

Surveying the Customer Satisfaction of JavananKhayyer Fund with using of multi-component analysis

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Abstract

The population of this study is Customers of JavananKhayyer Fund in East Azerbaijan province. Data has collected from customers of JavananKhayyer Fund by through simple random sampling. To data gathering we used a questionnaire according to Likert Spectrum with study of variables. The study variables are personnel (friendship, cooperation, and skill), Productions (diversity, conditions, cost), Services (technology, in the waiting queue, inform, Administrative Process), Access (geographic dispersion, abundance branches) and image (name and reputation, loyalty). Questionnaires reliability was estimated by calculating Cronbach's Alpha via SPSS software that is 0.86. In order to analyze the data resulted from collected questionnaires deductive and descriptive statistical methods are used, and to display some statistical data we used column diagram and in deductive level to test the questions of the research we used Ordinal regression method and multi-component analysis. The analysis has performed with SPSS. Findings shows that there is a high level of satisfaction in JavananehKhayyer Fund and customer satisfaction average level is 73.4%. Services component 65 %, Image component 70 %, personnel and Access components 60 % and Productions component 87 % have estimated.

Keywords: *Services, personnel, Productions, Access, image*

INTRODUCTION

In recent years, the banking industry has undergone massive changes in scope and nature of its environment. Technological advances, increased competition, massive increases in income levels, and the expansion in economic activities, as well as the growing diversity of customer needs, have contributed to the increase in the scope of banks services, and to the elevation of the marketing department to the top levels of the organizational structure of the banking firm. In this competitive and ever changing environment, banks can ensure their survival and gain a competitive edge through the emphasis on using service quality as a means of differentiation.

Banks want to know how to improve the service encounter. Banks face intense competition, volatile costs of funds, diminished customer loyalty and an expensive high-tech (Winstanley, 1997). The challenge for banks is to lower costs, increase efficiency, while improving the quality of their service, and increasing customer satisfaction. They need to create and maintain good banking relationships. Attention has now turned to improving the quality of service encounter, when customers enter the bank and come into face-to-face contact with bank staff (Reeves, 1996; Chakravarty, 1996).

A customer satisfaction is an ambiguous and abstract concept. Actual manifestation of the state of satisfaction will vary from person to person, product to product and service to service. The state of satisfaction depends on a number of factors which consolidate as psychological,

economic and physical factors. The quality of service is one of the major determinants of the customer satisfaction (Yoo and Donthu, 2001 and Loiacono et al, 2002).

The term 'e-customer' refers to the online purchaser/users whether it is individual or corporate. It can be define as "e-customer is an individual or corporate one who are using e-portals to purchase, ordering, receiving information and paying price / charges through various types of e-channels" i.e. internet banking, mobile banking, ATM, POS, credit cards, debit cards and other electronic devises.

Table 1 - Snap Shot of Literature Review

	Service/Scale	Author/s	Attributes/Dimensions Used in the Study
1	Kano's Model	Kano (1984)	Must-be requirements, One-dimensional requirements, Attractive requirements, Reverse Quality
2	Perceived SQ Model	Gronroos (1984)	Technical service quality, Functional service quality, Corporate image
3	SERVQUAL	Parasuraman, Zeithaml and Barry (1985; 1998)	Reliability, Responsiveness, Assurance, Empathy and Tangibles
4	SERVFERF	Cronin and Taylor (1994)	Reliability, Responsiveness, Assurance, Empathy and Tangibles
5	E-commerce	Schefter and Reichheld(2000)	Customer support, on-time delivery, compelling product presentations, convenient and reasonably priced shipping and handling, clear and trustworthy privacy
6	e-SQ and e-SERVQUAL	Zeithaml, Parasuraman, and Malhotra (2000)	efficiency, reliability, fulfillment, privacy, responsiveness, compensation, and contact
7	e-Satisfaction	Szymanski and Hise (2000)	Convenience, Merchandising, Easiness, Information, Deign, Financial security
8	E-loyalty	Gommans, Krishnan, and Scheffold (2001)	Website & Technology, Value Proposition, Customer Service, Brand Building and Trust & Security
9	SITEQUAL	Yoo and Donthu (2001)	Ease of use, aesthetic design, processing speed, and security
10	WebQual	Loiacono, Watson and Goodhue (2002)	Information fit to task, interactivity, trust, responsiveness, design, intuitiveness, visual appeal, innovativeness, websites flow, integrated communication, business process and viable substitute, accessibility, speed, navigability and site content.
11	e-Satisfaction	Anderson and Srinivasan(2003)	convenience motivation, purchase size, inertia, trust and perceived value
12	E-S-QUAL and E-RecS-QUAL	Parasuraman, Zeithaml&Malhotra in (2005)	Efficiency Fulfillment, System availability, Privacy, Responsiveness, Compensation and Contact
13	Movie-Related Websites	Cho Yoon, and Joseph Ha (2008),	Ease of use, Usefulness, involvement, information factor, Convenience, technology, Community Factor, Entertainment Factors, Brand Name, Price Factor
14	BANKZOT	Nadiri, et al (2009)	Desired, adequate, predicted and perceived service quality

