

**RANKING EFFECTIVE FACTORS ON TAX QUALITY FROM
VIEWPOINT OF TAX COLLECTOR (GOVERNMENT) AND
TAXPAYERS BY USING ANALYTIC HIERARCHY PROCESS (AHP)**

Neda Rezaei

Department Of Accounting, Science And Reserch Branch, Islamic Azad University
, Ardabil, Iran.

Dr. Mohammad Imani Barandagh

Department Of Accounting, Urmia University, Urmia, Iran.

Dr. Mohamad Hasanzade

Department Of Economic, Mohaghegh Ardabili University, Ardabil, Iran.

ABSTRACT

This article tries to study the effective indicators on increasing tax quality, then prioritize them by using analytic hierarchy process (AHP). Main question of this research is “what indicators do have the highest influence on tax system and how is their prioritization for decision makers? According to the complicated space of decision making we confront, AHP was used for this study among the multi-criteria decision making methods. Finally, the results show that the five measures effective on tax system are ranked from the 1st to the 5th respectively as follows: development of appropriate tax culture and law, increasing training of personnel and people’s awareness of tax importance, economic indicators and measures of tax collection, expenses and time of tax collection, and mechanization of tax collection.

Keywords: Tax, Tax Quality, Analytic Hierarchy Process (AHP)

INTRODUCTION

Nowadays, there are discussed by managers and experts many subjects about its quality and importance, mainly trying in the organizations to increase quality, because quality is not furthermore a motto but a principal need as it is necessary for organizations and institutes to pay special attention to quality improvement programs for increasing its efficiency and productivity[1]. Yet the importance of quality subjects in recent years goes beyond the quality in organizations and institutes, and its related subjects have moved to smaller subjects such as profit quality, and this research considers one of quality topics, called quality in tax, as a financing way of governments. Therefore, we shall not consider only the quantity of subject matter but the quality is important also. For instance, governments may collect many taxes but lose the resources in the future or be non-profitable if they don't pay attention to the collection costs. Therefore, it is necessary to consider tax quality for having persistent, essential and necessary income resources. The question of "what is tax quality?" may be explained by what establishes quality according to the tax receivers (governments). It means that if we discuss and determine the effective factors on tax quality in viewpoint of government, we can analyze and evaluate the tax quality.

Accordingly, the purpose of this research is to identify the effective factors in increase and promotion of tax quality and find new dimensions of quality according to the conditions and expectations of tax organization.

RESEARCH METHODOLOGY

This research is a descriptive- applied one in which the library, documentary and survey methods were used for data collection and determining the research model. This is an applied research in terms of classification based on goals [2]. In this research, the effective factors on increase of tax quality are prioritized by AHP according to the nature of research.

AHP is applied for determining priority of several factors related to a definite factor. Requirement of using AHP is to prioritize, determine a questionnaire based on AHP method, send it to questionnaire respondents, and finally collect their opinions related to the mentioned subject[3].

AHP Method

Thomas L. Saaty created AHP in 1971. It provides a hierarchic framework for fully systematic analysis of all effective factors on a subject and also procedures and principles in order to choose the best possible answer among several options [4] [5]. Using AHP was

spread fast after its introduction by Saaty in “Decision Making for Leaders”, and researchers used it in many decision making issues.

AHP uses comparative spectrum 1-9. It enables decision maker to unite knowledge and experience in a sensory method and determine that one element is dominant on other element for several times with regard to the measure, and this scale is an integer. Decision maker is able to describe his priority as a couple of elements in the form of verbal, equal to important, relatively more important, very more important, and completely more important. These descriptive priorities are translated in the next step to 1, 3, 5, 7 and 9 respectively. Amounts 2, 4, 6, and 8 are used as intermediate rates in comparing two successive judgments. Their reverse is used for other side of judgments [6] [7].

In this research, a questionnaire was prepared for enforcing AHP test which included five groups of development of suitable tax culture and law, increase of training personnel and people’s awareness of tax importance, economic indicators and measures of tax collection, costs and time of tax collection, and mechanization of tax collection, and final questionnaire were sent to the sample members of this research after inserting necessary adjustments.

RESEARCH LITERATURE AND PROFILE

Barbuta: in a research entitled “Economic and Non-Economic Factors of Income Tax Acceptance”, he studied the economic and non-economic factors effective on acceptance or rejection of income tax and described the effective economic factors as level of incomes, auditing probabilities, tax rate, punishments and penalties, and non-economic ones as personal factors, social and national formalities, and sense of unfairness [8].

