



## An empirical analysis of government employees bank selection criteria in Hargeisa, Somalia: Using Analytical Hierarchy Process (AHP)

Najah Aden Ismail

Nanjing University of Aeronautics and Astronautics, [Najahadem@gmail.com](mailto:Najahadem@gmail.com)

### Abstract

This paper investigates bank selection criteria in Hargeisa, Somalia. This work motivation comes from the fact that not many researches have been done in this area in relevance to this topic. This study aims to explore and understand the government employees' relative preference of bank selection based on the four selected criteria, namely, service provision coverage, Bank location, bank charges, and bank's reputation. Therefore, the Analytic Hierarchy process opted as a research methodology for its objectivity of measuring subjective nature data mathematically. Analysis indicated that the Bank's location has the highest significance for government employees. Thus, as a policy recommendation, this study advises banks in HARGEISA to consider their branch locations for more consideration of Government employees to their banks. Therefore, results got from this paper are reliable and can be used in future research works.

**Keywords:** Bank selection criteria; AHP; Saaty's Nine scales; Somalia.

### 1. Introduction

It is an open secret that customer satisfaction has vital role in bank's competitiveness and market role. This created an atmosphere of growing competitiveness and hard work among the various banks trying to improve their services to increase their client satisfaction and their market presence. Consequently, many researchers, like [1], involved in trying to investigate and understand what criteria customers take into consideration in order to choose their best bank. However, through the literature review, the researcher noticed that various research works have been conducted in the US and some countries in Europe on this topic. Where only few researches refer to bank selection criteria in African countries. Although the previous work's findings are of great importance, it would be irrelevant to apply their results to other countries. Obviously, due to the different cultural, economic, political and social contexts between those countries. However, to some extent, people who share the same work experience like government employees might share some viewpoints about the bank selection criteria that can help them choose the bank they are going to deal with, for example, trust, distance and speed of response.

Accordingly, the researcher thought of investigating the bank selection criteria in Hargeisa, Somalia. Hargeisa is the second capital and the largest city in north Somalia with around 1,100,000 total population in 2017. Hargeisa is a city where business has started to flourish, private and governmental companies began to appear and entrepreneurship started to gain an important position especially in the field of food processing, import, and export. A town with such interesting economic growth and a significant population rate must be a field of lots of economical projects and business companies. Consequently, a lot of money is being used on daily basis, hence, the necessity of good bank services will be needed.

Hargeisa, as explained previously, is a space where business started to gain importance, but it still contains a modest number of banks. This current study examined the case of the largest three commercial banks; Dahabshiil Bank, Premier Bank, and Darasalaam Bank. First, Dahabshiil Bank, founded in 1970. Started as a small remittance company, developed through time to become one of the biggest African Banks. It is known for its national and international adequate services. Second, Premier Bank, a privately-owned commercial bank, founded in 2014. Offering multiple services such as Retail Banking, Mobile and Internet Banking, smooth money transfer and so on. Third, Dara salaam which has been established in 2010, with its stable and dynamic banking system. The study focuses on the selection of criteria of government employees. The sample included one hundred government employees having bank accounts each in one of the previously stated private banks. This is due to the low quality of functionality of Somaliland's/ Somalia Central Bank. The following criteria have been investigated in our research; Location of the Bank, provided services, Bank Charges and, Bank's Reputation. Throughout this study the researcher aimed to understand and state the characteristics that government employees take into consideration for bank preference and selection.

## 2. Literature review

This review briefly examines general factors that determine bank selection and specifically considers factors that attract employees to a bank.

Mainstream studies in bank selection are replete with studies on bank selection criteria employed by the general public. Due to the rapid changes in the economic, environment and the banking sector in particular that impact customers bank selection and patronage, how consumers select their banks, referred to in the literature as bank selection [2]-[5].

Few African studies have also been reported, which corroborate most of the mainstream findings. For instance, in a Nigerian study, safety of funds, efficient service, speed of transaction, and recommendation by relatives/friends were reported as factors that influence customers' selection of banks in Nigeria [6], Ghanaian studies report proximity and accessibility [7] and technological factors, services factors, and bank image factors [8] as bank selection factors.

