

**PRIORITIZING EFFECTIVE FACTORS ON CLASSIFYING  
A PRIVATE BANK CUSTOMERS ANALYTICAL HIERARCHY PROCESS (AHP)**

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**ABSTRACT**

Today, as competition increases in different fields especially in banking system, organizations tend to attract new customers and preserve old customers; in addition, they tend to treat different customers in different ways in order to preserve key customers as well as turn other customers to good customers. So it is significant for organizations to identify and prioritize effective factors on classifying customers. Therefore, in this study, firstly effective factors on classifying a private bank customers distinguished by Delphi technique, then these factors prioritized by Analytical Hierarchy process (AHP) in order to use these factors for classifying customers.

**Keywords:** Analytical Hierarchy Process (AHP), Prioritizing Factors, Classifying Customers, Private Banking,

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**1. INTRODUCTION**

Undoubtedly, nowadays, attracting customer's satisfaction allocates significant and essential place in companies' goals, and senior managers know that their success in achieving companies' goals depends on attracting customers' satisfaction. On the other hand, it can not be said that all customers play the same roles in companies' success. Hence, attracting key customers' satisfactions will be more sensitive.

Banking industry is as one of the most effective factors on the country's economy in which customers are the most important basis in continuance and survival in a way that some expressions such as "customer is entitled" and or "customer is master" revealed properly in banks. High expenses of attracting new customer and high competition among banks caused bank seek to preserve their current customers more than finding new customer. Nowadays, banks are seeking to create competitive advantages among other competitors by enjoying modern technology in business, and they are seeking to preserve customers by recognizing customers and forecasting their future needs. In addition, attracting key customers' satisfaction caused that these customers can express their experiences to others and can decrease the expenses of attracting new customers.

Bank income is obtained by receiving commission from customers against giving facilities and performing some commercial services which banks are in charge. And in this system, customers' demands from organization and organization's demands from customers should be specified which by recognizing the customers' demands from bank, the proper ground for attracting customers is provided, and by recognizing organization's demands from customers, the logical reasons of organization based on which customers being prioritized are specified.

Considering to the limited possibilities and resources, in fact each applicant who asks for bank services is notam key customer, and bank should allocate the resources in a most profitable way. To this end, customers' classification results in recognizing customers' needs and delivering the required services for each class.

**2. THEORETICAL FRAMEWORK OF THE STUDY**

**2.1 Analytical Hierarchy Process (AHP)**

This technique introduces an approach to organize the data and judgments and use them in decision making based on capability, feelings, and logic of given issue, then compose the judgments in a result form which is in conformity with internal expectations. The above process helps us to solve complex problems into a hierarchy of criteria and results by selecting judgments for advancing priorities. This process can be used for classifying options and allocating resources.

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## 2.2 Private Banking

The gap between Iranian banking industry and world banking of today indicates a significant distance between Iranian banks with international standards. In this circumstance, it is necessary to revise the relationship between banking system and customers as the major source of income and success of organization. In recent years, private banks obviously play significant role in improving this industry. At the present, these banks possess less capital and branches than public banks, but they are able to offer relatively considerable services and increase the number of their depositors and credit customers day by day.

Amongst, by collecting rial and foreign exchange deposits, granting facilities, international and foreign exchange activities, issuing foreign exchange guarantees, The private bank attempted to display all beneficiaries the reliability and satisfaction over all activities through bringing them value.

## 3. RESEARCH METHOD

The present study is a survey research. As the researcher seeks to prioritize the effective factors on recognizing customers, so the research is exploratory one. The statistical population of the study comprised of chiefs, assistants, experts of branches, managers and experts of head office. Data collection is based on stratified sampling method because there are two different classes.

After dividing the population into two classes, then the number of sample determined based on each class, and the required components of each class selected by using simple random sampling. Sample volume in this study is comprised of 186 chiefs, assistants and experts of branches, and 70 managers and experts of head office. At the end, 256 people will be under final investigation.

