another evaluative criterion. On occasion, customers may wish to average out some very good features with some less attractive features of a brand in determining the overall performance. Therefore the compensatory decision rule states that *the brand that rates highest on the sum of the customer's judgments* of *the relevant evaluative criteria will be chosen.* This is illustrated as :

$$R_b = \sum_{i=1}^{n} W_i \, . \, B_i$$

where $R_b$ = Rating of bank b

$W_i$ = Evaluation or desirability of attribute i

$B_i$ = Beliefs about bank's performance on attribute i

# CHAPTER 5

# USING THE ANALYTICAL HIERARCHY PROCESS IN THE ANALYSIS OF CUSTOMER BANK SELECTION DECISIONS

AHP developed by Saaty (1977, 1980) is a ratio-scaled method used to assist decision makers in evaluating multiple attribute alternatives. Saaty (1980) states that AHP is particularly useful when subjective criteria are involved and when the attributes and/or the decision alternatives are considered intangible. To make use of AHP, a complex decision problem (such as selection of a bank) is described as a hierarchy. This involves identifying various levels representing the focus (objective), criteria or subcriteria and decision alternatives. AHP provides a mechanism for synthesizing the preferences at each level of the hierarchy into overall rankings of the decision alternatives. Presenting complex decision problems in a hierarchical manner, is widely recognized in the literature by researchers such as Newell (1958), Whyte (1969), Simon (1962).

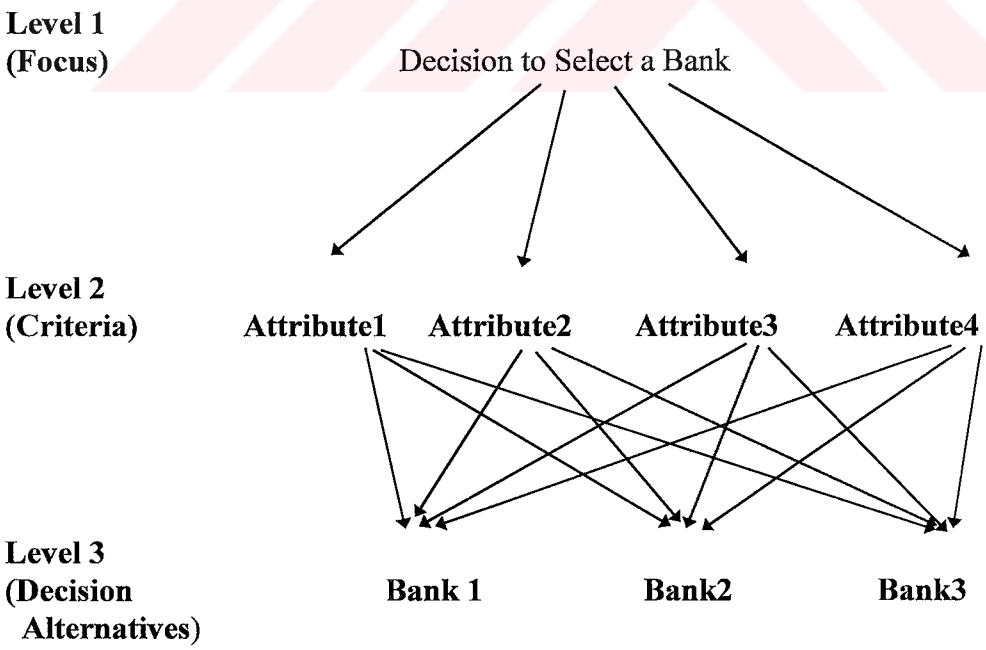
AHP involves:

1. Decomposing a decision problem into subproblems in a hierarchical fashion that can easily be comprehended and evaluated,

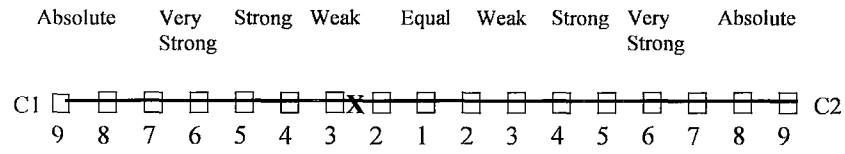
2. Determining the priorities of the elements (either attributes or the decision alternatives) at each level of the decision hierarchy,

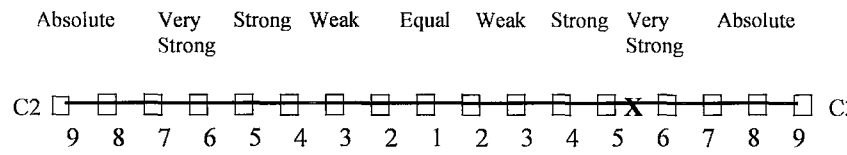
3. Synthesizing the priorities to determine the overall priorities of the decision alternatives (Javalgi, Armacost and Hosseini, 1989).

Decomposing the decision problem involves a hierarchy to capture the basic tenets of the decision problem (bank selection) involving the selection of one of several alternatives (banks) in the market place. In the hierarchy, first level is the decision to select a bank. The second level contains the attributes that are considered important in selecting a bank (like location, trustworthiness, courtesy, etc.), the third and the final level in the hierarchy represents the decision alternatives (banks). One has to consider all the elements of the hierarchy at a given level with respect to the elements of the immediately preceding level (the elements are the attributes in the second level and the decision alternatives in the third level).



After constructing the hierarchy, the next task is to assess the relative importance of the elements at each level. This prioritization procedure is based on pairwise comparisons among the elements. The attributes at Level 2 are compared with one another according to their importance in selecting a bank. The respondents are asked for instance, "How important is location relative to reputation as a factor in the selection of a bank ?". Then "How important is location with respect to thrustworthiness ?" and so on. If the hierarchy includes n factors n(n-1)/2 comparisons are required. These comparisons are made using a ratio-scale. The nine point scale developed by Saaty (1980) for instance allows the respondents to express their preferences between attributes as equally, weakly, strongly, very strongly or absolutely preferred. These preferences would be translated into pairwise weights (or relative weights) of 1,3,5,7,9 respectively. Points 2,4,6 and 8 can also be used as intermediate values. Two examples have been provided below. In the first example criterion-1 (C1) and criterion-2 (C2) are compared. In the second one, criterion-2 (C2) and criterion-3 (C3) are compared.



Respondents are asked to check the judgment which indicates the importance of the element on the left of the scale when compared to the one on the right of the scale. The middle point of the scale is the point of equality meaning that neither element is more important than the other ; they are of equal importance. If the element on the *left* is somehow more important than the one on the right , some positions in the set of values to the *left* of equality is checked. If the element at the *right* is somehow more important than the one on the left , some positions in the set of values to the *right* of equality is checked. The same is done for all other alternatives. To make things clear, some answers have been provided on the above examples; between C1 and C2, the respondent thinks that C1 is weakly more important than C2; between C2 and C3 , he thinks C3 is strongly important than C2. If he thinks they are of equal importance, he marks the middle point which is 1.

Then a matrix is formed which we can call as a "reciprocal matrix" since the $a_{ij}$ element of this matrix is $1/a_{ji}$. That means when the respondent compares criterion-1 with criterion-2, he is not required to do the same for criterion-2 versus criterion-1; one comparison for each pair is enough. The reciprocal matrix also has the property that its principal diagonal elements are all equal to unity, reflecting the fact that a factor when compared with itself should obviously produce a judgment of "equal importance" (Saaty 1980). It should be noticed here that the mentioned scale in AHP is a ratio scale. That means if +3 (i.e. weakly important) is marked on the scale while comparing criterion-1 and criterion-2, it has a meaning that first criterion is 3 times more important than the second one. At this point it is automatically

accepted that the importance of criterion-2 is one third of the importance of criterion-1. The shortcoming of this ratio nature is that in real life people do not tend to compare things by giving exact ratios such as 5 times or 2 times. Rather they tend to use interval scales such as more important, less preferred and so on. This issue will be discussed later in more detail.

As a result, the reciprocal matrix obtained has such a format:

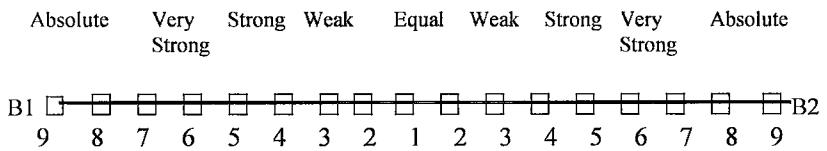
$$\begin{array}{c} \\ C1 \\ C2 \\ C3 \\ . \\ . \\ Cn \end{array} \begin{array}{c} \begin{array}{ccccc} C1 & C2 & C3 & . & Cn \end{array} \\ \begin{bmatrix} 1 & x & y & . & a \\ 1/x & 1 & z & . & b \\ 1/y & 1/z & 1 & . & c \\ . & . & . & . & . \\ . & . & . & . & . \\ 1/a & 1/b & 1/c & . & 1 \end{bmatrix} \end{array}$$

where $C_i$, i = 1,2,...n represent n criteria

From the above matrix, it is seen that criterion-1 is "x times" more important than criterion-2 or criterion-3 is "c times" more important than criterion-n and so on. The diagonal elements are all equal to 1 because of the equality concept described above and all the values under the diagonal are all reciprocal values.

