

ORDER PREFERENCE OF EFFECTIVE FACTORS ON QUALITY OF SERVICES IN BANKING INDUSTRY VIA MULTIPLE CRITERIA DECISION MAKING (MCDM) (CASE- STUDY: ISFAHAN SEPAH BANK 2013)

Samira shahmansouri

Department of Industrial Management Najafabad branch,
Islamic Azad University, Isfahan, Iran

Dr. Mohammadreza Dalvi Esfahan

Department of Management Dehaghan branch,
Islamic Azad University, Isfahan, Iran

Yusof Jandarmiyan

Department of Management Qeshm international branch,
Islamic Azad University, hormozgan, Iran

ABSTRACT

Today, many industries show a lot of attention toward attribute of services to provide customers' satisfaction. The current study is purposed to review on prioritization of effective factors on quality of the given services. This research is of descriptive field- study type, which has been carried out to determine effective factors on quality (attribute) of services in Banking Sector at Isfahan city, Iran. All normal customers of Sepah bank in Isfahan city made up the statistical population of this investigation among of which 230 respondents were chosen randomly as sample group. To gather data, a questionnaire was utilized so that in order to make sure of fitness of this tool, its reliability was computed by Cronbach Alpha coefficient as 0.767 that is a reliable and reasonable coefficient value and also Fuzzy TOPSIS Technique has been adapted to give answer to research question. The findings suggest that on time communication is placed at the highest position in this process.

Keywords: Banking services , Fuzzy TOPSIS, Attribute of Services

1- Introduction

Passing over industrial economy and removal of geographical boundaries across businesses and thus intensification of competition has caused customer to be purposed as the main cornerstone and major pivot for banking activities. The organizations have found this important point that keeping the current customers is cheaper than attracting of new ones so the best way for keeping customers is to give some services with distinctive attribute compared to other rivals. Similarly, the studies indicate that quality (attribute) of services may lead to a reputable trade name and thus profitability for the given institution. Services and their potential attributes are some agents, which play key role in attraction and keeping of customers.

2- Review of literature

1-2- Banking services

Services are defined as a set of benefit that is offered to customers. In banking system, the services may be offered by ATM machines, bank employees (advisors) or a combination of both (cashier) (Venus and Safarian, 2005).

1-1-2 The features of banking services

The features of banking services are classified in to seven categories.

1) Fiduciary responsibilities: fiduciary responsibilities refer to the services that are offered by banks and financial organizations in order to manage customers' money. Such organizations are required to give appropriate financial advices to their customers. Trust and confidence in the organization may be gained only via constant interaction between customer, the organization and its staff (Venus and Safarian, 2005).

2) A two-way flow of information: examples of two-way flow of information are: billing, controlling accounts, going to bank branches, using ATM machines and etc. These mutual interactions are potential opportunities to make wealth via the gathered data from customers. The data may include the potentials to buy credit cards (Vahdati, 2007).

3) Invisibility of services: Invisibility of services means that the services are not perceived by the human senses. Buyers are trying to find clues about the quality of services and reduce their distrust. The location, staff, prices of services, and equipments are visible cues that may help them to decide about the quality of services (Vahdati, 2007).

4) Inextricably linked services and service providers: The services could not be separated from service providers. The customer is present while the services are offered and this is one of the specific features of such services. Thus, there is a mutual interaction between service provider and customer, and both of them influence the service quality.

5) Variability: by variability we mean that the quality of services is dependent on factors such as service provider, time of service, location of service and the way in which services are offered (Vahdati, 2007).

6) Unstorability: unstorability means that the services could not be stored for future consumption or sales. Thus, to solve the problem there must be balance between supply and demand (Vahdati, 2007).

7) Ownership: When a customer orders a specific service, no ownership is transferred from the buyer to the seller. In other words, the seller buys the service production process. As an illustration, using car parks can be noted (Vahdati, 2007).