Fuest et al: in his study, he studied the effect of tax simplification on efficiency of tax system and also income distribution of this country by using the simulation model and data from family studies of income in Germany in reply to this question “will simplicity of tax be followed by the further efficiency and justice?” Results of study show that simplification of laws will decrease the use of professional services of tax consultants, fairer distribution of income and increase of tax incomes [9].

Chamberlain & Castleman: in a research titled “Analysis of Electronic Tax System in Australia”, they studies some factors including accessibility to website of tax affairs organization, installing softwares in internet, security of software, form of questions, simplicity of using electronic system in view of taxpayers. Findings of this research showed that saving costs and fast access to accounts settlements are the least important, and

suitability of fast access to services and shorter time for taxpayers are the most important factors [10]

After study of various books and articles based on the fundamentals and theoretical profile of research, we referred to the experts and researchers of this field for determining the most important factors effective on tax and determining final questionnaire, and according to the strong theoretical fundamentals and performed various researches and opinions of tax experts, the final questionnaire was prepared according to AHP principles which includes 5 factors as the most important factors and indicators proposed in tax, and was delivered to the questionnaire respondents in order to rank the factors by using AHP from viewpoint of two groups of respondents (tax receivers: government) and taxpayers. In analysis of AHP, the goals, measures and options are first determined, then hierarchic diagram is prepared accordingly. In this research, the purpose was determined at ranking effective factors on tax quality, and measures of factors evaluation according to the presented definition included the tax quality, expectations of taxpayers and tax receivers. In options, we selected some factors recognized as effective on increasing efficiency of tax system for the hierarchic options of research, which included the following five components:

- 1- Development of clear and enforceable tax culture and law;
- 2- Economic measures and indicators of tax collection;
- 3- Increasing training of personnel and people's awareness of tax importance;
- 4- Mechanization of tax collection;
- 5- Costs and time of tax collection;

RESULTS OF DATA ANALYSIS BY USING EXPERT CHOICE SOFTWARE

After collection of questionnaires, their results were inserted in the software, and average of judgments performed for each assessment measure is shown in the following tables, indicating the summary of answers for each assessment measure. The results shown in the following tables represent the importance of each option of line to options of column according to the related measure. Table 1 offers the average of judgments for criterion of evaluating taxpayers' expectations, and table 2 the average of judgments for evaluating income of tax receivers.

Table 1: Answers of Measure of Taxpayers Expectations

Measures	Development of Suitable Tax Culture and Law	Economic Measures and Indicators of Tax Collection	Increasing Training of Personnel and People's Awareness of Tax Importance	Mechanization of Tax Collection	Time and Costs of Tax Collection
Development of Suitable Tax Culture and Law	1	3	4	1/2	1/2
Economic Measures and Indicators of Tax Collection		1	1/3	1/3	1/4
Increasing Training of Personnel and People's Awareness of Tax Importance			1	1/3	1/4
Mechanization of Tax Collection				1	1
Time and Costs of Tax Collection					1

Table 2: Answers of Measure of Tax Receivers' Expectations

Measures	Development of Suitable Tax Culture and Law	Economic Measures and Indicators of Tax Collection	Increasing Training of Personnel and People's Awareness of Tax Importance	Mechanization of Tax Collection	Time and Costs of Tax Collection
Development of Suitable Tax Culture and Law	1	3	1/3	4	5
Economic Measures and Indicators of Tax Collection		1	2	4	3
Increasing Training of Personnel and People's Awareness of Tax Importance			1	4	2
Mechanization of Tax Collection				1	1/2
Time and Costs of Tax Collection					1

Non-Compliance Rate

Non-compliance is probable in the real world, and we may transfer it to the model. Expert Choice software is able to calculate non-compliance, distinguish the most non-aligned

judgment, and obtain the suitable suggested rate for compliance. When it is less than 0.1, non-compliance is acceptable; otherwise, the judgments may be revised. The following table indicates non-compliance rate related to each level of expectations of taxpayers and tax receivers.