The same process is used to obtain the pairwise comparisons of the Level 3 decision alternatives with respect to each Level 2 attribute (criteria). For instance, we ask the respondent how much they prefer Bank-1 to Bank-2

with respect to criterion-1. The scale used is still the same 9-point scale such as:




If we are to compare y number of banks, these pairwise comparisons of decision alternatives (banks) require yxy dimensional matrices for each n criterion. For instance, if we have 2 banks in our analysis, we will have 2x2 matrices for each criterion. As a result we end up with the following formulation:

For decision criterion 1: For decision criterion 2: For decision criterion n:

$$\begin{array}{c} \\ B1 \\ B2 \end{array}\begin{array}{c} \begin{array}{cc} B1 & B2 \end{array} \\ \begin{bmatrix} 1 & a \\ 1/a & 1 \end{bmatrix} \end{array} \qquad \begin{array}{c} \\ B1 \\ B2 \end{array}\begin{array}{c} \begin{array}{cc} B1 & B2 \end{array} \\ \begin{bmatrix} 1 & b \\ 1/b & 1 \end{bmatrix} \end{array} \qquad \begin{array}{c} \\ B1 \\ B2 \end{array}\begin{array}{c} \begin{array}{cc} B1 & B2 \end{array} \\ \begin{bmatrix} 1 & c \\ 1/c & 1 \end{bmatrix} \end{array}$$

where $B_1$ and $B_2$ represent Bank1 and Bank2.

From the above figures, it can be seen that B1 is "a times" preferred to B2 with respect to criterion-1 and B2 is "1/b times" preferred to B1 with respect to criterion-2 and so on.

As it can be seen, pairwise comparisons are used to determine the priorities of the several criteria with respect to a higher level criterion. For instance, in Level 2 , decision criteria (attributes) are compared with each other with

respect to the decision to select a bank which is found in Level 1 . In the same manner, the decision alternatives (banks) are compared with each other in Level 3 with respect to each criterion in Level 2.

In particular, the aim is to find the weight, $w_i$, of each attribute in Level 2 and each bank in Level 3 (w.r.t. each attribute) so that they can be combined and consequently, the banks can be prioritized on the overall but the individual answers of the respondents in the pairwise comparisons like "5 times" or "1/4 times" are *not* the $w_i$ values that we seek; they are what we call as the *relative importance values*. These relative importance values are used and processed by using matrix algebra to reach the $w_i$ values for each individual attribute and bank.

In fact, the relative importance of the two criteria is the ratio of their $w_i$ value. Then the reciprocal matrix (let's call it A) at the second level has the property as shown below:

$$A = \begin{array}{c} \\ C_1 \\ C_2 \\ \cdot \\ \cdot \\ \cdot \\ C_n \end{array} \begin{array}{c} \begin{array}{cccc} C_1 & C_2 & . \ . \ . & C_n \end{array} \\ \begin{bmatrix} w_1/w_1 & w_1/w_2 & . \ . \ . & w_1/w_n \\ w_2/w_1 & w_2/w_2 & & w_2/w_n \\ & & & \\ & & & \\ & & & \\ w_n/w_1 & w_n/w_2 & & w_n/w_n \end{bmatrix} \end{array}$$

Our basic aim is to determine the value of these weights, $w_i$, so that we can combine these weights to prioritize the banks. To clarify the concept, if an

individual states that C1 is strongly more important than C2, it is shown as 5 times in the above matrix but this is a relative weight and in fact, it is the ratio of $w_1$ (weight of C1) to $w_2$ (weight of C2). The aim is to find the value of these $w_1$ and $w_2$ weights.

At this point it is essential to clarify a concept known as consistency. A respondent who reports $a_{ij}$=2 and $a_{jk}$ =3 is providing a consistent judgement if he also reports $a_{ik}$ =6 (since $a_{ik}=a_{ij} \times a_{jk} = 2x3 = 6$).

In real life it is very difficult, if not impossible, to expect such a consistency from the respondents. With 10 attributes, for instance, no one is able to balance all the calculations because of the intense number of comparisons. Therefore, in applying AHP, the number of items that are compared should be very limited.

AHP makes use of the matrix algebra to calculate the so called weights for consistent matrices; Let W be the vector of weights, $w_i$. If all of the preferences $a_{ij}$ were stated consistently, any row of matrix A would be sufficient to determine W. Analytically, the actual weights would be determined by solving the equation

$$A.W = \lambda.W$$

where A is the reciprocal matrix, l is a right eigenvalue of A and W is the associated right eigenvector of A. Eigenvalue is a value which we should find in order to be able to solve the equation A.W = l.W in which we need

W and have A by the data obtained from the respondents. In matrix algebra, there always exists an eigenvalue such that $[l.I - A] = 0$ where A is the matrix that we form by asking the respondents, l is the eigenvalue of matrix A and I is the identity matrix.

Finding the eigenvalue that satisfies such a condition requires complex calculations but fortunately there are many computer programs which calculate the eigenvalues for any matrix. By definition, an (nxn) matrix called A, has n number of eigenvalues but the values and the properties of them change according to the degree of the inconsistency of the matrix A.

In a consistent nxn matrix, there are always n number of eigenvalues. One of them is always equal to n and the rest are always equal to zero. For instance, in a 3x3 consistent matrix, the eigen values are 0,0 and 3. Therefore, l value that will be used in the equation $A.W = l.W$ is the only positive and the maximum eigenvalue. Also it has a value equal to n.

The formula $A.W=\lambda.W$, will not work when the matrix is inconsistent because the inconsistency will affect the value of the l value which will consequently affect the vector of weights, W. As a result, in inconsistent matrices only an *estimate* of the actual W can be obtained which is shown by $\hat{W}$. If we call $\hat{A}$ as the inconsistent matrix provided by the respondent, $\hat{W}$ is obtained by the formula :

$\hat{A}.\hat{W} = \lambda_{max}.\hat{W}$ where $\lambda_{max}$ is the largest eigenvalue of $\hat{A}$.

It can be shown that the largest eigenvalue of the matrix $\hat{A}$, $\lambda_{max}$, provides the best estimate possible for W and satisfies the condition that $\lambda_{max} \geq n$, where n is the dimension of the comparison matrix, i.e., n is the number of attributes. When the judgment is perfectly consistent, $\lambda_{max} = n$.

A measure of departure from consistency is provided by the difference between the maximum $\lambda$ and the dimension of the comparison matrix. This measure, known as the consistency index (CI), is given by

$$CI = \frac{\lambda_{max} - n}{n-1}$$

The consistency index is zero in the perfectly consistent case. To assess the consistency given by this equation, the resulting CI is compared with the average consistency index calculated from randomly generated preferences known as random index (RI). Using the 9 point scale in a simulation, Saaty (1980) has developed a rule of thumb that the consistency ratio

$$CR = \frac{CI}{RI}$$

should be less than 0.10 to reach good estimates of W. At this point Saaty (1980) offers to drop the respondents who are inconsistent but this can lead to irrational results since these people are still bank customers in real life no matter how inconsistent they are.

By using the eigenvector method, the weights (priorities) are calculated for each pairwise comparison matrix in each level of the hierarchy. In other words in Level 3, we also calculate the weights for each bank w.r.t. each attribute found in Level 2.

Finally, the consumers' judgemental preferences of the alternatives (banks) on the overall are obtained. To achieve this, we synthesize the results over all levels (Level 1, Level 2, and Level 3). The principal eigenvector of the pairwise comparison matrix at each level is weighted by the $w_i$ priority of the higher level criterion. For example, in Level 3, the principal eigenvector ($\hat{W}$) of banks A, B and C has been obtained for criterion location. This vector is then weighted by the weight for the location attribute, $w_i$. As a result the global priority of bank A is obtained by the formula:

$$\text{Global Priority of Bank A} = \sum_{i=1}^{n} \textit{(Weight of attribute i) ( Bank A's weight on attribute i)}$$

We apply the same formula for the other decision alternatives (banks) and the resulting priorities represent the intensity of the customers judgmental preferences of the alternatives which takes into account the relative importance of the attributes.

In the above dimension, the process described is composed of one individual, i.e. the comparison matrix is formed at the individual level. In order to aggregate the judgments of a group of individuals, the collective

judgment itself must satisfy the reciprocal property. Aczel and Saaty (1980) have demonstrated that the geometric mean of the set of individual judgments satisfies this property. Therefore the process requires the geometric mean of the pairwise comparisons to reach the conclusion when a "group" of individuals are used. Specifically, the geometric mean of all responses for each pairwise comparison is calculated and the resulting reciprocal matrix is analyzed as described above.

# CHAPTER 6

# THE FISHBEIN MODEL

A number of different multiattribute approaches have been developed by researchers. They are all extensions of the model formulated by Fishbein in the 1960's. Fishbein model states that an attitude towards an object depends on the probability that the object has certain attributes. Structurally, it is shown by the following equation:

$$\text{Attitude} = f\left(\sum_{i=1}^{n} b_i \cdot e_i\right)$$

where

- $b_i$ is the strength of the belief (expressed as a subjective likelihood ) that the attitude object performs the $i^{th}$ attribute (for example the likelihood that Bank A has high interest rates).
- $e_i$ is the evaluative aspect associated with the $i^{th}$ attribute (for example how much desirable the attribute "high interest rate" is).
- n is the number of salient attributes of the attitude object
- $f$ stands for "is a function of" meaning that attitude is somehow related to the formula inside the parenthesis.