As median test used, Cochran formula for sample size determination applied as below:

1. Chiefs, assistants, and experts of branches:

$$n = \frac{N \times Z_{\alpha/2}^2 \times pq}{\epsilon^2 \times N + (Z_{\alpha/2}^2 \times pq)} = \frac{360 \times 3.84 \times 0.5 \times 0.5}{(0.0025) \times 360 + (3.84 \times 0.5 \times 0.5)} \cong 186$$

2. Managers and experts of head office

$$n = \frac{N \times Z_{\alpha/2}^2 \times pq}{\epsilon^2 \times N + (Z_{\alpha/2}^2 \times pq)} = \frac{8 \times 3.84 \times 0.5 \times 0.5}{(0.0025) \times 85 + (3.84 \times 0.5 \times 0.5)} \cong 70$$

In addition, as there is not any standard questionnaire, so Delphi questionnaire (compiled by researcher) administered. As customers use banking services differently, firstly branches' customers are divided into two parts:

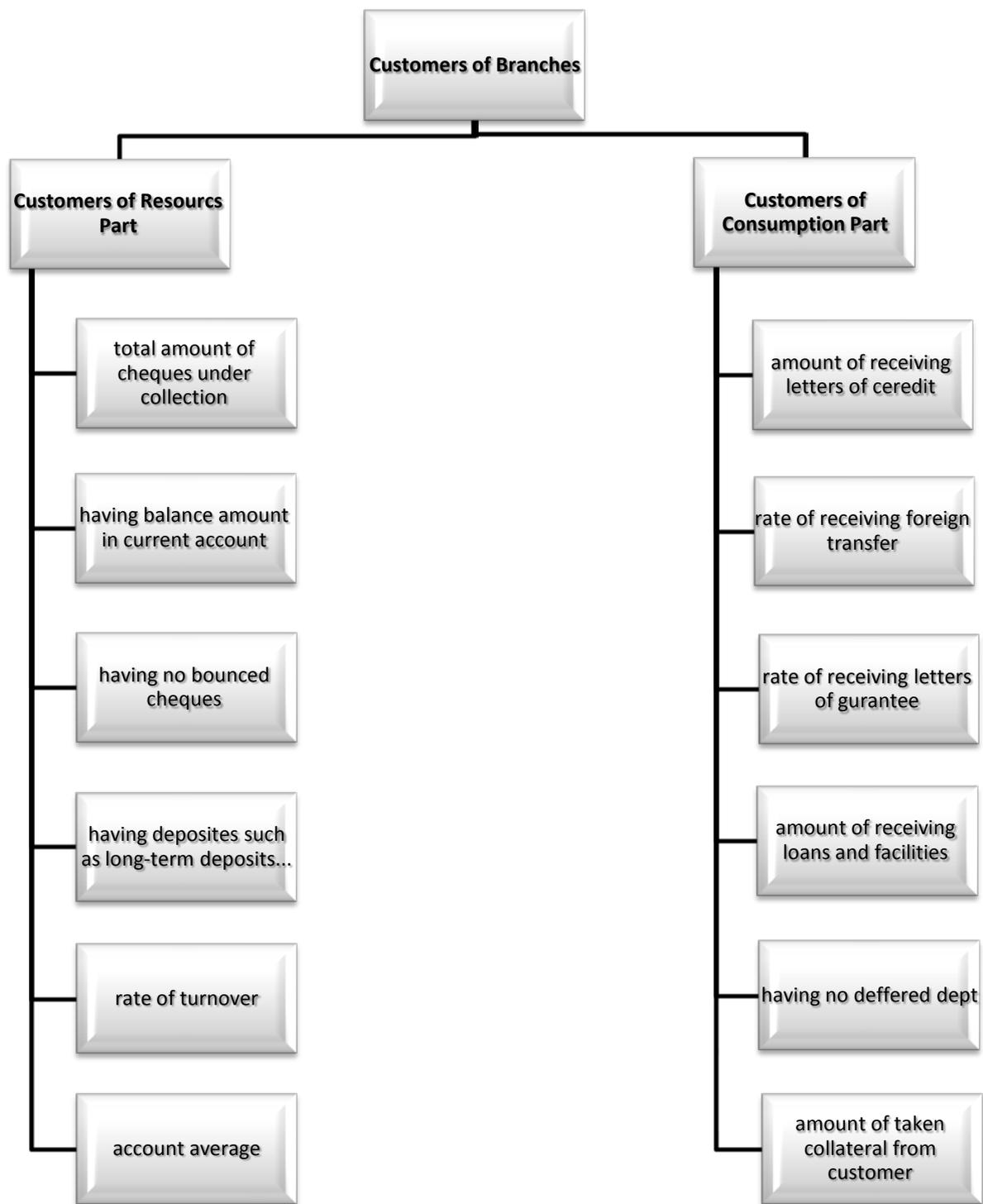
1. Customers of resources part

These customers are including all customers who have active accounts such as current account, short-term account, long-term time deposit, bonds and generally all those people who bring Rial and foreign exchange funds to branches against using services of Karfarin Bank.

2. Customers of consumption part

This group of customers is including who receives loans and facilities or receive letters of guarantee, and those people who use foreign transfers and letters of guarantee. They use these services against giving collaterals to bank.

There are some key factors for each part such as balance amount and account average, number of cheques under collection, having no return cheque, rate of using ATM and POS systems, rate of using electronic services, etc for resources part. And amount of receiving loans and facilities, amount of receiving letters of guarantee, having no deferred debt, cash invested by the customer, the time period the customer has been with the bank and etc for consumption part. Then, the experts and specialists asked to specify the most important key factors in each part. So in resources part including account average, total amount of cheques under collection for each customer, having no bounced cheques, rate of turnover, having balance amount in current account, having deposits such as long-term time deposits, bonds,... and also key factors in consumption part including amount of receiving loans and facilities, rate of receiving letters of guarantee, rate of receiving letters of credit, amount of taken collateral from customers, rate of using foreign transfers, and having no deferred debt and summarized, and all effective criteria on identifying key customers have been recognized.