Traditionally the level of customer satisfaction was determined by the quality of services, price and purchasing process. Consequently, the level of e-satisfaction is also determined by the quality of e-services, the price level and e-purchasing process (Ming, 2003). Literature on e-consumers satisfaction realizes that there are different factors of e-customers satisfaction than formal customer, e-satisfaction are modeled as the consequences of attitude toward the e-portals (Chen and Chen, 2009). After review of the literature some important factors of e-satisfaction were extracted (Table 1). There are number of scales and instruments are available to assess service quality. Available literature shows that, the customer satisfaction is measured via service quality and service quality measured by various measurement tools and instruments developed by various researchers (Riscinto-Kozub, 2008) and marketing consultancy organizations i.e. Gronroos's 'Perceived Service Quality Model, SERVQUAL, SERVPERF, SITQUAL, WEBQUAL, etc (Table 1).

CUSTOMER SATISFACTION AND MULTICRITERIA ANALYSIS

Although, extensive research has defined several alternative approaches for the customer satisfaction evaluation problem, all these proposed models and techniques, so far, adopt the following main principles (Grigoroudis, 1999):

- a) The data of the problem are based on the customers' judgments and should be directly collected from them.
- b) Customer satisfaction measurement is a multivariate evaluation problem given that customer's global satisfaction depends on a set of variables representing service characteristic dimensions.
- c) Usually, an additive formula is used in order to aggregate partial evaluations in a global satisfaction measure.

Based on these assumptions the customer satisfaction evaluation problem can be formulated in the context of multicriteria analysis, assuming that client's global satisfaction depends on a set of criteria or variables representing service characteristic dimensions (Figure 1).

Measuring Customer Satisfaction for Various Services Using Multicriteria Analysis

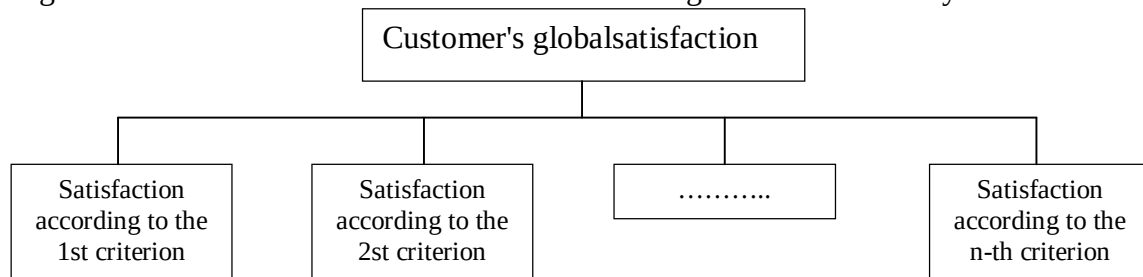


Figure 1. Aggregation of customer's judgments

The preference disaggregation MUSA method is an ordinal regression based approach (Siskos, 1985; Siskos and Yannacopoulos, 1985) in the field of multicriteria analysis. The method is used for the assessment of a set of marginal satisfaction functions in such a way that the global satisfaction criterion becomes as consistent as possible with customer's judgments. Thus, the main objective of the MUSA method is the aggregation of individual judgments into a collective value function.

The main satisfaction criteria consist of:

- Personnel of the bank: this criterion includes all the characteristics concerning personnel (skills and knowledge, responsiveness, communication and collaboration with customers, friendliness, etc.).
- Products: this criterion refers mainly to the offered products and service (variety, refund, cost, special services, etc.).
- Image of the bank: credibility of the bank (name, reputation), technological excellence, as well as ability to satisfy future customers' needs are included in this criterion.
- Service: this criterion refers to the service offered to the customers; it includes the appearance of the stores, the waiting time (queue, telephone, etc.), the complexity of service processes and the information provided (informing customers in an understandable way, explaining the service and other relevant factors, informing for new products, etc.).
- Access: network expansion of the bank, branches location, as well as observed troubles in the service system (strikes, damaged ATMs, etc.) are included in this criterion.