The underlying theory behind the Fishbein Model is that an attitude toward an object is more or less automatically learned as one learns about a new product, and also that learning occurs in the form of beliefs about product attributes. For example, as the customer learns the attributes (such as this bank has a good location, has a bad reputation, ... etc.) through advertising, word of mouth or experience with the bank, each attribute becomes connected to Bank A to a greater or lesser degree. This is the belief strength ($b_i$) component of Fishbein theory. Associated with each attribute is an evaluative aspect ($e_i$) which can be thought as the desirability that already exist about the attribute. That means the customer knows how he feels about location or high interest rates before he hears about Bank A. As a result these two components ($b_i$ and $e_i$) come together and form the Fishbein formulation.

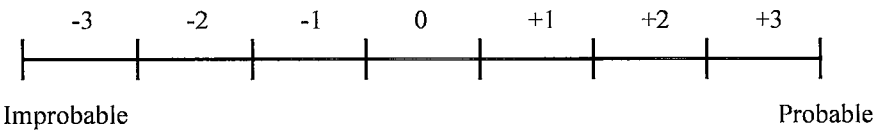
The attributes that are to be tested in the Fishbein Model are determined by asking respondents in a free response format like the question "What comes to mind when you think of the attitude object (the bank)?". The things that the individual mentions in response to this question are taken to be salient attributes of the attitude object (bank), that is, those aspects of a bank which the individual is aware without prompting. In this research, these salient attributes have been determined by AHP. Most theorists believe that for most attitude objects, there are somewhere between 5 and 9 salient attributes for the typical person. Thus in most applications of the Fishbein model, free responses from a small number of people (say 20 to 30) are combined to discover the salient attributes, that is 5 to 9 attributes that are mentioned

most often. These attributes are then used in constructing questionnaires to measure the $b_i$ and $e_i$ elements associated with each attribute.

**Measurement Scale in Fishbein**

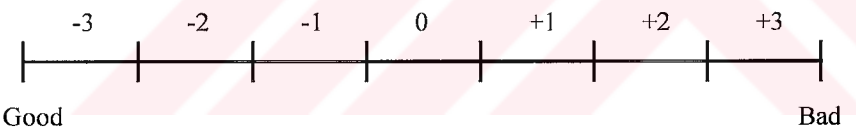
In the original Fishbein Model, the scale that was used to measure the belief component ($b_i$) was of type:

How likely is that Bank A has the following characteristic?




The scale that was used to measure the evaluative component ($e_i$) was of type:

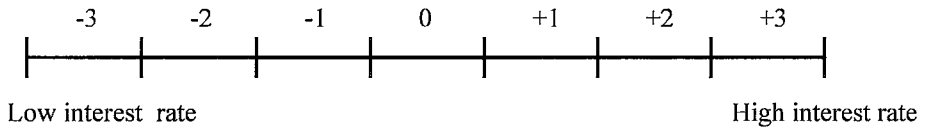
Indicate how you would evaluate the following characteristic:




Since Fishbein's model became widely known in marketing, researchers have formulated alternative multiattribute models to develop measures that are more specifically related to marketer's needs. The researchers realized that the use of a probability scale to measure brand attributes proved cumbersome in marketing research studies. As a result, simpler scales were more widely used as a measure of the belief ($b_i$) component and the value component ($e_i$).

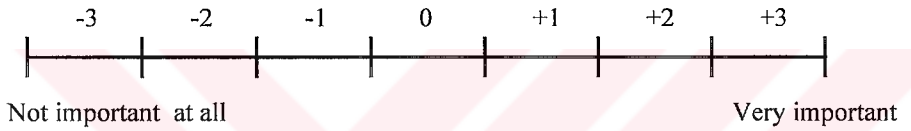
The following scale has become more popular for the belief component:

Rate bank A by the following characteristic.




For the value component ($e_i$) the following scale has been used:

Rate the following characteristic based on how important it is in determining the selection of a bank:




In this study the latter versions of $e_i$ and $b_i$ scales are planned to be used. It should be noticed that the scales used are all interval measures. This means if +2 is marked, it has a higher degree value than +1 but a lower degree value than +3.

To apply Fishbein Model, a questionnaire is formed to measure the $b_i$ and $e_i$ components. The respondent is required to rate each brand (bank) for each attribute using the $b_i$ component scale as shown before. To obtain the $e_i$ component, he also evaluates each attribute separately according to it's

degree of importance. Then the two components are combined using the formula

$$\text{Attitude} = \sum_{i=1}^{n} e_i \,.\, b_i \,.$$

In Fishbein, to increase the amount of score, both the $e_i$ and the $b_i$ components should be positive or both components should be negative so that the product becomes positive and this increases the score. In other words, a bank should be rated positively for a positively rated attribute or it should be rated negatively for a negatively rated attribute. If the respondent is indeterminate on one of the components, this does not affect the score because the zero value is assigned for the indeterminate component.

# CHAPTER 7

## A BRIEF COMPARISON OF AHP WITH FISHBEIN

In both AHP and Fishbein, individuals provide two kinds of information: The importance of each criterion and the beliefs about bank's performance on each criterion. As such, both methods use a compensatory approach to measure the attitude of customers but, the *mentality* on how they obtain these information changes. The reason can be attributed to the fact that Fishbein is originally designed to measure and especially explain the concept of attitude whereas AHP is in fact a decision making method and has been applied in attitude measurement just once by Javalgi et al. (1989).

The difference in their mentality is caused by the difference in their scales. To explain the attitude concept, AHP uses a ratio scale whereas Fishbein uses an interval scale. By the nature of ratio scale, AHP requires pairwise comparisons. When the question "How important is attribute 1 with respect to attribute 2 ?" is answered as strongly, the answer is accepted as 5 times important so, degree of importance obtained are always *relative* importance of attributes. On the other hand in Fishbein, each attribute is evaluated individually; they are not compared according to another attribute at the

same time so the result obtained has an interval nature. The word "strong" shows a higher degree of importance than "weak", but does not provide a numeric value such as "5 times". The major drawback of AHP arises at this point: In real life people do not tend to think in terms of pairwise comparisons and can not rank their alternatives like "3 times, 1/7 times etc.". Their decision making process is much simpler in that respect and they prefer interval scales rather than complex ratios. As a decision support technique, the pairwise comparisons may provide a useful framework to make a decision but in an attitude formation process, the same logic may not work. The same drawback is still valid while the individual is required to compare the banks with respect to each attribute. Still, in real life, an individual can not give certain decisions like " I prefer Bank A 3 times to Bank B". Rather, he may say "Bank A is better than Bank B".

By the nature of the ratio scale, AHP claims that if an individual has a substantially positive attitude towards a bank, he should have a lower degree of attitude for the other alternative. On the other hand, Fishbein states that this individual may have a substantially positive attitude for both banks or may alternatively hate them all.

Together with the consistency concept, there is another problem in the pairwise comparison process: In AHP, when the question "How important is criterion-1 with respect to criterion-2" is asked, the perception of the respondent is an interval scale, so he marks the box named as "strongly". On the other hand, during the analysis, this answer is converted to "5 times as important" in the reciprocal matrix. So even the question itself does not

reflect the ratio nature of AHP. The respondent himself does not know that his answer means "5 times as important". Even if he knows, such a number does not exist in his mind because as explained above, he does not tend to think in terms of pairwise comparisons.

Although the ratio nature has the above mentioned shortcomings, it still provides us some useful information, which an interval scale may not. It is the relative weights of attributes obtained by the vector of weights W. This enables us to measure the amount of saliency among the attributes so we can observe the substantial differences between the saliency of the attributes.

There is also another issue which is specific to AHP. In this method, for n number of attributes, one should make n.(n-1)/2 number of comparisons. In fact, this is a very discouraging factor for the respondent to complete the questionnaire because if n is 9, he has to make 32 comparisons. Such a time consuming process may also lead to drastic inconsistencies in the answers of the respondent. In that respect, AHP is a method which is much more difficult than Fishbein to be applied. The researcher should restrict the number of attributes by grouping the ones that have strong overlap in a hierarchy level as a single, more general property, so instead of specific attributes, more general ones should be chosen to be compared.

When we think of the shortcomings of the AHP, it is seen that it is not an applicable method for attitude measurement purposes but still conveys the advantage that it can provide the relative weights (saliency) of the attributes which can be used as an input to the Fishbein model.

Having a high number of attributes to be compared in the AHP method may cause the respondent to get bored and may lead to a higher level of inconsistency in the answers. To keep the number low, a list of attributes may be tested among the respondents by a pre-questionnaire and the most rated ones may be selected to be used in AHP. After the relative weights are obtained by AHP, the most salient ones can be used in Fishbein to measure the attitude. By the help of this pre-questionnaire, more specific attributes can also be compared in AHP, instead of more general ones. The reason for this is that some of the attributes will have already been eliminated.

# CHAPTER 8

# THE RESEARCH DESIGN

Both AHP and Fishbein have been the subject of many empirical studies in recent years but applying them together under the same topic as "Attitude Measurement in Banking Sector " may be a new issue. In the research stated here, a prime objective was to combine these two methods and make use of their advantages together as well as eliminating some of the disadvantages. Because of the sector they have been applied, some general topics on corporate banking have also been examined.

The research has included 3 separate questionnaires. The first one (the pre-questionnaire explained in the previous chapter) has included around 15 attributes that might be considered in a bank selection process and the respondents have been required to select the ones that they consider most important. Then only the most frequently selected attributes have been analyzed by AHP to determine the most salient ones. Such an elimination was necessary because if all 15 attributes were used, the respondent would have to make 105 comparisons which would need an enormous effort and time. The pre-questionnaire is found in Appendix A. The most frequently rated attributes have been used to design the questionnaire for AHP. The

questionnaire designed for AHP is found in Appendix B. By the relative weights obtained, the most salient attributes were provided. Then these salient attributes were used to design the third questionnaire which is for the Fishbein Model. This last questionnaire is also found in Appendix C. After analyzing the answers to the third questionnaire, the attitude towards the selected banks have been obtained. The Turkish version of each questionnaire can be found in Appendices D, E, and F respectively.