These and other more recent studies in Europe; see, e.g. [9] corroborate bank selection factors reported in most US studies. Among the factors reported are: convenient location [9], availability of ATM [9], friends/family/relatives or personal influence [9]-[10].

The provision of high-quality service positively affects the customer's choice of a bank [11]-[13] Hence a bank with inferior service quality is unlikely to attract customers [11]. [14] identified perceived service quality as a major selection criterion by SMEs in Hong Kong. Others have also found service quality to be an important determinant of building bank loyalty [15], Owing to its strong impact on business performance, lower costs and customer satisfaction, service quality has become a very important issue to researchers and business managers alike [16].

In this research, the bank selection criteria that was mostly considered by employees was centered on the bank's location to either home or work.

## 3. Data and Methodology

In order to meet the purpose of this study, which is measuring the performance of the selected bank criteria. The study adopted the Analytical Hierarchy Process (AHP). AHP is a structured technique for organizing and analyzing complex decisions. This model was developed by Thomas L. Saaty, 1970. It has been massively studied and developed by many researchers after this.

As a first step, the researcher has met ten government employees from different departments as a focus group, discussed together with the bank selection criteria relying on their own subjective judgments and personal points of view. After a long fruitful discussion, a number of criteria were identified as outcomes of the focus group discussion. For more reliability, the researcher has carefully chosen the most recurrent and significant ones. Afterward, four criteria have selected and designed a questionnaire that embeds all the elements.

In the questionnaire, the respondents were making pairwise comparisons of each bank to every single criterion. The nine-point fundamental scale was used for the pairwise and comparisons. Detailed instructions on how to use the scale to complete a pairwise comparison of the criteria with respect to the objective of bank selection were given. Similar instructions were given to obtain the relative preference of a bank over another with respect to each criterion.

After collecting the data, this study has employed the AHP model to analyze it because it is the most relevant model explaining the subjective decisions selected in a mathematical way. Furthermore, the data analysis outcome of AHP model is quite accurate and confidential. In addition, the researcher has modeled the problem in a form of a hierarchy, selected the criteria and alternatives and then drawn links between them in order to start the analysis.

The researcher has distributed and collected questionnaires from the local government staff (Local District in Hargeisa), as well as ministries personnel like; Ministry of national planning and development, ministry of Finance and Ministry of Trade and Investment. The rule of ten was employed for selecting the sample size by taking 30% of the population size.

**Table 1. Target group selection**

NO.	Institution	Population size	Sample Size
1	Local district (Hargeisa)	160	48
2	Ministry of National Planning and development	55	17
3	Ministry of Trade and Investment	66	20
4	Ministry of Finance	50	15
	<b>TOTAL</b>	<b>331</b>	<b>100</b>

### 3.1. Analytical Hierarchy Process

AHP is a theory of measurement for dealing with quantifiable and or intangible criteria. It is a multi-criteria decision approach that employs pairwise comparisons to arrive at a scale of preferences among a set of alternatives. Using the AHP methodology in a decision problem involves four steps (Zahedi 1986):

1. Structuring the decision hierarchy by breaking down the decision problem into a hierarchy of interrelated decision elements. (Criteria, decision alternatives).
2. Collecting input data, depicted by matrices of pairwise comparisons, of decision elements.
3. Using the eigen-value method to estimate the relative ways of the decision elements.
4. Aggregating the relative weights of decision elements to arrive at a set of ratings for the decision alternatives

Using the Scale mentioned earlier, the respondents' judgments were first obtained. For example, if a respondent compares two attributes, Location (A1) and service provision coverage (A2) and indicates that A1 is strongly more important than A2, the value of  $A_{12} = 5$  is assigned to this pairwise comparison. By definition, comparison of an attribute with itself results in a relative importance value of 1. In addition, the value of reciprocal comparison is the reciprocal of the relative importance value. Thus, with respect to the decision of selecting a bank, the pairwise comparison A matrix has two rows and two columns, and its elements are  $a_{11} = 1$ ,  $a_{12} = 5$ ,  $a_{21} = 1/5$ ,  $a_{22} = 1$ .

