Identifying and Prioritizing the Requirements of Putting in Practice Value Added Tax System

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Abstract: The managers of taxation systems have been faced by renewal challenge of their taxation systems in the developed and developing countries so that they would be able to act efficiently on taxation problems which characterized by smart computers and communication technology- in the ever- increasing growing economy. This paper aims at applying two techniques of QFD and AHP to identify and prioritize the requirements for VAT taxation system which are always considered as one of the reformation bases in the countries taxation systems. AHP has been used to prioritize taxpayers’ requirements in VAT based on several important criteria during QFD importance phase so because of computations higher scale and paired comparisons, Expert Choice software was applied to calculation of weights. The obtained results of this study may be applied to taxation executive policy making as well as other related decisions.

Key words: Taxpayer • Value Added Tax (VAT) • Quality Function Development (QFD) • Analytical Hierarchy Process (AHP)

INTRODUCTION

Today, giving high quality services in any kind and field is highly important, so the governmental offices are kinds of organizations which need to improve their services quality. One of the most important of such organizations is Taxation Organization which extremely interacts with the clients.

In today world, tax is the way for meeting countries public costs such as administration of security, healthcare and treatment, education etc, so the governments require appropriate and permanent sources and the tax is the most significant source for governments to meet their costs. This source (tax) constitutes major portion of governmental revenues in advanced and developed countries; accordingly, reliance on tax revenues, as a stable source, signifies the healthy economy in these countries. Clienteles Reverence Plan in status taxation departments is highly important so it is remarkably addressed. It is because of this fact that the level of taxpayers’ satisfaction plays a crucial role in their participation method and interaction level with the given organization.

Value Added Tax (VAT) is considered as one of the most prevalent and modern taxation system around the world. The VAT Taxation Statute was notified by The Respected President after approval by Islamic Consultative Assembly and verification of Guardian Council and it has been executed since October 2008.

Underlying both views of the VAT as a beneficial expansion of the armory of tax instruments available to governments, or as all too easy a source of revenue-is a common presumption of fact: that adoption of a VAT makes it easier to raise revenue and in that sense improves the efficiency of the overall tax system [1].

Despite of the extraordinary importance of such taxation on governmental revenues, in this regard, giving services has been faced with several problems due to some various reasons like novelty, ambiguity in some legal cases, the electronic process of all stages, lack tax experts’ proficiency on legal cases, taxpayers’ amazement etc. On the other hand, taxation machinery should be in such a way that it could be executable and appropriate for personnel as well. Whereas this Law was newly ratified in Iran, the existing problems are not out of the expectations. But the important point is how to confront with these problems: that is the method of correction of structure and machinery to improve system effectiveness from different aspects and more satisfaction for taxpayers. Thus it requires an integrated and appropriate method to identify and prioritize needs and problems of the system of different aspects and to provide suitable solutions for...
them. Therefore, in this project it is tried to utilize both QFD and AHP techniques to solve such problems. Quality Function Development (QFD) is a highly efficient and effective method to realize “Customer Orientation” within the organization.

In general, with respect to services growing importance, it requires more focus and paying attention to the management of service organizations. Additionally, the increasing expectations of customers and competition and speed of technology development denote that service organizations should seek new methods for design and giving their services. The new techniques and technology represent the opportunities for development of new services and/ or improvement of such services [2].

Even if the best world taxation policies might not be applied efficiently, they would be valueless. Therefore, one should take accurately all allocation executive dimensions of taxation in design of taxation policy in the developing countries [3].

In direct taxes, the policy- making and priority execution have shared almost 50-50, but in VAT unit, execution priority plays a more prominent and outstanding role than policy- making. This is because of the fact that we meet taxpayer for other taxes and taxation sources once a year. But for VAT, The meeting frequency is four times a year, at least and with respect to this fact that payers of this tax are not the genuine taxpayers, since VAT will be on end users’ onus, while the tax return mechanisms are running, so the only failure factor for the countries which could not practically and properly execute this Law at first phase, laid in the execution stage [4].

Questions of Research:

- What are the important requirements and problems of taxation system and taxpayers?
- What are the prioritized needs based on indices?
- Would solutions prioritization lead to change in them by integrated method?