The banks were selected among the ones that are involved in corporate banking. The major commercial banks that compete with each other were selected as İş Bankası, Yapı Kredi Bankası, Ziraat Bankası, and Halkbank with capital amounts of 27 trillion, 23 trillion, 27 trillion, and 28 trillion respectively. Two privately owned and two government banks have been selected intentionally to get an insight on the attitudes towards government banks and private banks.

**The Sampling Procedure:**

The sampling procedure has been a non-probabilistic approach for all types of questionnaires. Specifically, convenience sampling has been used. Customer lists have been obtained from the banks so that the selection process could be more convenient. The lists have focused mainly on small sized firms with comparable sales volume from several sectors. The sales volume was an important factor because the expectations may change according to the trade volume of the firms. Large sized firms have not been included to the customer lists because they could not be reached easily and

their sales volume differed significantly according to the sector they function. On the other hand, the owners of the small sized firms could be reached more easily in terms of the response rates and according to the credit analysts in the banks, the sales amount of small firms do not fluctuate as much as the big size firms although there may be exceptional sectors.

A sample of 50 shops have been chosen for the pre-questionnaire. The distribution according to their sectors is shown below:

| | **Sample Size** | **Percentage** |
|---|---|---|
| Garment | 15 | 30% |
| Shoes | 9 | 18% |
| Pharmacies | 10 | 16% |
| Souvenirs | 7 | 14% |
| Book-Magazines | 5 | 10% |
| Cassettes-Discs | 4 | 8% |

By the answers obtained from the questionnaire, the rating of the attributes by this sample is as follows:

| | SCORES |
|---|---|
| Speed of the services | 50 |
| Trustworthiness of the bank | 50 |
| Courtesy of the bank personnel | 41 |
| Low interest rate on loans | 38 |
| Convenient location | 36 |
| Special services offered | 34 |
| Accuracy of services | 32 |
| Technically qualified personnel | 30 |
| Price of services | 28 |
| The variety of investment alternatives | 26 |
| Account representatives who are experts in their area | 26 |
| Facilities like interactive banking, telemarketing, ATM, etc. | 22 |
| High interest rates on the deposits | 8 |
| Image of the bank | 6 |
| Innovativeness | 5 |

According to these scores *the image of the bank, innovation,* and *the high interest rates on deposits* have come out to be very unimportant for the bank customers.

All other attributes have been decided to be used in AHP. Two attributes have

been combined as a single, more general property. The attributes *technically qualified personnel* and *customer representatives who are experts in their area* have been combined as *qualified personnel*. By the help of the first questionnaire, the number of comparisons have decreased from 105 to 45 which results in a significant time saving for the respondent.

In the results of this questionnaire, the attributes *innovation, high interest rates on deposits,* and *the image of the bank* have been observed to be substantially unimportant for the customers. These attributes could be more important for the big size firms that are involved in foreign trade so that, the image of the bank they work with could have an importance for the trading partner. *Innovation* is also an unimportant attribute for the small firms because although they deal with corporate banking, the type of the services or the credits they use are not the ones that require complex procedures and bureaucracy. This attribute can also get a higher rating from the larger firms. Another observation in the first questionnaire was that these firms also do not keep their money idle in the bank or do not prefer to earn interest on it. Rather, they may prefer to invest it to the goods they sell to increase the turnover rates. Services such as interactive banking and automatic payments were also relatively unimportant for these firms because they do not deal with retail banking like the individual depositors.

On the other hand, for the small firms, the attributes *technically qualified personnel, price, speed, location of the services, investment alternatives trustworthiness, accuracy, courtesy, low interest rates on credits,* and *special services offered* have been found to be relatively important so they were tested by the AHP to observe their degree of saliency.

### 8.1. The Application of AHP

The questionnaire for AHP had a cover part in front in which the procedure to make the pairwise comparisons and the descriptions of the attributes have been explained. The response rate was not as much as the first questionnaire because the respondents had to make 45 comparisons which took much more time than the first questionnaire. The type of the firms included in the sample was the same with the first sample and the distribution is shown below:

| | **Sample Size** | **Percentage** |
|---|---|---|
| Garment | 11 | 34% |
| Souvenirs | 6 | 19% |
| Pharmacies | 6 | 18% |
| Shoes | 5 | 16% |
| Book-Magazines | 3 | 10% |
| Cassettes-Discs | 1 | 3% |

While filling out the questionnaire, the respondents translated their preferences into relative weights by marking one of the numbers on the scale from 1 to 9. As a result, the following reciprocal matrix has been obtained.

| | C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 | C9 | C10 |
|---|---|---|---|---|---|---|---|---|---|---|
| *C*1 | 1 | 0.80 | 0.43 | 1.19 | 0.84 | 0.46 | 0.27 | 1.24 | 2.60 | 0.20 |
| *C*2 | 1.25 | 1 | 1.38 | 3.70 | 1.65 | 0.78 | 0.76 | 3.76 | 1.55 | 0.26 |
| *C*3 | 2.33 | 0.72 | 1 | 2.92 | 3.02 | 1.70 | 0.31 | 2.79 | 3.16 | 0.27 |
| *C*4 | 0.84 | 0.27 | 0.34 | 1 | 1.86 | 0.24 | 0.60 | 0.72 | 0.85 | 0.16 |
| *C*5 | 1.19 | 0.61 | 0.33 | 0.54 | 1 | 0.41 | 0.38 | 1.53 | 0.70 | 0.18 |
| *C*6 | 2.17 | 1.28 | 0.59 | 4.17 | 2.44 | 1 | 0.55 | 3.36 | 2.80 | 0.30 |
| *C*7 | 3.70 | 1.32 | 3.23 | 1.67 | 3.63 | 1.82 | 1 | 3.94 | 2.75 | 0.54 |
| *C*8 | 0.81 | 0.27 | 0.36 | 1.39 | 0.65 | 0.30 | 0.25 | 1 | 0.83 | 0.16 |
| *C*9 | 0.38 | 0.65 | 0.32 | 1.18 | 1.43 | 0.36 | 0.36 | 1.21 | 1 | 0.32 |
| *C*10 | 5.03 | 3.92 | 3.72 | 6.45 | 5.59 | 3.33 | 1.85 | 6.29 | 3.14 | 1 |

To continue with the procedure, eigenvalue for the reciprocal matrix has been required. This has been computed by a computer software. The $\lambda_{max}$ value for the above matrix has come out to be 10.5870.

To get a measure of how consistent the respondents were in answering the questions, the Consistency Ratio (CR) of the matrix has been calculated.

For the reciprocal matrix :

$$CI = \frac{\lambda_{max} - n}{n-1} = \frac{10.5870 - 10}{9} = 0.06$$

Then the CR has been calculated as :

$$CR = \frac{CI}{RI} = \frac{0.06}{1.49} = 0.04$$

Because, the CR has a value smaller than 0.1, we can accept this level of inconsistency . Besides, reaching this number with 45 comparisons by 32 respondents is a very difficult issue. As a result, 0.04 is a number much better than the expected in the beginning of the research.

When we gather our findings, our formula $\hat{A} \,.\, \hat{W} = \lambda_{max} .\, \hat{W}$ gets the form $\hat{A} \,.\, \hat{W} = 10.5870 .\, \hat{W}$

As a result we obtain the eigenvector of $\hat{A}$ as

| | |
|---|---|
| 0.2026 | → Qualified Personel |
| 0.3584 | → Price of Service |
| 0.3901 | → Speed of Service |
| 0.1612 | → Location |
| 0.1630 | → Investment Alternatives |
| 0.3920 | → Thrustworthiness |
| 0.5686 | → Accuracy of Services |
| 0.1353 | → Courtesy |
| 0.1760 | → Special Services for the Firm |
| 1.0000 | → Interest rates on Credits |

The prioritization is as follows:

- Interest rates on credits
- Accuracy of Services
- Thrustworthiness
- Speed of Services
- Price of Services
- Qualified Personel
- Special Services or the Firm
- Investment Alternatives
- Location
- Courtesy

According to these results *interest rates on credits, accuracy of services, trustworthiness, speed of services,* and *the price of services* have come out to be substantially salient attributes.

At this point, it is also necessary to observe the standard deviations for each pairwise comparison to see if there are substantial differences among the answers of the respondents. To determine whether a standard deviation is high or low, the coefficient of variation (CV) of each comparison has been calculated which is found by dividing the standard deviation by the mean. The arithmetic means and the standard deviations for each comparison are found in Appendix G. The coefficients of variation are shown below:

| | C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 | C9 | C10 |
|---|---|---|---|---|---|---|---|---|---|---|
| *C*1 | 1 | 0.60 | 0.48 | 0.59 | 0.70 | 0.59 | 0.66 | 0.86 | 0.61 | 0.35 |
| *C*2 | | 1 | 0.67 | 0.48 | 0.48 | (1.44) | (1.29) | 0.40 | 0.73 | 0.54 |
| *C*3 | | | 1 | 0.35 | 0.50 | 0.50 | 0.67 | 0.56 | 0.44 | 0.53 |
| *C*4 | | | | 1 | 0.66 | 0.58 | 0.73 | (1.28) | (1.10) | 0.39 |
| *C*5 | | | | | 1 | 0.67 | 0.71 | 0.89 | 0.93 | 0.31 |
| *C*6 | | | | | | 1 | 0.53 | 0.38 | 0.44 | 0.68 |
| *C*7 | | | | | | | 1 | 0.44 | 0.54 | 0.69 |
| *C*8 | | | | | | | | 1 | 1.31 | 0.28 |
| *C*9 | | | | | | | | | 1 | 0.56 |
| *C*10 | | | | | | | | | | 1 |

To have a CV smaller than 1 is an indication that the variation of the sample is not large compared to its mean. The high CV values have been taken into parentheses in the above table.