Indicators

Then, in order to weigh and prioritize these factors in comparison with each other, a questionnaire delivered to bank experts and asked them to evaluate factors in pairs with each other comparatively or according to the below table:

Comparison Status	Completely Preferred	Highly Preferred	Preferred	Lowly Preferred	Equally Preferred
Value or Weigh	9	7	5	3	1

Pair Comparison Scale

In this section, a sample of pair comparison has been stated.

a b	Account average	Total amount of cheques under collection	Having no bounced cheques	Rate of turnover	Having deposits such as long-term deposits...	Having balance amount in current
Account average	1	1/7	1/5	1/5	5	1
Total amount of cheques under collection	---	1	1/5	1	7	9
Having no bounced cheques	---	---	1	7	9	9
Rate of turnover	---	---	---	1	9	9
Having deposits such as long-term deposits...	---	---	---	---	1	5
Having balance amount in current account	---	---	---	---	---	1

Sample Table of Questionnaire - Resources Part

a b	rate of receiving loans and facilities	rate of receiving letters of gurantee	amount of taken collateral from customers	having no deferred debt	rate of receiving letters of credit	rate of using foreign transfers
rate of receiving loans and facilities	1	5	5	5	9	1/5
rate of receiving letters of gurantee	---	1	5	7	9	1/5
amount of taken collateral from customers	---	---	1	1/3	9	1/5
having no deferred debt	---	---	---	1	9	1/5
rate of receiving letters of credit	---	---	---	---	1	1/9
rate of using foreign transfers	---	---	---	---	---	1

Sample Table of Questionnaire - Consumption Part

In analyzing these tables, the experts were asked to compare in pairs those factors in first row with factors in first column, and specify their priorities in relation to each other.

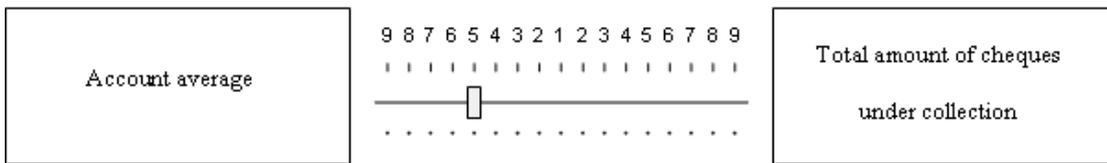
Matrix diameter in these tables is normally number 1 because the priority of two similar factors will be identical in matrix comparisons. On the other side, comparing two factors with each other reversely recorded fractional.