Table 3: Non-Compliance Rate

Evaluation Measure	Taxpayers' Expectations	Tax Receivers' Expectations
Non-Compliance Rate	0.06	0.17

As found out in the table, non-compliance rate for measure of tax receivers' expectations is unacceptable, and since the change of judgments is necessary for solving this problem and the judgments are arisen from average of opinions of respondents, we don't change the judgments and continue with current judgments.

FINAL WEIGHT (ABSOLUTE)

Final weight in each evaluation measure shows the importance of each selected option in that measure.

Table 4: Final Weight of Tax Receivers

factor	prospects
Development of Suitable Tax Culture and Law	0.311
Economic Measures and Indicators of Tax Collection	0.303
Increasing Training of Personnel and People's Awareness of Tax Importance	0.247
Mechanization of Tax Collection	0.085
Time and Costs of Tax Collection	0.054

Table 5: Final Weight of Taxpayers

factor	prospects
Development of Suitable Tax Culture and Law	0.325
Economic Measures and Indicators of Tax Collection	0.294
Increasing Training of Personnel and People's Awareness of Tax Importance	0.214
Mechanization of Tax Collection	0.101

Time and Costs of Tax Collection	0.066
----------------------------------	-------

After obtaining final weight, the last step in decision making is integration of weights for options prioritization.

INTEGRATION AND PRIORITIZATION OF OPTIONS

The importance of taxpayers' and tax receivers' expectations to each other shall be determined for integration of options. In this research, the equal importance was supposed for them so that the options were finally prioritized with integrating obtained weights and enforcing judgments as follows:

- 1- Development of clear and enforceable tax culture and law with 26.3% out of final priority;
- 2- Increasing training of personnel and taxpayers' awareness of tax importance with 20.04% out of final priority;
- 3- Time and costs of tax collection with 20.02% out of final priority;
- 4- Mechanization of tax collection with 17.1% out of final priority;
- 5- Economic measures and indicators of tax collection with 15.9% out of final priority;

According to the obtained results and presented prioritization, it is observed that development of clear and enforceable tax culture and law, and increasing training of personnel and taxpayers' awareness are the most important factors effective on tax quality so that they included only 46.34% of final importance.

Table 6: Comparison of Final Weights for Each Evaluation Measure

factor	Prospects Taxpayers	Prospects Tax Collector
---------------	---------------------	-------------------------

Development of Suitable Tax Culture and Law	0.214	0.311
Economic Measures and Indicators of Tax Collection	0.066	0.247
Increasing Training of Personnel and People's Awareness of Tax Importance	0.101	0.303
Mechanization of Tax Collection	0.294	0.054
Time and Costs of Tax Collection	0.325	0.085

RESEARCH RESULTS

The current research was performed under title of using AHP in study of effective factors on tax quality in Iran in order to recognize and rank effective factors on tax quality according to the tax receivers and taxpayers. The research results will recognize the importance and influence of each effective factor related to tax in viewpoint of two parties. After carried out studies, the results of this research showed that effective factors on tax quality according to the final weight they have are as follows:

Ranking factors according to the tax receivers is as follows:

- 1- Development of clear and enforceable tax culture and law with 0.311% out of final priority;
 - 2- Increasing training of personnel and taxpayers' awareness of tax importance with 0.303% out of final priority;
 - 3- Time and costs of tax collection with 0.24% out of final priority;
 - 4- Mechanization of tax collection with 0.085% out of final priority;
 - 5- Economic measures and indicators of tax collection with 0.054% out of final priority;
- The vision of this group, Development of Suitable Tax Culture and Law will Improve the tax system

Ranking factors according to the taxpayers is as follows:

- 1- Development of clear and enforceable tax culture and law with 0.32% out of final priority;
- 2- Increasing training of personnel and taxpayers' awareness of tax importance with 0.29% out of final priority;
- 3- Time and costs of tax collection with 0.21% out of final priority;
- 4- Mechanization of tax collection with 0.10% out of final priority;
- 5- Economic measures and indicators of tax collection with 0.06% out of final priority;

When two groups (Tax Collectorha and Taxpayers) have equal expectations rank there are as follow:

- 1- Development of clear and enforceable tax culture and law with 26.3% out of final priority;
- 2- Increasing training of personnel and taxpayers' awareness of tax importance with 20.04% out of final priority;
- 3- Time and costs of tax collection with 20.02% out of final priority;
- 4- Mechanization of tax collection with 17.1% out of final priority;
- 5- Economic measures and indicators of tax collection with 15.9% out of final priority;