As can be seen, the variations are not intolerable for the most salient attribute which is the column of C10 (*interest rates on credits*). The same thing is also valid for the columns of the salient attributes C2 and C3, which are the *price* and *the speed of the services* respectively.

On the other hand, in the columns of C6 (*trustworthiness*) and C7 (*accuracy*), we can see that large variances exist when both attributes are pairwisely compared with C2 (*price*). The reason can be attributed to the fact that all these three attributes have approximately the same degree of salience, so the respondents may be confused while comparing them. The CV value is lower for the C2-C7 comparison than the C2-C6 comparison

because the difference between the saliences of C7 (*accuracy*) and C2 (*price*) is more apparent. On the other hand, the degree of saliency of C6 (*trustworthiness*) and C2 (*price*) are closer to each other with values 0.3584 and 0.3920 respectively. As a result, all three attributes have been included to the analysis of Fishbein because all three had high weights with respect to the other attributes.

There are also two other high CV values: 1.28 and 1.10. They exist when C8 (*courtesy*) and C9 (*special services*) are compared with the attribute C4 (*location*). The reason can still be attributed to the fact that the three attributes all have very close and low degrees of saliency, which may cause conflicts in the respondents' minds. They are all non-salient attributes according to the AHP analysis and none of them have been included to the Fishbein model.

In the analysis of AHP, *interest rates on credits* was substantially the most important attribute. This was somehow expected because in the first questionnaire, this attribute was marked by all the respondents. The other salient attributes in AHP were the *accuracy of services, trustworthiness, speed* and, *the price of the services.*

*Qualified personnel* was not a very salient attribute because the type of the services that small firms demand may not be identified as complex and bureaucratic like a letter of credit. The credits that they use are more clearly

defined than the credits used by the big sized firms so a qualified personnel may not be a very salient factor for them.

*Investment alternatives* was also a non-salient attribute because such firms may prefer to invest their money on the goods they sell rather than depositing it to the bank and earning interest on it.

The attribute of *special services offered* was also eliminated because such services may be applicable to the big sized firms. *Courtesy* was a non-salient attribute too because, in corporate banking, the bank personnel and the customer meet face to face and they know each other very well so such an attribute may not be needed. *Courtesy* may be more important for an individual customer that is involved in retail banking.

Because all the banks have many branches or can be reached easily by ATMs, phones etc., *the location* may not be an important attribute for the small sized firms but, still these firms care about *the speed* and *the price of the services* they are offered because they need to visit the banks quite often. *Trustworthiness* and *accuracy of services* are also the salient attributes for them because the services they need are not as routine as the individual depositors.

When the weights of the 10 attributes tested were sorted, it was seen that there was a substantial drop after 0.3584. As a result, only the top five attributes in the prioritization have been decided to be used in the questionnaire for the Fishbein.

### 8.2. The Application of the Fishbein Model

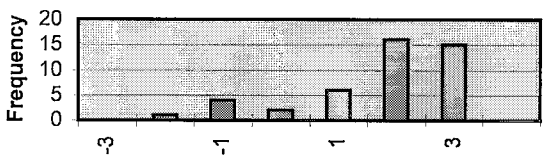
The questionnaire for the Fishbein had consisted of two parts. The first part required the customers to evaluate the salient attributes obtained by the AHP process. The second part required them to evaluate the 4 banks ( İş Bankası, Yapı Kredi Bankası, Ziraat Bankası and Halkbank) with respect to each salient attribute. The sample size was 44 and the distribution of the sample was as follows:

| | **Sample Size** | **Percentage** |
|---|---|---|
| Garment | 10 | 22% |
| Souvenirs | 9 | 20% |
| Office equipment | 8 | 18% |
| Shoes | 8 | 18% |
| Pharmacies | 4 | 10% |
| Book-Magazines | 4 | 10% |
| Cassettes-Discs | 1 | 2% |

The questionnaire designed for Fishbein evaluation is found in Appendix C. Before obtaining the attitude scores toward each bank, some useful

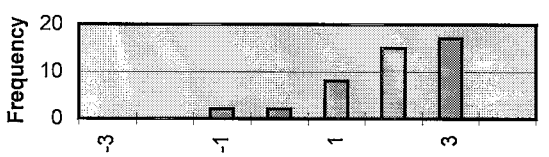
histograms have been obtained to better analyze the data. Firstly, the histograms of the importance of the attributes have been observed. The findings have been shown below:

**- Price of the Service:**




The mean of the answers is 1.75, standard deviation is 1.35, and the coefficient of variation (CV) is 0.77. More than 80% of the respondents think that *price of services* is an important factor for them. This also supports the findings of the AHP. There are 5 respondents who think the *price* is not an important attribute. For them, *trustworthiness* has got nearly the highest score. Yet, CV is still below 1, meaning the standard deviation is not very high.

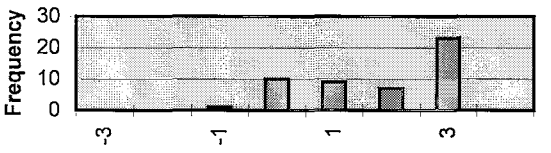
**- Speed of the Service**:



The mean value is 1.98, standard deviation is 1.09 and CV is 0.55. The low CV gives the idea that the data are not very much scattered from the mean. For the 2 respondents who states (-1), *interest rates* is the most important attribute. A very significant portion think that *speed* is a very important attribute. This also supports the findings of AHP.

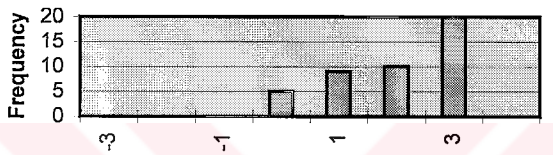
In terms of *the price of services*, the private banks were perceived to be more expensive than the state owned banks. Only Halkbank had a positive rating but the reason can be the fact that most of the firms in the sample do not have clear images of Halkbank so, they mark the middle point (0) on the questionnaire which means -neither cheap nor expensive- so Halkbank did not get many negative scores (mostly zeros) but that does not mean that it is more advantageous than the other banks in terms of the price of the services. The reason why private banks were perceived to be more expensive can be attributed to the perception that they have got a service speed higher than the state owned banks so a better service may cost higher in the customer minds though in reality such a difference may not exist.

- **Trustworthiness**:



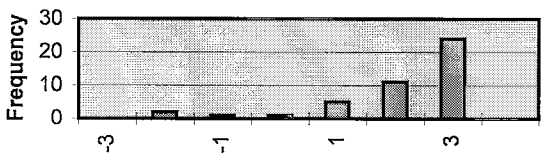
*Trustworthiness* has got the second highest mean among the others with a value 2.07. The standard deviation is 1.15 and the CV is 0.56. People still give much importance to the trustworthiness concept. For the respondent who marks (-1), *the speed of service* is the most important attribute. For the 4 respondents that mark (0) for *trustworthiness, price of the service* is the most important attribute.

**-Accuracy of the Service:**




*Accuracy of the services* has got the lowest standard deviation (1.07) and the CV (0.53). The mean is 2.02. As can be seen, none of the respondents prefers inaccurate service but for the half of them, it may not be a strongly important factor while they are choosing their banks.

**-Interest rates on Credits:**



*Interest rates* has got the highest mean among the others with a value 2.14. This result again supports the findings of the AHP in which it has got the highest weight. The standard deviation is 1.30 and the CV is 0.61. For the respondents who mark (-2) or (-1), *the speed of service* is the most important attribute but still, nearly 90% of the respondents think that *interest rates* is a very important factor in their bank selection.

The responses have also been analyzed for each bank with respect to each attribute. The four banks were compared for each attribute separately and the findings are shown below:

**-Comparison of the Banks by the Price of the Service:**

While the respondents were evaluating each bank for the attribute *price of services*, 50% sated that the prices of İş Bankası were somehow expensive. This ratio is nearly 60% for Yapı Kredi Bankası and 50% for Ziraat Bankası thus, in general, prices are perceived to be high for all 3 banks. Although the ratio is not that much high for Halkbank (27%), this still does not convince us that Halkbank is inexpensive because nearly 40% of people have marked (0) for that attribute. The reason can be either they really find the prices somewhere in between or they do not have an idea at all. The variations in the answers among all the banks are also high. As a result, a distinction is not possible among the banks in terms of *the prices of their services.*

**- Comparison of the Banks by the Speed of the Service:**

In terms of *the speed of services*, only İş Bankası has got a positive average (0.41). The means are (-0.16), (-0.23) and (-0.52) for Yapı Kredi Bankası, Ziraat Bankası, and Halkbank respectively. Still the standard deviations are very high for this attribute because there exist two polar groups for each bank who think the services are slightly fast (1) or slightly slow (-1). For instance in İş Bankası 22% have marked (-1) and 30% have marked (1). These ratios are 40% vs 27% for Yapı Kredi Bankası, 45% vs 34% for Ziraat Bankası and 59% vs 23% for Halkbank. Yet, on the average İş Bankası can said to have a better advantage than the other three banks in terms of *speed of services*.