Calculating research data is long and relatively complicated, and it will be especially more difficult if there are many factors. Hence, Expert Choice11 software applied for composing the filled tables by each of examinees. It should be noted that weighs of all examinees considered identical in a way that there is no priority among their responses.

As nearly all AHP calculations will be done based on decision makers ' judgment in pair calculations, in the case of any error or inconsistency in comparing or prioritizing among choices, the calculation result will be muddled. The inconsistency ratio applied to display inconsistency degree and reliability of the results. After inserting the details of each questionnaire into Expert Choice software, this ratio has been calculated for each table and proved that all tables' ratio is smaller or equal to 0.1, which is in acceptable range. One of inserted table into software related to each part stated as follows:

Model Name: Resources Part

Numerical Assessment



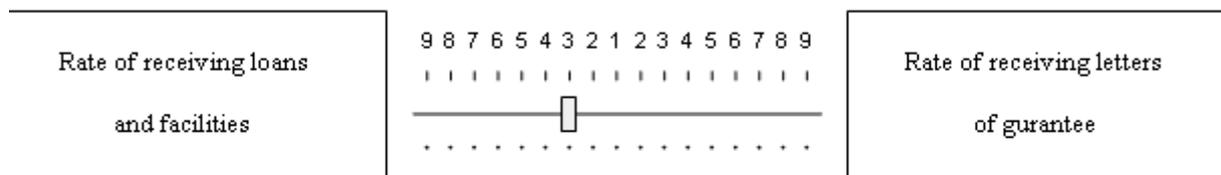
Compare the relative preference with respect to: Sample.16

	Account aver	Total amount	Having no bo	Rate of turno		Having b	deposits such as
Account average		5.0	7.0	7.0	(7.0)	(3.0)	
Total amount of cheques u			5.0	1.2	(9.0)	(9.0)	
Having no bounced chequ				(3.0)	(43.5)	(9.0)	
Rate of turnover					(9.0)	(8.0)	
Having deposits such as lo							5.0
Having balance amount in	Incon: 0.09						

Expert Choice Output-Sample Of Resources Part

Model Name: Consumption Part

Numerical Assessment



Compare the relative preference with respect to: Sample.16

	Rate of receiv	Rate of receiv	Amount of ta	Rate of receiv	Having no de	Rate of using
Rate of receiving loans an		3.0	1.0	(1.0)	(7.0)	5.0
Rate of receiving letters of			(5.0)	(5.0)	(7.0)	1.0
Amount of taken collateral				1.0	(7.0)	5.0
Rate of receiving letters of					(7.0)	5.0
Having no deferred debt						7.0
Rate of using foreign trans	Incon: 0.07					

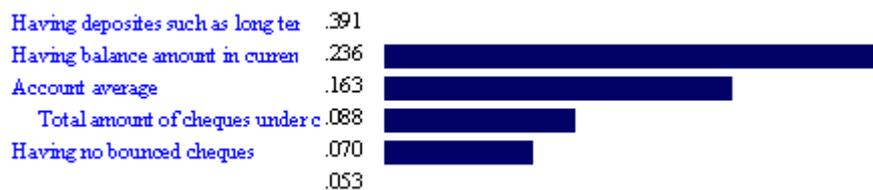
Expert Choice Output-Sample of Consumption Part

After inserting the details of all questionnaires into Expert Choice software, these tables have been combined and the results of each part obtained. In addition inconsistency ratio has been checked and proved that this ratio for final results is also in acceptable range.

The results of each part extracted from Expert choice stated as below.