Table 7: final Comparison

factor	Prospects Taxpayers	Prospects Tax Collector	Integration and Prioritization of Options
Development of Suitable Tax Culture and Law	0.214	0.311	26.3
Economic Measures and Indicators of Tax Collection	0.066	0.247	20.04
Increasing Training of Personnel and People's Awareness of Tax Importance	0.101	0.303	20.02
Mechanization of Tax Collection	0.294	0.054	17.1
Time and Costs of Tax Collection	0.325	0.085	15.9

According to the obtained results, if expectations of taxpayers and tax receivers are in the same level, development of tax culture and law is the most important priority. Development of clear and easy to enforce tax law and culture is one of the most important ways of reaching qualified tax. In a tax system, it is necessary to pay attention to and manage culture as a principal infrastructure. The best tax law, facilities, methods, resources and other facilities will be ineffective if the believes, values and formalities of society and generally tax culture are not considered [11] [12]. Therefore, according to the obtained results, development of tax culture in developing countries shall be studied in a scientific and research method as the first and most important result of this proceeding is to change viewpoint of taxpayers from obligatory payment to voluntary payment. As already mentioned, complicated nature of tax law and regulations have caused some problems for voluntary tax payment. An outcome of

complexity of tax system law is to generalize this thinking of unfairness of tax in society and tax racism. Many entities dealing with the tax system directly or indirectly believe that simplification of tax law and regulations is required for ensuring the continuation of self-declarative programs. Other effective factors are: increasing training of personnel by holding training courses for tax experts' awareness of modern technology for further facilitation and behavior to taxpayers (encouraging taxpayers to due payment of tax and honoring clients), and also taxpayers' awareness of importance of tax payment by increasing activity of mass media in this regard.

Tax collection costs, including administrative and payment expenses, refer to the administrative and executive costs for tax collection. They include all expenses required for receiving tax and period of time spent by taxpayers for preparing and filling out the tax forms, learning tax law, recording and maintaining their financial activities for tax purposes. They also include any type of costs the taxpayers pay for tax evasion, preparing tax forms and declaration and tax payment by others, and reply to auditors. Thus, the less tax collection costs, the higher quality of tax.

It shall be said finally that paying further attention to each mentioned factor especially the factors with higher priority will mainly help to improve the tax structure and have the high quality tax.

REFERENCE

- [1] Fitz Simmons, James A. Mvnajy Fitz Simmons "Service management, strategy, operations and information technology".(2001)
- [2]Abas ,Elahe Hejazi and Zohre Sarmad(1377), "Research methods in the behavioral sciences"Tehran .Negahe no Publication
- [3]Azar.Adel andAli Rajab zade(1381) "Applied Decision"Tehran. Agah Publication
- [4]Tofig,Ali asgar(1378) " Decision Making for Managers"Tehran. Industrial Management
- [5]Asgarpor,Mohamad javad,(1377), "Multi-criteria decision",Tehran, Tehran University Publication
- [6] Belton, V. and Steward, T. (2002). **“Multiple Criteria Decision Analysis”**, Kluwer Academic Publishers, Dordrecht.
- [7] Saaty, T. (2007). “Time dependent decision-making; dynamic priorities in the AHP/ANP: Generalizing from points to functions and from real to complex variables”, **Mathematical and Computer Modeling** vol 46, pp.

860–891.

[8] Barbuta,n,(2008): “Economic and Non-Economic Factors for Tax Compliance”
University of Galati

[9] Fuest, c, Peichl, a, Schaefer, t, (2006) “Does Tax Simplification yield more Equity and Efficiency? An empirical analysis for Germany”, Center for Public Economics University of
Cologn

[10] Chamberlain, J and Castleman, T.(2002) , “Egovernment business strategies and services to Citizens: an analysis of the Australian e-tax system” Deaking university, Faculty of
Business and Law

[11] T. N, Pandey, Develop a Tax Culture for Better Compliance, October 27, 2003

[12] Nerré, Birger, "The Emergence of a Tax Culture in Russia", **Paper presented at** ;
"The57th Congress of the International Institute of Public Finance: The Role of Political
Economy in the Theory and Practice of Public Finance. August 27-30, 2001, Linz, Austria.
Forthcoming in: **Working Paper Series** in Public Administration No. 20/2001, School of
Management, St. Petersburg State University, St. Petersburg, Russia, p. 2.