Among the sample, the tendency was that İş Bankası was perceived to be the fastest and Halkbank was perceived to be the slowest among the 4 banks Yapı Kredi Bankası was perceived to be slightly faster than Ziraat Bankası though they both had negative scores. Here, in general we observe that private banks were perceived to be faster than the state owned banks. Halkbank had the lowest speed of service maybe because it has not got a branch automation system. All the other banks utilize the full automation system which affects their speed.

**- Comparison of the Banks by the Trustworthiness:**

In terms of *trustworthiness*, the means are all around 2 and the standard deviations are low, meaning that all four banks have perceived to be trustworthy although the highest mean has belonged to Ziraat Bankası (2.34) and the lowest mean has belonged to Yapı Kredi Bankası (2.09). For all the banks, more than 80% believe that the banks are very or strongly trustworthy. As a result a clear distinction among the banks have not been observed for this attribute because they are all well established and major banks of Turkey.

**- Comparison of the Banks by the Accuracy of Services:**

The means change between 1.70 and 1.55 but still the standard deviations are small for each bank and all the banks have perceived to be giving accurate services. The mean is a bit low for Halkbank (1.55) because 20% have marked the point (0) meaning that they either can not guess the degree of accuracy or the degree is really somewhere between (-1) and (1). The zero point also exists for the other three banks but the percentage is much smaller for them (15%, 13%, and 11%). Yet, the four banks can not be distinguished substantially in terms of *the accuracy of their service*. They are all positively rated around 1.60.

**- Comparison of the Banks by the Interest Rates on Credits:**

There are many fluctuations within each bank in terms of the interest rates they apply on credits. The percentages are as follows:

| | **High rates** | **Neither low/high** | **Low rates** |
|---|---|---|---|
| İş Bankası | 55% | 15% | 30% |
| Yapı Kredi Bankası | 50% | 14% | 36% |
| Ziraat Bankası | 52% | 14% | 34% |
| Halkbank | 43% | 30% | 27% |

Halkbank is the only bank that has a positive mean but the reason can be partially attributed to the high percentage (30%) of the responses for the (0) point. There still exists a group (43%) who think the credit rates of Halkbank is somehow expensive so, in general, all the banks can be said to be having slightly high interest rates on credits. The standard deviations are all high reflecting the diversifications in the above table.

The perception of high interest rates can be attributed to the fact that the four banks are all multi-branched big sized banks with high costs, and thus may not be able to provide low interest rates like the small banks with lower

costs. Such small banks may have more risks and lower costs than these four banks, therefore they may be able to keep their credit interest rates low.

At the end, the following table summarizes us the responses of the bank customers.

| | Attitude Priority | İş Bankası Weight | Yapı Kredi Bankası Weight | Ziraat Bankası Weight | Halkbank Weight |
|---|---|---|---|---|---|
| Price of services | +1.75 | -0.43 | -0.41 | -0.16 | +0.16 |
| Speed of services | +1.98 | +0.41 | -0.16 | -0.23 | -0.52 |
| Trustworthiness of the bank | +2.07 | +2.11 | +2.09 | +2.34 | +2.23 |
| Accuracy of the services | +2.02 | +1.61 | +1.66 | +1.70 | +1.55 |
| Interest rates on credits | +2.14 | -0.34 | -0.27 | -0.27 | -0.16 |
| | $e_i$ component | $b_i$ component | $b_i$ component | $b_i$ component | $b_i$ component |

To find the attitude towards a bank, the following formula holds:

$$\text{Attitude} = \sum e_i \cdot b_i$$

The following table shows how we compute the attitude scores:

| | İş Bankası $\Sigma e_i . b_i$ | Yapı Kredi Bankası $\Sigma e_i . b_i$ | Ziraat Bankası $\Sigma e_i . b_i$ | Halkbank $\Sigma e_i . b_i$ |
|---|---|---|---|---|
| Price of services | -0.75 | -0.72 | -0.28 | +0.28 |
| Speed of services | +0.81 | -0.32 | -0.46 | -1.03 |
| Trustworthiness of the bank | +4.37 | +4.33 | +4.84 | +4.62 |
| Accuracy of the services | +3.25 | +3.35 | +3.43 | +3.13 |
| Interest rates on credits | -0.73 | -0.58 | -0.58 | -0.34 |
| TOTAL SCORE | +6.95 | +6.07 | +6.96 | +6.62 |

According to the total scores obtained, there could not be seen drastic differences among the banks. In terms of *the service prices*, Halkbank has been perceived to be cheaper but the reason can be attributed to the high percentage (40%) assigned to the point of (0). İş Bankası and Yapı Kredi Bankası have decreased their scores substantially in *service price* category because they have obtained negative scores for a positively rated attribute.

In terms of the *speed of service*, İş Bankası had increased its average, because he could get a positive rating for a positively rated attribute. The other three banks were affected negatively and Halkbank had the lowest score (-1.03).

About the *trustworthiness* concept, all the banks have increased their averages because all of them were very positively rated for this positively rated attribute. This category is also the one in which all the banks have obtained their highest averages.

For *the accuracy of services*, the trend is the same with *trustworthiness*. All the banks had the chance to increase their averages.

About *the interest rates on credits*, all the banks were rated negatively but the worstly affected bank was İş Bankası. Halkbank was the least negatively effected bank because a high percentage (30%) of the customers have marked the point (0) for the credit rates of Halkbank so, it could get rid of the negative scores but that still does not mean that he has got low rates on credits.

On the overall, private banks were found to be slightly faster and more expensive. State owned banks were found to be slightly slower but less expensive. For the other attributes, a substantial difference could not be observed among the banks. As a result they were all accumulated around the same scores of attitude.

Finally, we can state that either private or state owned, the banks provide similar types of services and they do not imply substantial differences in their styles. In fact, this is the requirement of the intense competition in the market where the competitors imitate each other's actions to survive. People do not make clear preferences between state owned and private banks because they can not perceive a substantial difference in their performance on the salient attributes. Even if slight differences exist, they balance each other on the overall.

# CHAPTER 9

# CONCLUSION

## 9.1. Summary

The modern bank marketing concept requires the bank marketers to identify and understand the customer preferences. As the selection decisions become more complex with several attributes and several alternatives, measuring and understanding the customer attitudes become more difficult.

Several methods have been provided to analyze and evaluate these complex selection decisions. The aim of this research was to introduce and compare the two of these methods: The AHP and the Fishbein methods. Then these two methods were combined to analyze the customer preferences in the bank selection process. The attitudes of the bank customers were measured by the Fishbein Process which consisted of the evaluation of some salient attributes ($e_i$

component) and the beliefs about banks' performance on the salient attributes. The AHP process was used to determine the salient attributes.

The research consisted of three sequential questionnaires in which the output of one was the input of the other. By the AHP methodology, 10 attributes have been tested and five of them have been determined to be the most salient ones. Then these five attributes have been used in the Fishbein methodology. As a result of these, the attitudes towards four selected banks have been observed.

### 9.2. Discussion and Conclusion

The first observation in the research was the fact that the conclusions of AHP supported the conclusions drawn from the Fishbein evaluation. The following table summarizes the prioritization of the salient attributes obtained by the AHP and the Fishbein methods.

| Prioritization | AHP | Fishbein |
|---|---|---|
| 1 | Interest Rates | Interest Rates |
| 2 | Accuracy of Services | Trustworthiness |
| 3 | Trustworthiness | Accuracy of Services |
| 4 | Speed of Services | Speed of Services |
| 5 | Price of Services | Price of Services |

As can be seen, both methods have provided similar tendencies among the responses. AHP has reached the prioritization results by requiring pairwise comparisons whereas Fishbein had individual evaluations.

During the study, it was observed that people had difficulties in the pairwise comparison process. For instance the answers for the comparison of the attributes *special services offered* and *courtesy* had a high level of standard deviation. They were both unimportant for the respondents yet still they were forced to make a comparison. Even for the salient attributes, subjects still had hard times to make a comparison because such a ratio number did not exist in their minds but still they were required to assign a number.

Despite these problems, it was nice to see that the consistency of their answers was within the accepted range but with a larger number of respondents, it could have been more difficult to reach the required level of consistency.

Another issue was the fact that people really got bored while they were making 45 comparisons. Also, understanding the scale of AHP was more difficult than the scale of Fishbein.

In this study, we have observed that although AHP had the mentioned difficulties, it still had the capability to provide the salient attributes which were also supported by the Fishbein Model. Therefore although, it may not be an applicable method for the attitude measurement purposes, it still can provide the necessary inputs for the Fishbein evaluation. On the other hand, one may still argue the necessity of such a complex methodology as long as both methods reach the same conclusion.

During this research, it has been confirmed that Fishbein is a measurement technique that better suits to the way people think and make decisions. On the other hand AHP is still a widely used decision support technique but can be more useful for other purposes than attitude measurement. The criteria that are compared should be of comparable types, more concrete, and clear. Also the number of comparisons should be kept as small as possible.

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# APPENDICES

# APPENDIX A

Please mark the attributes that you consider most important while you are selecting your bank.