3- Research background

- In an investigation, Finn (2010) examined non- linear effects of E- services on customers' satisfaction. He divided online services into three classes: Attractive, mono- directional, and must-be groups. It is derived from results of this study that download speed is considered as one of the mono-directional variables; namely, lack of this variable may cause dissatisfaction.
- Boui, Law, Wen (2008) explored into the effect of quality of website on customer's satisfaction and intent for purchase. The results of this survey showed that quality of website might have direct and positive impact on customer's satisfaction and also customer's satisfaction directly and positively affects on purchase intent.
- In this study, Athanassopoulos' (1997) model, which its variables have been tested and demonstrated, is implemented for attributes of services in banking industry including attributes of uniqueness of services, multiple services, innovation in giving services, and services adaptability (consistency) to customers' various requirements.
- Hallowell (1996) has reviewed the effective factors on banking customers' satisfaction via an empirical study. He claims that constant relationship among a customer and his/ her banking branch and magnitude of the field of this contact as well as customers' recommendations are possible through publishing ads in newspapers represent customers' satisfaction.

4- Research goals and questions

1-4- Research goals:

- 1) Prioritization of sub-criteria of services attribute (quality) by means of Fuzzy TOPSIS Technique
- 2) Identifying the foremost parameter of services quality in banking industry

2-4-Research questions:

- 1) How to use order preference of services quality in banking industry by employing Fuzzy TOPSIS Technique?
- 2) Which parameter may be most important than the rest indicators?

5- Statistical population and sample

Whereas statistical populations possess great geographical size and vastness and researcher may not refer to all of them therefore the researchers have to inevitably a group of them as a sample and generalize them to studied population. Thus, researcher took sampling method and acquired at least 230 participants for sample size after conducting statistical analyses.

6- Methodology

In this project, the conducted method is of applied type in terms of goals and it is considered as a survey in terms of descriptive data collection. "Descriptive research" includes a group of techniques, which are purposed to describe the studied conditions or phenomena. A descriptive study may be implemented solely for further recognizing of the existing conditions or contribution to decision making process (Sarmad and associates, 2007).

1-6- Data collection method

To gather information, a 15- question inventory, including 4 questions about demographic attributes, 10 close-end questions, and one open-ended question that has been used. Likert five- scale spectrum was utilized to draw up this questionnaire. This spectrum comprises of some choices like very low, low, fair, high, very high so that its Cronbach Alpha coefficient is 0.676.

7- Factor prioritization using fuzzy TOPSIS method

Chen (2000) has expanded the TOPSIS method in fuzzy environment. Because of the vague and unrealistic concepts in the data of the study, the real values are not suitable for real situations. In this method, the ranking of each option and their weights are determined by linguistic variables and they expressed as trapezoidal fuzzy numbers.

Table 1. Linguistic variables to determine the weight of each criterion

Very low	VL	(0, 0, 1, 2)
Low	L	(1, 2, 2, 3)
Lower than average	ML	(2, 3, 4, 5)
Average	M	(4, 5, 5, 6)
More than average	MH	(5, 6, 7, 8)
High	H	(7, 8, 8, 9)
Very high	VH	(8, 9, 10, 10)

A Multi-criteria fuzzy group decision-making problem could be summarized as the following:

$$\tilde{D} = \begin{bmatrix} \tilde{x}_{11} & \tilde{x}_{12} & \cdots & \tilde{x}_{1n} \\ \tilde{x}_{21} & \tilde{x}_{22} & \cdots & \tilde{x}_{2n} \\ \vdots & \vdots & \cdots & \vdots \\ \tilde{x}_{m1} & \tilde{x}_{m2} & \cdots & \tilde{x}_{mn} \end{bmatrix}$$

$$\tilde{W} = [\tilde{w}_1, \tilde{w}_2, \cdots, \tilde{w}_n]$$

$(i = 1, 2, \dots, m, j = 1, 2, \dots, n)$ \tilde{x}_{ij} and $(j = 1, 2, \dots, n)$ \tilde{w}_j are linguistic variables that could be stated as Trapezoidal fuzzy numbers

$$\tilde{w}_j = (\tilde{w}_{j1}, \tilde{w}_{j2}, \tilde{w}_{j3}, \tilde{w}_{j4}) \quad \tilde{x}_{ij} = (\tilde{a}_{ij}, \tilde{b}_{ij}, \tilde{c}_{ij}, \tilde{d}_{ij})$$