### 3.2. Consistency Test

According to Saaty (1990), the Consistency Index (CI) and the consistency ratio (CR) are used to check for consistency associated with the comparison matrix. When a positive reciprocal matrix of order  $n$  is consistent, the principal eigenvalue possesses the value  $n$ . Conversely, when it is inconsistent, the principal eigenvalue is greater than  $n$  and its difference will serve as a measure of CI. Therefore, to ascertain that the priority of elements is consistent, the maximum eigenvector or relative weights/ $\lambda_{max}$  can be determined.

$$CI = (\lambda_{max} - n)/n - 1. \quad (1)$$

Where  $n$  is the matrix size or the number of items that are being compared in the matrix.

The consistency ratio (CR) can be determined as:

$$CR = CI/RI = [(\lambda_{max} - n)/n - 1]/RI. \quad (2)$$

Where RI represents average consistency index over a number of random entries of same order reciprocal matrices. The CR is acceptable if its value is less than or equal to 0.10. If it is greater than 0.10, the judgment matrix will be considered inconsistent. To rectify a judgment matrix that is inconsistent, decision-makers' judgments should be reviewed and improved.

#### 4. Data Analysis

This section presents data analysis of the study and findings of 100 questionnaires collected from three different ministries and local districts.

##### 4.1 Profile of Respondents

This part presents the background information of the respondents who participated in this study. The purpose of this background information was to find out the characteristics of the respondents and show the distribution of the population in this study. This distribution is founded as it follows:

As shown in figure 1. Most of the respondents 67% were male, while the portion of female respondents was 33%.

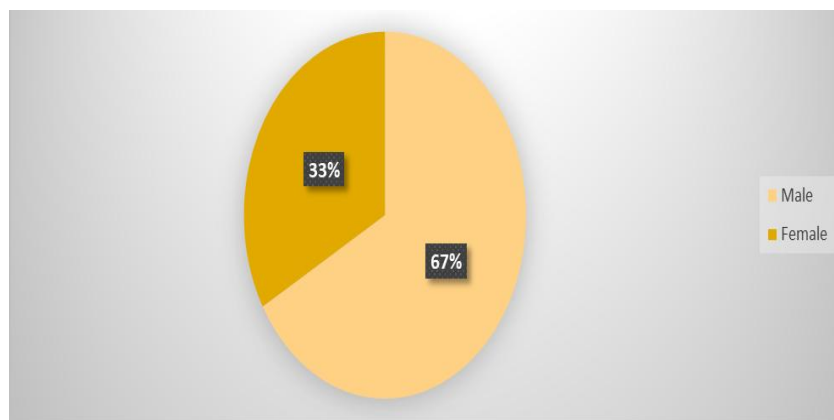


Figure 1: Gender of the respondents

Those respondents were having different educational backgrounds but most of them were having a bachelor's degree 64%, and some of them were having masters' degree and above (18%). Where the percentage of employees only having high school or certificate were 10% and 8% respectively.

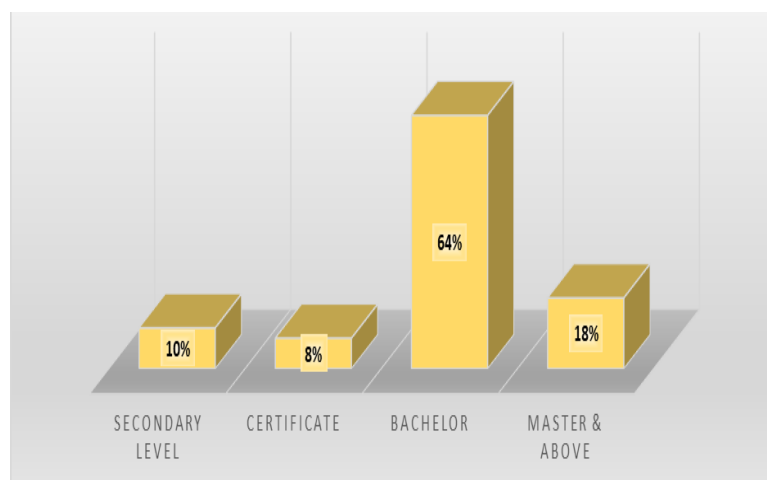


Figure 2: Educational level

Further, the highest number 37% of the respondents were having bank accounts in Dahabshiil bank, 28% of them were having bank in Darasalaam bank, and 24% of them had a bank account in Premier bank, while only 11% of them were having bank accounts in other banks.