The main goal is Application of QFD and AHP integrated methods for identification and prioritization of VAT requirements implementation.

Literature Review: In this section of the study, we deal with investigation into the literature concerning to three major subjects in this study, namely Value Added Tax (VAT), QFD and AHP.

Value Added Tax (VAT): VAT as a kind of indirect taxes with tax credit, which is eventually incurred on consumption total costs and it is paid by customer (end user) not entrepreneurs (producers etc.) [5]. VAT is a kind of multi-stage tax- on- sales which exempts goods purchase and intermediate services from tax payment. In the exertion of such tax, tax credit is considered for enterprise intermediate purchases so this removes cascading taxation phenomenon in implementation of such tax [6].

 Though exploring Thailand economic system, Sujjapongse S. (2005) shows that the acquired taxes from any kinds of tax sources between 1998 to 2003 are as [Figure 1] [5].

Taxes basis development, being self-control, reduced tax loophole (circumvention), increased production motive, stable and flexible income, gradual disambiguation of economic transactions, transactions traceability in imports chain, production, delivery and consumption, supporting of investment and production and exports encouragement by exertion of (dues) zero rate are some features for Value Added Tax.

Tax System Reformation Process: The reformation of tax system further succeeds when there is a systemic view over it, since tax system reformation essentially includes
multiple goals (obtaining income, promotion of economic efficiency, justice administration and management effectiveness) and assessment of tax tools and bases reactions. Having a systemic view on tax system reformation has a lot of advantages.

Even where there are some remarkable and main benefits resulted from certain taxes reformation and or an improvement in tax management or its rules execution- in most of cases it is so- segmental reforms should be designed in such a way that it could strengthen taxation system, instead of it weakening. In other words, reformation of taxation structures is generally effective when it is accompanied with improvement in taxation management [7].

The issues which are concerning to reforms of taxation systems within different countries mainly deal with taxation rating and policy making; despite of this fact, it is worthy to note the following cases which related to executive improvement of taxation system through investigation into different published sources, essays and books:

Some of techniques that should be considered in all taxation system reform strategies: Simplification of taxation system in order to facilitate execution and reduction of costs for obedience, to encourage voluntarily obedience, reformation of taxation and accounting rules, an integrated attitude toward tax collection process [8].

Professor Richard M. Bird encounters the executive dimensions of tax reformation in this way: Keeping taxation system simple, to deem taxpayer as a customer, focus on facilitating submission through unambiguous regulations, comprehensible forms, giving on time information, coordination with taxation third rank officials like banks, the effective execution of punishments, to keep taxpayers honestly, computerization and reformation in taxation system [9].

Some methods to improve taxation systems: Computerization and the relevant procedures, organizational information and Human Resources (HR), to use aid by auditing institutions, rules rationalization, training of taxpayers, improvement of information and attending systems [10].

Carlos Silvani and Catherin Baer note the following issues about description of executive dimensions of taxation reform:

Simplification of taxation system, reduction of submission cost, encouragement of tax submission voluntarily, codification of transparent strategy, integration, distinctive behavior toward taxpayers based on their age (old and young), prioritization and timing. Similarly, the major bottlenecks which were identified include:

Enrollment of taxpayer, processing tax declaration letters and payments, computer operation, to identify taxpayers who lack tax declaration letter, different taxpayers, system of punishments and fines, services for taxpayer, giving information and organization of personnel [3].

In thirty sixth annual report prepared by UK Common House which called “struggle against VAT circumvention”, some methods have been implied to reduced tax circumvention such as: Updating information in Custom House, to utilize appropriate information system, modernization of the current systems, improvement of fine system, training of personnel, survey taxpayers based on their magnitude [11].

In a report which drawn up by GTZ some issues were considered about execution of VAT Law in Iran. At first part of this report, some technical points about reforming trend of VAT (taxation policy) have been implied which include: VAT rate, VAT exemption and VAT zero and threshold rate. At the second part of this report, some cases about taxation systems and procedures were implied, including: Well-trained motivated personnel, procedures, Custom House, banks, IT, communications and time deadline [12].

Govinda Rao (encounters generally the conducted reforms in Indian taxation system in this way: Simplification, reduced exemptions, reduced ambiguities, disambiguation and improvement of information system [13].