Paying attention to the fact that ranks of different criteria are different, the weighted normalized fuzzy decision matrix is created as follows:

$$\tilde{V} = [\tilde{v}_{ij}]_{m \times n}, \quad i = 1, 2, \dots, m, \quad j = 1, 2, \dots, n \quad \& \quad \tilde{v}_{ij} = \tilde{r}_{ij} \otimes \tilde{w}_j \quad (1)$$

Thus, we can the distance of each alternative from the positive ideal and negative ideal is calculated using the following formulas:

$$D_i^* = \sum_{j=1}^n D(\tilde{v}_{ij}, v_j^*), \quad i = 1, 2, \dots, m, \quad (2)$$

$$D_i^- = \sum_{j=1}^n D(\tilde{v}_{ij}, v_j^-), \quad i = 1, 2, \dots, m, \quad (3)$$

To calculate the ranking of the alternatives, D_i^* and D_i^- , the closeness coefficient should be defined for each alternative. The closeness coefficient is calculated using the following formula:

$$CC_i = \frac{D_i^-}{D_i^* + D_i^-}, \quad i = 1, 2, \dots, m \quad (4)$$

Finally, one can conclude that the alternative which is closer to positive ideal and far from negative ideal is the alternative that its closeness coefficient is closer to 1. Paying attention to closeness coefficient, one can rank the alternatives and select the best option.

8- Conclusion

Research findings suggest that attribute of on time access to banking information and then attributes of utilization from internet and non- attendance operation (transaction) from the same branch and finally variable of turn- taking (reservation) via phone call were ranked for those transactions that should have been done by attendance in banking branch. Order preference is seen in the following table2:

Table 2: Final ranking

Final ranking	CCi	Sub- criteria
1	0.712256	Publishing of banking bulletin and monthlies and sending them to customers
2	0.678713	Internet utilization and conducting of non-attendance transactions from the same branch
3	0.592314	Invitation of customers to participate in seminars
4	0.561126	The already filled- out banking receipts for depositing into most widely used accounts like universities and Qarzolhasaneh fund etc
5	0.531431	Privacy of customer's information and specifications
6	0.510551	Capability to track the latest news about Bourse (SEO) and gold price etc from the same branch
7	0.453877	Issuance of credit cards within least time and with lowest cost
8	0.392578	Establishing of an active, updated, and responsive unit to address the received complaints and critiques against banking services and branches
9	0.370453	Creating of possibility for data electronic exchange between banks of the country
10	0.197661	Turn- taking (reservation) by phone call for those transactions that should be done by attendance in branch

Suggestions for the future studies

- ✓ Review of this subject in some similar industries
- ✓ The investigation into other aspects of customer's satisfaction concept in banking industry
- ✓ Holding of summits and conferences in this regard

References

1. Athanassopoulos, Antreas, D.,(1997), another look into the agenda of customer satisfaction: focusing on service providers' own and perceived viewpoint, international journal of bank marketing, Vol. 15, No. 7, PP:264-278. MBC University Press
2. Bai, B. Law, R.Wen, I.(2008). The impact of website quality on customer satisfaction and purchase intentions: evidence from on line Chinese visitors
3. Chen, S. J. and Hwang, C. L., (2000), Fuzzy Multiple Attribute Decision Making Methods and Applications, Springer, Berlin
4. Finn, D, W, Lamb, C.W. Jr.(2010).An evaluation of the servqual scale in are tailing setting. Advances in consumer Research, 18(1), 483-490
5. Hallowell R (1996) The Relationships of Customer Satisfaction, Customer Loyalty and Profitability, an Empirical Study, International Journal of Service Industry Management. Boston MA, USA
6. Sarmad , Z , Bazargan , A , and Hejazi , E , (2007) , "Research methods for the behavioral sciences " , Tehran : Agah publications . 7th edition.
7. Vahdati , E , (2007). An investigation of the affecting factors on customer satisfaction in Keshavarzy and Parsian banks (Isfahan branches) . Master Thesis , Isfahan University .
8. Venus , D , and Safarian , M (2005) . Applicable procedures of banking services , Tehran , Negahdanesh publications.