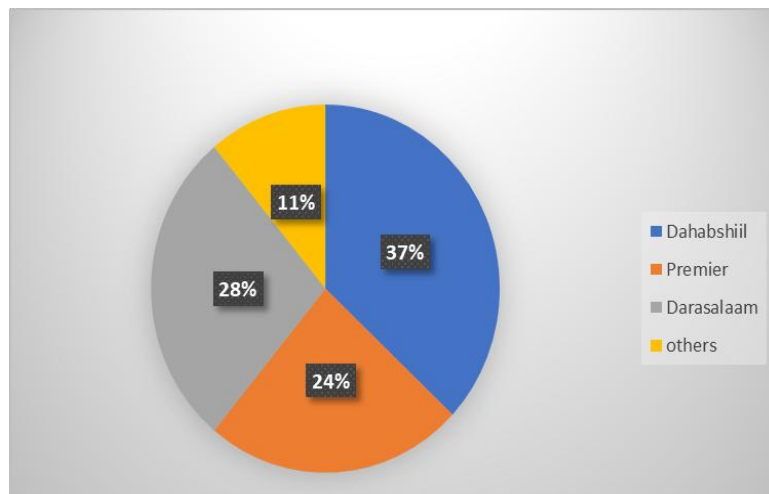


Figure 3: Bank account

#### 4.2 AHP Results

This section shows the results after analyzing it with the software. Fig. 4 shows the AHP- Hierarchy of bank selection. While the first level of the Hierarchy is the objective, the second level is the four criteria that have chosen and the third level is the three banks that we have implemented in this study.

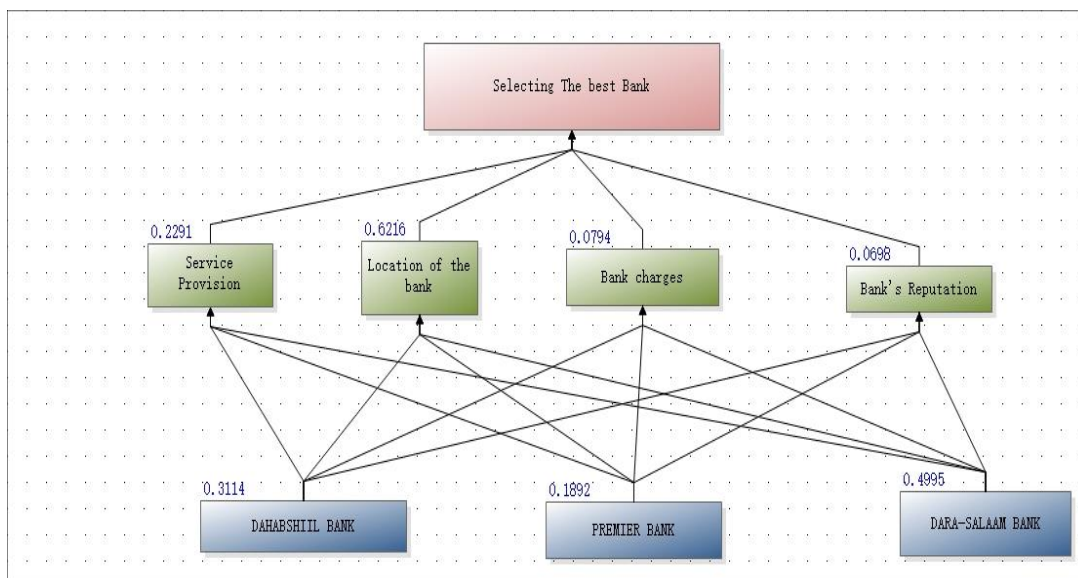


Figure 4. Decision hierarchy of a bank selection

In order to understand the prioritization of the service, characteristics that government employees deem important in bank selection decisions, the respondents' judgment on the four criteria were examined. Table 2 reports the priority vectors for level 2 and level 3 of the decision hierarchy. The priorities of level 2 provide the relative importance of the four criteria when choosing a bank. The priorities level 3 gives the relative preference of three banks with respect to each of the four criteria in level 2.