◊ Technically qualified personnel

◊ Price of services

◊ Speed of the services

◊ Facilities like interactive banking, telemarketing, ATM, automatic payments

◊ Convenient location

◊ The variety of investment alternatives

◊ Account representatives who are experts in their area

◊ Trustworthiness of bank

◊ Image of the bank

◊ Accuracy of services

◊ Innovativeness

◊ Courtesy of the bank personnel

◊ Special services offered free or by lower commissions which are specific to your firm

◊ Low interest rate on loans

◊ High interest rate to the deposits

# APPENDIX B

This questionnaire has been designed to discover what attributes are considered important while people are selecting their banks. Below, there is one pair of attributes in each row. You are requested to compare the attribute on the left with the attribute on the right. If you think both attributes are of the same importance, please mark the midpoint (column labeled as "1"). As you go to the left from the midpoint, the importance of the left attribute increases. As you go to the right from the midpoint, the importance of the right attribute increases.

- If you think that the attribute on the left is more important, use the left side of the midpoint.
- If you think that the attribute on the right is more important, use the right side of the midpoint.

Brief descriptions of the attributes used in the questionnaire have been provided below. Please read them before starting the questionnaire. Thank you for your participation.

| | |
|---|---|
| Qualified Personnel: | Account representatives who are experts both technically and in their own area. |
| Price of the Service: | The prices demanded by the bank for the services they offer |
| Speed of Service: | The speed of the services supplied by the bank |
| Location: | The place of the bank which is convenient for you |
| Investment Alternatives: | The variety of the investment alternatives |
| Trustworthiness: | The ability of the bank to keep it's promises / reliability |
| Accuracy of the Service: | The accuracy of the given service in terms of banking procedures |

| | |
|---|---|
| Courtesy: | Courtesy of the bank personnel |
| Special Services: | Lower commissions or fees than the official amounts applied to the firm |
| Interest Rates on Credits: | Low rates for the interest rates on credits |

| | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Qualified Personnel | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Price of Service |
| Price of Service | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Investment Alternatives |
| Speed of Service | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Trustworthiness |
| Qualified Personnel | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Speed of Service |
| Location | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Accuracy of Services |
| Accuracy of Services | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Courtesy |
| Location | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Investment Alternatives |
| Investment Alternatives | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Special Services |
| Speed of Service | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Special Services |
| Qualified Personnel | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Trustworthiness |
| Price of Service | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Special Services |
| Price of Service | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Speed of Service |
| Trustworthiness | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Courtesy |
| Price of Service | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Trustworthiness |
| Qualified Personnel | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Location |
| Investment Alternatives | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Trustworthiness |
| Price of Service | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Interest Rates on Credits |
| Speed of Service | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Location |
| Qualified Personnel | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Special Services |
| Price of Service | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Courtesy |
| Speed of Service | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Courtesy |
| Courtesy | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Interest Rates on Credits |
| Qualified Personnel | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Investment Alternatives |
| Location | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Interest Rates on Credits |
| Speed of Service | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Accuracy of Services |
| Location | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Special Services |
| Speed of Service | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Investment Alternatives |
| Investment Alternatives | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Special Services |
| Price of Service | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Accuracy of Services |
| Investment Alternatives | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Accuracy of Services |

| | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Qualified Personnel | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Accuracy of Services |
| Investment Alternatives | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Courtesy |
| Speed of Service | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Interest Rates on Credits |
| Location | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Courtesy |
| Investment Alternatives | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Special Services |
| Trustworthiness | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Accuracy of Services |
| Location | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Trustworthiness |
| Qualified Personnel | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Courtesy |
| Trustworthiness | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Interest Rates on Credits |
| Price of Service | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Location |
| Accuracy of Services | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Special Services |
| Qualified Personnel | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Interest Rates on Credits |
| Accuracy of Services | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Interest Rates on Credits |
| Courtesy | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Special Services |
| Special Services | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Interest Rates on Credits |

# APPENDIX C

Please rate the following characteristics on the first column according to their importance they carry when you are selecting your bank. In each row there are 7 alternatives ranging from -3 to +3. Please mark only one alternative for each characteristic.

-3 = Not important at all
+3 = Absolutely important
0 = Indeterminate

| | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
|---|---|---|---|---|---|---|---|
| Price of Service | | | | | | | |
| Speed of Service | | | | | | | |
| Trustworthiness | | | | | | | |
| Accuracy of Services | | | | | | | |
| Interest Rate on Credits | | | | | | | |

Please rate İş Bankası by the following characteristics:

| | -3 | -2 | -1 | 0 | +1 | +2 | +3 | |
|---|---|---|---|---|---|---|---|---|
| High Service Prices | | | | | | | | Low Service Prices |
| Low Speed of Service | | | | | | | | High Speed of Service |
| Not Trustworthy | | | | | | | | Trustworthy |
| Inaccurate Services | | | | | | | | Accurate Services |
| High interest rate on credits | | | | | | | | Low interest rate on credits |

Please rate Yapı Kredi Bankası by the following characteristics:

| | -3 | -2 | -1 | 0 | +1 | +2 | +3 | |
|---|---|---|---|---|---|---|---|---|
| High Service Prices | | | | | | | | Low Service Prices |
| Low Speed of Service | | | | | | | | High Speed of Service |
| Not Trustworthy | | | | | | | | Trustworthy |
| Inaccurate Services | | | | | | | | Accurate Services |
| High interest rate on credits | | | | | | | | Low interest rate on credits |

Please rate Ziraat Bankası by the following characteristics:

| | -3 | -2 | -1 | 0 | +1 | +2 | +3 | |
|---|---|---|---|---|---|---|---|---|
| High Service Prices | | | | | | | | Low Service Prices |
| Low Speed of Service | | | | | | | | High Speed of Service |
| Not Trustworthy | | | | | | | | Trustworthy |
| Inaccurate Services | | | | | | | | Accurate Services |
| High interest rate on credits | | | | | | | | Low interest rate on credits |

Please rate Halkbank by the following characteristics:

| | -3 | -2 | -1 | 0 | +1 | +2 | +3 | |
|---|---|---|---|---|---|---|---|---|
| High Service Prices | | | | | | | | Low Service Prices |
| Low Speed of Service | | | | | | | | High Speed of Service |
| Not Trustworthy | | | | | | | | Trustworthy |
| Inaccurate Services | | | | | | | | Accurate Services |
| High interest rate on credits | | | | | | | | Low interest rate on credits |

# APPENDIX D

## ANKET

*Bu anket, Orta Doğu Teknik Üniversitesi İşletme Bölümü'nde yürütülen bir Yüksek Lisans Tezi çalışmasının parçasıdır. Bu çalışmanın sağlıklı olarak yürütülebilmesi açısından değerli katılımınız çok önemlidir. Yardımlarınız için teşekkür ederiz.*

**Lütfen çalışacağınız bankayı seçerken en önemli olarak gördüğünüz kriterleri aşağıdaki listede işaretleyiniz:**

☐ Teknik açıdan kalifiye elemanlar

☐ Hizmetler için talep edilen ücretler

☐ Hizmetlerin hızlı sunulması

☐ İnteraktif bankacılık, telesatış, ATM (para çekme makinaları), otomatik ödeme gibi hizmetler

☐ Yerinin uygun olması

☐ Yatırım alternatiflerinin çok olması

☐ Kendi alanlarında uzman müşteri temsilcileri

☐ Bankanın taahütlerine uyması

☐ Bankanın imajı

☐ Hizmetlerin hatasız sunulması

☐ Yaratıcılık

☐ Banka personelinin nezaketi

☐ Ücretsiz olarak veya düşük ücretler karşılığı firmanıza özel olarak uygulanan hizmetler

☐ Düşük kredi faizleri

☐ Yüksek mevduat faizleri

# APPENDIX E

Bu anket firmaların banka seçimlerinde hangi kriterlerin önemli olduğunu belirlemek amacıyla hazırlanmıştır. Her satırda bir çift kriter bulunmaktadır. Sizden ricamız her satır için sağ tarafta bulunan kriteri sizin için önemi bakımından soldaki kriter ile karşılaştırmanızdır. Eğer her iki kriter de aynı önemde ise lütfen orta noktayı yani ''1" numarayı işaretleyin. Orta noktadan sol tarafa gittikçe sol taraftaki kriterin önemi artmakta, orta noktadan sağ tarafa gittikçe ise sağ taraftaki kriterin önemi artmaktadır.

- Eğer her iki kriterde aynı önemde ise orta noktayı işaretleyin
- Eğer sağdaki kriter daha önemli ise orta noktanın sağ tarafını kullanın
- Eğer soldaki kriter daha önemli ise orta noktanın sol tarafını kullanın.

Ankette kullanılan kriterlerin kısa açıklamaları aşağıda verilmiştir. Ankete başlamadan önce lütfen okuyunuz. Katılımınız için teşekkür ederiz.

Uzman Kadro : Hem Teknik açıdan ve hem de kendi alanlarında uzman müşteri temsilcileri

Servis Ücreti : Verilen hizmetler için bankanın talep ettiği ücretler

Süratli Hizmet: Banka hizmetlerinin hızlı sunulması

Bankanın Yeri : Bankanın size uygun bir mekanda bulunması

Yatırım alternatifleri : Bankanın sunduğu yatırım alternatiflerinin çokluğu

Bankanın güvenilir olması : Bankanın verdiği sözleri gerçekleştirme becerisi

Hatasız hizmet : Verilen hizmetlerin bankacılık açısından hatasız sunulması

Personelin nezaketi : Banka personelinin müşteriye gösterdiği güleryüz

Firmaya özel hizmetler: Resmi rakamlardan daha düşük komisyonlar uygulanması, çek, senetlerden masraf alınmaması vs.