### Synthesis: Summary

Synthesis with respect to: Resources Part



Final Result of Expert choice - Resources Part

### Synthesis: Summary

Synthesis with respect to: Consumption Part



Final Result of Expert choice - Consumption Part

## 4. Conclusion

- Considering the obtained results, 39.1% of customers who use particular deposits such as all kinds of long-term time deposits, bonds ... in the private bank ranked as the highest priority in resource part, then respectively 23.6% of customers who use accounts free of charge for bank such as current account placed in second priority. In addition, 16.3% of those customers having high account average, then 8.8% for high amount of current cheques under collection, and 0.7% of those good pay customers who have no return cheque with legal suit ranked as next priorities respectively. Amongst all mentioned factors, the lowest priority belongs to 5.3% of customers whose turnover is in allowable range.
- As shown by taken priorities from resources part's questionnaires, it is important for branches to attract those customers who have considerable turnover including potential or real customers which can be recognized and raised their fidelities.
- In consumption part, 37.7% of customers who have no debit note ranked as the highest priority, then respectively 17% of customers using surety bond, 13.9% of customers with considerable amount and number of taken securities, 13.4% of customers who use loans and facilities, 13.3% of customers who use letters of credit, and finally 4.7% of customers who use foreign transfers placed in next priorities.
- According to the obtained priorities in consumption part, obviously those customers with good reputation and experience in bank system ranked as top priorities among consuming customers. In addition, this prioritization is very important for branches in regard of taking the required gurantee against some services such as granting surety bond and loans so that the probable risks of these payments decrease as least as possible.
- As indicated by the obtained results, dividing bank customers into two parts of resources and consumptions can be a good approach for selecting a better strategy in dealing with them. In this case, particular needs of each group can be recognized and their appropriate services can be presented. Although, some customers use both parts but the required specifications of these services are different, and certainly there should be coordination between these parts. As a good example is granting loans and facilities and surety bonds against long-term deposits as gurantee which make these cash inputs as such deposits which prioritized as 39.1% according to the above results, their durability increased in branches, and also in the consumption part these funds changed to services securities, in this way against taken securities with priority of 13.9%, payment terms of surety bond with priority of 17% and paying loans with priority of 13.4% will be provided for branches.
- Variety in bank customers' needs, variety in using these services, and forecasting their future needs lead bank system prioritize customers so that particular services of each group according to their needs can be provided.
- Banking affairs will not be purposeful and banking services will not be useful sufficiently if customers are not adequately recognized.

## REFERENCES

1. Azar, Adel & Azizolah Memarianee (1995). "AHP is a modern method for team decision making". *Journal of Management Knowledge: Afiliated to Tehran University*
2. Asgharpour, M.J. (1999). *Multi-criterion decision making*. Tehran University Publication
3. Research Institute in Operation of Bahman Gostar Giti (1999). *Multi-criterion decision making Technique-Analytical Hierarchy Process (AHP)*
4. Ahmadi, A., Khalaji, A.R., Olyaiie, I. (2006). "Concepts of Designing a System to Manage Relationship with Customer". *Seasonal Journal of Tomorrow Management*
5. Asgharizadeh, E., Ramazani, A. (2005). "Applying Analytical Hierarchy Process (AHP) for Prioritizing Customers in Banking System". Third International Conference in Management
6. Naghib Olsadat, S.R., Javadi, M.J. (2011). "Delphi Method". Month of Social Sciences Book, Vol. 39 (consecutively 145)
7. Sameti, M., Cemeti, M., Asghari, M. (2003). "Priorities for Developing Isfahan Industry Based on Analytical Hierarchy Process (AHP)". *Seasonal Journal on Business Research*, No. 27
8. Hamidzadeh, M.R. (1999). "Multi-criterion decision making Technique for Selecting Projects Assessment". *Seasonal Journal of Manager Maker*, No. 3
9. Tabatabaiee, S.M.R. (1993). "Applying Delphi Technique in Management". *Journal of Tadbir*, No. 34
10. Cheng, C.-H., Yang, K.-L., & Hwang, C.-L. (1999). Evaluating attack helicopters by AHP based on linguistic variable weight. *European Journal of Operational Research*, 116, 423–443.
11. Zimmermann, H.-J. (1994). *Fuzzy set theory-and its applications*. Boston: Kluwer Academic Publishers.
12. Hasson F., S.K., McKenna H. (2000) Research guidelines for the Delphi survey technique, *Journal of Advanced Nursing*, Vol. 32, No. 4.
13. Powell C. (2003), The Delphi technique: Myths and realities, *Methodological Issues in Nursing Research*, Vol. 41, no. 4.

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