The main purpose of this study is surveying the Customer Satisfaction of JavananKhayyer Fund with using of multi-component analysis. To archive this purpose we designed two hypotheses.

1. The amount and degree of customer satisfaction minor components (personnel, productions, services, access, and image) are different.
2. The most important among the satisfaction minor component related to services (quality of service).

METHODOLOGY

The population of this study is Customers of JavananKhayyer Fund in EsatAzerbaijan province. Data has collected from 384 Ardabil by through simple random sampling. To data gathering we used a questionnaire according to Likert Spectrum with study of variables. The study variables are personnel (friendship, cooperation, and skill), Productions (diversity, conditions, cost), Services (technology, in the waiting queue, inform, Administrative Process), Access (geographic dispersion, abundance branches) and image (name and reputation, loyalty). Questionnaires reliability was estimated by calculating Cronbach's Alpha via SPSS software that is 0.86.

In order to analyze the data resulted from collected questionnaires deductive and descriptive statistical methods are used, and to display some statistical data we used column diagram and in deductive level to test the questions of the research we used Ordinal regression method and multi-component analysis. The analysis has performed with SPSS.

To obtains general functions satisfying (Y^*) and component (X^*), we used customer judgments and with using and using of LP techniques and Limitations.

Eq 1. Ordinal regression analysis of equation

$$y^{*t} = \sum_{i=1}^n b_i x_i^* - \sigma^+ + \sigma^-$$

$$\sum_{i=1}^n b_i = 1$$

Table 2 variables

Global Satisfaction Function	Y^*
Partial Satisfaction Function	

Global Customers Judgment	Y
Partial Customers Judgment	
Estimation of the global satisfaction function	
Estimation of the partial satisfaction function	
Over Estimation Error	
Under Estimation Error	
Weight Of The Ith Criterion	

RESULTS AND CONCLUSION

1. Descriptive Analysis

A majority 67 percent of respondents are males, and the 33 percent are female. The highest Age group of respondents includes those between 41-50 years old and the smallest one those was under 20 years old (See table 3). Also, the highest respondents degree reserved to BA.

Table 3: Profile of the respondents

Gender		%
	Males	67%
	Female	33%
	Missing	0%
Age group	Under 20	2%
	21-30	30%
	31-40	23%
	41-50	34%
	51-90	11%
	Missing	0%
Degree	Under Diploma	5%
	Diploma	17%
	Associate Degree	18%
	BA	48%
	MA or upper	12%
	Missing	0%

2. Inferential Analysis

In order to obtain an optimal solution for the problem of linear programming we used GAMS software. Five models for general criteria and one to overall satisfaction, also we have done six modeling to entering data into the modeling process.

Table 4, show the results of overall satisfaction according to linear programming. Finding shows that overall satisfaction is zero.