Kredi faizleri : Kredi faizlerinin düşük olması, vadelerinin uzun olması..vs.

| | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Uzman kadro | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Servis ücreti |
| Servis Ücreti | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Yatırım alternatifleri |
| Süratli hizmet | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Bankanın güvenilir olması |
| Uzman kadro | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Süratli servis |
| Bankanın yeri | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Hatasız hizmet |
| Hatasız hizmet | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Personelin nezaketi |
| Bankanın yeri | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Yatırım alternatifleri |
| Yatırım alternatifleri | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Firmaya özel hizmetler |
| Süratli hizmet | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Firmaya özel hizmetler |
| Uzman kadro | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Bankanın güvenilir olması |
| Servis Ücreti | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Firmaya özel hizmetler |
| Servis Ücreti | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Süratli hizmet |
| Bankanın güvenilir olması | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Personelin nezaketi |
| Servis Ücreti | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Bankanın güvenilir olması |
| Uzman kadro | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Bankanın yeri |
| Yatırım alternatifleri | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Bankanın güvenilir olması |
| Servis Ücreti | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Düşük kredi faizleri |
| Süratli hizmet | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Bankanın yeri |
| Uzman kadro | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Firmaya özel hizmetler |
| Servis Ücreti | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Personelin nezaketi |
| Süratli hizmet | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Personelin nezaketi |
| Personelin nezaketi | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Düşük kredi faizleri |
| Uzman kadro | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Yatırım alternatifleri |
| Bankanın yeri | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Düşük kredi faizleri |
| Süratli hizmet | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Hatasız hizmet |
| Bankanın yeri | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Firmaya özel hizmetler |
| Süratli hizmet | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Yatırım alternatifleri |
| Bankanın güvenilir olması | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Firmaya özel hizmetler |
| Servis Ücreti | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Hatasız hizmet |
| Yatırım alternatifleri | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Hatasız hizmet |
| Uzman kadro | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Hatasız hizmet |
| Yatırım alternatifleri | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Personelin nezaketi |

| | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Süratli hizmet | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Düşük kredi faizleri |
| Bankanın yeri | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Personelin nezaketi |
| Yatırım alternatifleri | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Düşük kredi faizleri |
| Bankanın güvenilir olması | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Hatasız hizmet |
| Bankanın yeri | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Bankanın güvenilir olması |
| Uzman kadro | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Personelin nezaketi |
| Bankanın güvenilir olması | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Düşük kredi faizleri |
| Servis Ücreti | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Bankanın yeri |
| Hatasız hizmet | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Firmaya özel hizmetler |
| Uzman kadro | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Düşük kredi faizleri |
| Hatasız hizmet | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Düşük kredi faizleri |
| Personelin nezaketi | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Firmaya özel hizmetler |
| Firmaya özel hizmetler | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Düşük kredi faizleri |

# APPENDIX F

Lütfen aşağıda birinci kolonda verilen özellikleri banka seçiminde verdiğiniz öneme göre değerlendiriniz. Her satırdaki 7 alternatiften en uygun bir tanesini işaretleyiniz.

-3 = Hiç önem taşımaz
+3= Çok önem taşır
0 = Kararsız

| | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
|---|---|---|---|---|---|---|---|
| Hizmet ücretleri | | | | | | | |
| Hizmet hızı | | | | | | | |
| Taahütlerine uyması | | | | | | | |
| Hatasız hizmet | | | | | | | |
| Kredi Faizleri | | | | | | | |

Lütfen İş Bankası'nı aşağıdaki kriterlere göre değerlendiriniz.

| | -3 | -2 | -1 | 0 | +1 | +2 | +3 | |
|---|---|---|---|---|---|---|---|---|
| Yüksek hizmet ücretleri | | | | | | | | Düşük hizmet ücretleri |
| Yavaş hizmet | | | | | | | | Hızlı hizmet |
| Taahütlerine uymaması | | | | | | | | Taahütlerine uyması |
| Hatalı hizmet | | | | | | | | Hatasız hizmet |
| Yüksek kredi faizleri | | | | | | | | Düşük kredi faizleri |

Lütfen Yapı Kredi Bankası'nı aşağıdaki kriterlere göre değerlendiriniz.

| | -3 | -2 | -1 | 0 | +1 | +2 | +3 | |
|---|---|---|---|---|---|---|---|---|
| Yüksek hizmet ücretleri | | | | | | | | Düşük hizmet ücretleri |
| Yavaş hizmet | | | | | | | | Hızlı hizmet |
| Taahütlerine uymaması | | | | | | | | Taahütlerine uyması |
| Hatalı hizmet | | | | | | | | Hatasız hizmet |
| Yüksek kredi faizleri | | | | | | | | Düşük kredi faizleri |

Lütfen Ziraat Bankası'nı aşağıdaki kriterlere göre değerlendiriniz.

| | -3 | -2 | -1 | 0 | +1 | +2 | +3 | |
|---|---|---|---|---|---|---|---|---|
| Yüksek hizmet ücretleri | | | | | | | | Düşük hizmet ücretleri |
| Yavaş hizmet | | | | | | | | Hızlı hizmet |
| Taahütlerine uymaması | | | | | | | | Taahütlerine uyması |
| Hatalı hizmet | | | | | | | | Hatasız hizmet |
| Yüksek kredi faizleri | | | | | | | | Düşük kredi faizleri |

Lütfen Halkbank'ı aşağıdaki kriterlere göre değerlendiriniz.

| | -3 | -2 | -1 | 0 | +1 | +2 | +3 | |
|---|---|---|---|---|---|---|---|---|
| Yüksek hizmet ücretleri | | | | | | | | Düşük hizmet ücretleri |
| Yavaş hizmet | | | | | | | | Hızlı hizmet |
| Taahütlerine uymaması | | | | | | | | Taahütlerine uyması |
| Hatalı hizmet | | | | | | | | Hatasız hizmet |
| Yüksek kredi faizleri | | | | | | | | Düşük kredi faizleri |

# APPENDIX G

## THE MEAN VALUES OF PAIRWISE COMPARISONS IN AHP

| | C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 | C9 | C10 |
|---|---|---|---|---|---|---|---|---|---|---|
| **C1** | 1 | 0.97 | 0.48 | 1.56 | 1.06 | 0.51 | 0.31 | 2.13 | 3.23 | 0.21 |
| **C2** | | 1 | 1.84 | 4.25 | 2.65 | 2.14 | 1.70 | 4.09 | 2.51 | 0.29 |
| **C3** | | | 1 | 3.16 | 3.78 | 2.05 | 0.38 | 3.55 | 3.50 | 0.30 |
| **C4** | | | | 1 | 2.56 | 0.27 | 0.78 | 1.27 | 1.65 | 0.17 |
| **C5** | | | | | 1 | 0.49 | 0.49 | 2.66 | 1.02 | 0.19 |
| **C6** | | | | | | 1 | 0.65 | 3.66 | 3.22 | 0.35 |
| **C7** | | | | | | | 1 | 4.34 | 3.81 | 0.70 |
| **C8** | | | | | | | | 1 | 2.17 | 0.17 |
| **C9** | | | | | | | | | 1 | 0.36 |
| **C10** | | | | | | | | | | 1 |

## THE GEOMETRIC MEAN VALUES OF PAIRWISE COMPARISONS IN AHP

| | C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 | C9 | C10 |
|---|---|---|---|---|---|---|---|---|---|---|
| **C1** | 1 | 0.80 | 0.43 | 1.19 | 0.84 | 0.44 | 0.27 | 1.24 | 2.60 | 0.20 |
| **C2** | | 1 | 1.38 | 3.71 | 1.65 | 0.78 | 0.76 | 3.76 | 1.55 | 0.26 |
| **C3** | | | 1 | 2.92 | 3.02 | 1.70 | 0.32 | 2.79 | 3.16 | 0.27 |
| **C4** | | | | 1 | 1.86 | 0.24 | 0.60 | 0.70 | 0.85 | 0.16 |
| **C5** | | | | | 1 | 0.41 | 0.38 | 1.53 | 0.70 | 0.18 |
| **C6** | | | | | | 1 | 0.55 | 3.36 | 2.80 | 0.30 |
| **C7** | | | | | | | 1 | 3.94 | 2.75 | 0.54 |
| **C8** | | | | | | | | 1 | 0.83 | 0.16 |
| **C9** | | | | | | | | | 1 | 0.32 |
| **C10** | | | | | | | | | | 1 |

## THE STANDARD DEVIATIONS OF PAIRWISE COMPARISONS IN AHP

| | C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 | C9 | C10 |
|---|---|---|---|---|---|---|---|---|---|---|
| **C1** | 1 | 0.58 | 0.23 | 0.93 | 0.74 | 0.30 | 0.21 | 1.83 | 1.97 | 0.07 |
| **C2** | | 1 | 1.23 | 2.05 | 2.12 | 3.09 | 2.20 | 1.65 | 1.83 | 0.15 |
| **C3** | | | 1 | 1.11 | 1.90 | 1.17 | 0.25 | 2.00 | 1.52 | 0.16 |
| **C4** | | | | 1 | 1.69 | 0.15 | 0.57 | 1.62 | 1.82 | 0.07 |
| **C5** | | | | | 1 | 0.33 | 0.35 | 2.36 | 0.95 | 0.06 |
| **C6** | | | | | | 1 | 0.34 | 1.38 | 1.43 | 0.24 |
| **C7** | | | | | | | 1 | 1.91 | 2.06 | 0.48 |
| **C8** | | | | | | | | 1 | 2.83 | 0.05 |
| **C9** | | | | | | | | | 1 | 0.20 |
| **C10** | | | | | | | | | | 1 |