Sujjapongse explored the present and past taxation system in Thailand and expressed the conducted reforms in this field. At this essay, it is implied that establishment of VAT system is in itself as one of the conducted reforms in this respect and it was introduced on January 1992. VAT rate is 7% in Thailand [5].

Yesegat expresses some cases about VAT in Ethiopia which requires review and reformation as follows: Identifying and enrolment of taxpayers, Tax payment method, control, issuance of sale invoice, VAT auditing, fines, VAT declaration letters [14].

In their studies, James R. and Hines Jr. examined the effective factors on taxation system, replied to this question: “Do different countries want tax or not?" in this way that approximately 15% of countries wish for receiving tax where most of these countries are small but well-to-do nations. This essay dealt with proving a powerful empirical order so that the countries with better controlling system desire more for tax- payment than other countries. Control over the relevant factors and
considering quality highly affect on possibility of tax acceptance. In a certain country with a population lower than one million, if quality controls promote, tax acceptance possibility may increase tax payment from 26% to 61% [15].

**Vat in Iran:** The summary of VAT system execution trend in Iran is as follows:

*July 2008:* VAT Law was notified by president of Islamic Republic of Iran.

*September 22 2008:* Execution of VAT Law by taxpayers at first-stage (Enrollment deadline: Sept.21, 2008)

*September 23 2009:* Execution of VAT Law by taxpayers at second-stage (Enrollment deadline: Sept.22, 2008)

*March 21 2010:* Execution of VAT Law by taxpayers at third-step (Enrollment deadline: March 20 2010)

Iran introduced value added tax (VAT) in the year 2008 and became one of the principal source of revenue for the Iran government. Members of the Parliament approved in January 2008, to implement VAT on pilot for 5 years. They already decided to ratify VAT bill under Article 85 of the Constitution and hence referred it to the Economic Commission for approval.

The value added tax (VAT) is imposed on a wide variety of goods and services supplied in Iran and on imports at a single rate of 3%. Exported goods and services are also taxable but some at a 0% rate, dependent upon the destination.

In accordance with Article 85, the bill was referred to Economic Commission for review and approval. The commission approved the bill after many sessions (with presence of tax authorities and experts) of reviewing reforming and annexation of many articles and clauses.

An articles of the bill exempts supplies of following goods and services and from VAT: unprocessed agricultural products, live stock and live birds, aquatics, honeybees and silkworm, fertilizer, pesticide, seeds, flour, all varieties of bread, meat, cube sugar, sugar, rice, grains, soy, milk, cheese, vegetable oil and formula used as baby food.

The bill also exempts papers used for printing, writing and newspapers, goods donated free of charge to the ministries, goods imported by passengers into the country as for personal use (up to the amount of exemption provisioned under export and import regulations), Immovable properties, all kind of medicine, medicinal effects, medical services (for human, animals and plants), rehabilitation and supportive services, financial and credit services of banks, credit institutes and cooperatives, interest free lending funds and cooperation funds.

Other services exempted from VAT include Services subject to wage and salary income tax, handmade carpets, inter-city and intra-city public passenger transportation and aerial, marine and railroad trucking services, all kind of research and training services, livestock, cattle and poultry food, radar and auxiliary airway controls for airports, goods used exclusively for defense (martial and disciplinary) and security purposes.

It should be noted that this Law included a vast spectrum of goods and services and only some of highly consumed commodities and goods were exempted from this Law.

The tasks of VAT system taxpayers are: Enrollment in taxation system of VAT, calculation and demanding of 3% in their sale invoices, submission of VAT declaration letter every three months, keeping its documents and presenting them upon the attending time.

**Quality Function Deployment:** Shahin expresses term QFD as equivalent to phrase “quality development system” and or “Quality Function Development” which is derived from Japanese (transliterated) terms “Hin Shitso” (i.e. quality, property or attribute), “Ki No” (denotes task or performance) and “Ten Kai” (namely development or expansion) [16].

“QFD is generally characterized by three different methods and views which founded by Acao, Macabe and Fukoha” [17].