Table 4 show the results of overall satisfaction according to linear programming

```

SET
j   P No.      /P1*P46/
iCriteria No. /i1*i5/
v   value No.  / v1 /
k       /1*5/;
PARAMETERS
PPP(j)
XXX(j)
valu(k);
TABLE PG(j,v)    the customers' judgements for global satisfaction
      v1
p1  PG(1,V)
p2  PG(2,V)
.
.
p130 PG(130,V);
TABLE PC(j,i)    the customers' judgements for satisfactions criteria
      i1      i2      i3      i4      i5
p1  pc(1,1)    pc(1,2)    pc(1,3)    pc(1,4)    pc(1,5)
p2  pc(2,1)    pc(2,2)    pc(2,3)    pc(2,4)    pc(2,5)
.
.
p130 pc(130,1) pc(130,2) pc(130,3) pc(130,4) pc(130,5);
FREE VARIABLE
F      The efficiency measure for unit J (input orientation ;

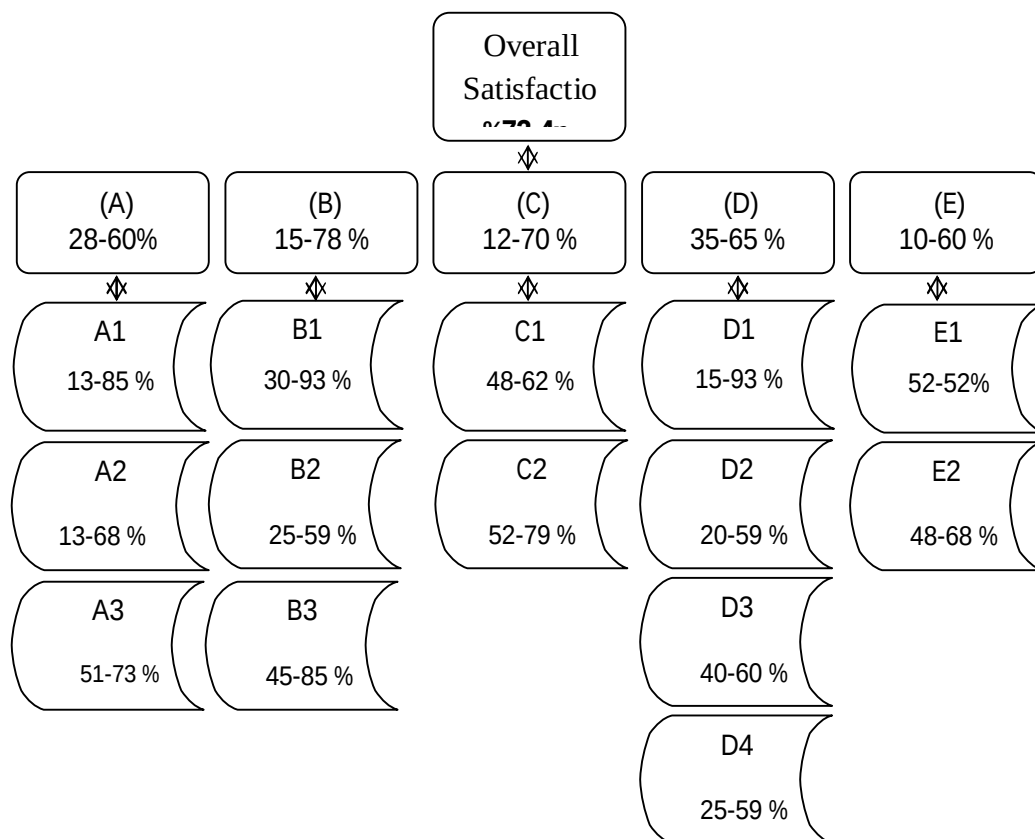
POSITIVE VARIABLE
      w(i,k),z(k),SM(j),SN(j) ;
FILE result /Vahed/ ;
EQUATIONS
Obj      Objective function of the model
      Eq1

      Eq2
Eq3 ;
Obj ..    F=e= sum(j,sn(j)+sm(j));
Eq1(j) .. sum(i,sum(k $ (valu(k)<=(PC(j,i)-1)),w(i,k)))-sum(k $ (valu(k) <=(PPP(j)-1)),z(k))-
SN(j)+SM(j)=e=0;
Eq2 ..z("1")+z("2")+z("3")+z("4")=e=100;
Eq3 ..    sum(i,w(i,"1")+w(i,"2")+w(i,"3")+w(i,"4"))=e=100;
MODEL Mvahed      /ALL/;
PUT RESULT;
PUT 'Optimal objective of Vahed MODEL:.'/;
put 'F      Z1  Z2  Z3  Z4  Z5      '/;
PUT '-----'/;
Loop(j,PPP(j)= PG(j,"v1"));
valu("1")=1;
valu("2")=2;
valu("3")=3;
valu("4")=4;
valu("5")=5;
SOLVE Mvahed USING LP MinIMIZING PF1;
PUT $(Mvahed.modelstat EQ 3) ' Unb.  ';
PUT $(Mvahed.modelstat EQ 4) ' Inf.  ';

```

Analytical results for the hierarchical structure of customer satisfaction. Left figure shows importance of each criterion and right Figure shows average level of satisfaction

Fig2 hierarchical structure of customer satisfaction



Findings shows that there is a high level of satisfaction in JavananehKhayyer Fund and customer satisfaction average level is 73.4%. Services component 65 %, Image component 70 %, personnel and Access components 60 % and Productions component 87 % have estimated.

Table 5- Summary results of research analytic

Important component	Satisfaction	satisfaction component with lower Average levels	Satisfaction component that are considered Fund's competitive advantage
Personal's friendship relations with customers (A3)		Personal's friendship relations with customers (A3)	friendship with the customers (A1)
Cost of products (B3)		Variety of services (B1)	Variety of services (B1)
Waiting time (D3)		Cost of products (B3)	Cost of products (B3)
Multiple Branches (E1)		Reputation of institutions (C2)	Reputation of institutions (C2)
Reputation of institutions (C2)		Technological possibilities of institution (D1)	

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