**Table 2. Priority aspects for the decision hierarchy**

Attributes	Level 2 priorities	Banks	Level 3 priorities
<b>Service Provision coverage</b>	0.2291		
		Dahabshiil	0.0782
		Premier	0.4353
		Dara-Salaam	0.4866
<b>Location of the bank</b>	0.6216		
		Dahabshiil	0.4353
		Premier	0.0782
		Dara-Salaam	0.4866
<b>Bank charges</b>	0.0798		
		Dahabshiil	0.1867
		Premier	0.1578
		Dara-Salaam	0.6555
<b>Bank's Reputation</b>	0.0698		
		Dahabshiil	0.115
		Premier	0.4055
		Dara-Salaam	0.4796

#### 4.2.1 Interpretation of Level 2 Priorities—Selection Criteria

Based on the priorities level 2, the two most important criteria affecting government employees' bank selection decisions are the location of the bank and service provision coverage, they are followed by bank charges and bank reputation. Specifically, the respondents considered the location of the bank over bank charges (Weight=0.6216) more than important as bank charges (0.0794) and Service provision (0.2291) over the bank's reputation (0.0698). The consistency ratio for this level was 0.02, within the acceptable range of 0.10 (Saaty,1988)

#### 4.2.2 Interpretation of Level 3 Priorities-Decision Alternatives

To report the second objective determining government employees' preferences of the banks with respect to each criterion considered, the level 3 findings were examined. From the priorities of the banks in Table 1. Dara-salaam is the most preferred bank for all four criteria. These are Service provision (weight=0.4866), location of the bank (0.4866), Bank charges (0.6555) and bank's reputation (0.4796). Overall, the priorities in Level 3 show that government employee's relative preferences for banks are same over the four attributes.

#### 4.2.3 Banking Behavior of the Respondents

The one hundred percent (100%) government employees had a total of one hundred twenty (120) accounts in the banks. Seventy (70%) in Darasalaam, twenty (20%) in Premier Bank, and ten (10%) in Dahabshiil. The researcher found that Darasalaam Bank has the largest percentage of accounts and this is reflected in findings of this study about bank selection criteria.



**Table 3. Consistency ratio**

Attributes	C. Ratio
Service provision coverage	0.0121
Location of the bank	0.0121
Bank charges	0.0281
Bank's Reputation	0.0280
Overall Consistency ratio	0.0866

A majority of the employees expressed that they have no intention of having new accounts in other banks, this is because of their satisfaction with their bank's services, charges, bank image and especially bank's location. Results show that the clients are loyal to their chosen banks.

Table 3 illustrates that the consistency ratio of each attribute, as well as the consistency ratio of total attributes. Since all of them are less than 0.10 it means that the judgment matrix is consistent and reliable.

## 5. Conclusion

The purpose of this study, as mentioned above, was to investigate bank selection criteria among government employees which are the target population of this study. The above findings will be a reference in giving deeper insights on which criteria government employees take into consideration when choosing their preferred bank in Hargeisa, capital of Somaliland. The study can be a guide that helps bank managers understand more about both needs and preference of clients and also help improve their services to meet those needs.

The study also serves as an evident and objective analysis of bank selection criteria that affords a rich background for the future researchers in this field in all African countries. Other African countries can refer to this paper's findings since they all mostly share a great deal of historical, geographical, social and economic criteria.

The researcher ended up gathering very accurate data about the target group using the AHP model. This helps to retrieve subjective data and interpret it into numbers and percentages.

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### Author' information

**Najah** is currently doing her postgraduate studies at Nanjing University of Aeronautics and Astronautics, she has been government employee over 4 years working on different positions from assistant to director. Further, her professional career comprising Officer, Manager, Director, and independent management and research consultant, goal and result oriented person. Having appreciated knowledge on accounting, auditing, Financial and Technical, analyzing, financial and managerial trend forecasting, as well finance Reporting.