The fundamental idea of QFD is to translate the VsOC (customer requirements) into the final product and/or service quality. The whole translation process can be considered in stages, for example: from customer requirements to product features; from product features to design requirements; from design requirements to process requirements; and finally; from process requirements to processes/methods [18].

The Quartile matrix which is more common than other techniques is according to Figure 2.
Fig. 2: Extension of customer’s requirements and needs for product, process and design (From right to left) (Cindy A, 1994)

QFD general steps as follows:[18]

- Identifying customer, determination of target customer
- Gathering customer’s requirements into the given product
- Categorization and ranking of customer’s desires based on their importance order for him/her
- The assessment of the given product situation in relation to the competed product in market based on customer’s view
- To measure product quality technically and in terms of technology, in relation to the competed product based on QFD engineering team’s viewpoint
- Environmental mutual impacts and products
- Accurate and specialized identification of product quality cycle.
- To convey customer’s desires to HOQ and complete them.

Many existing elements in industry are mentioned in application of QFD in service organizations, like sale points (correction coefficient), improvement ratio and in some projects, determination of the quantities of goals for customer’s desires and qualitative parameters is a difficult task.

Analytical Hierarchy Process (AHP): Analytical Hierarchy Process is one of the comprehensive systems which designated for decision making by multiple criteria. By definition, AHP is a decision technique by which one could take decisions that depend on different criteria and or multiple criteria [19].

This approach allows the decision maker to structure problems in the form of a hierarchy or a set of integrated levels, such as, the goal, the criteria and the alternatives. The primary advantage of the AHP is its use of pairwise comparisons to obtain a ratio scale of measurement. Ratio scales are a natural means of comparison among alternatives and enable the measurement of both tangible and intangible factors [20].

Application of this Technique Requires Four Following Main Steps:

Step 1: Modeling-At this step, problem and decision making goal turn into hierarchy from decision elements which are related to each others. Decision elements include decision making indices and decision options.

Step 2: Preferential judgment- Based on each index, some comparisons are made between decision different choices and for importance of decision index, paired comparisons are done.

Step 3: Calculation of relative weights- Priority and importance of decision elements are determined to each other by a set of numerical computations.

Step 4: Merges of relative weights- This step is done for ranking decision options.

Summary of Research Literature: VAT is one of the most important public taxation tools which newly introduced. Some of interpreters imply this kind of tax as an economic efficient source and they assume that if it is inappropriately designed, it may affect on decision that made by private sector. Anyway, the executive costs and costs for calculations, collection, auditing and taxation department may be high. Therefore, all of VAT implementation stages, from legislation to execution are very important. Most of conducted studies in this field have implied law and policy making subjects, while dealing with some cases such as threshold level, taxation rates and their multiplicity, exemptions, exploration of legal cases and the like. But its administrative and executive aspects are remarkably important. In fact, one could say that there is no optimal taxation structure, but a reference and useful set of such taxes has been created. There is no single
regulation for designation of taxes system or even a certain kind of tax and no one could find a country where all taxes are optimally designed. So the reform process of taxation system is not a fixed process and it is different within various countries based on the existing conditions and exigencies.

The other important point in planning all organizations is the prioritization of the needed measurements and we did not come across any subject about tax field. In this regard, QFD and AHP are tools which their various uses in different subject whether in production or services, reflect the higher potential of decision making on it. According to the conducted studies, none of these two techniques have been used in composition and or independently in tax field.

Methodology: In this study, we used a method that integrate QFD and AHP to help enhancing "Value Added Tax" system and identify its needs.

This action aims to determine important user requirements for VAT system in Iran. "Value Added Tax" in Iran is almost a new law, so it's very important that its implementation be successful. Moreover in VAT system, taxpayers are not persons that who pay tax, but they are transmitters of tax, so identifying their needs is necessary.

So the Research’s Steps Are:
- Identifying the taxpayers and personnel’s requirements
- Grouping the requirements (WHATs)
- Recognitioning the importance of each requirement with AHP method
- Form the HOQ and use these weights
- Identifying the technical attributes (HOWs)
- Developing the relationship matrix between WHATs and HOWs

The present study has been conducted in Ghazvin Province Taxation Department General and with respect to research subject, both librarian and field methods were used in this study. Librarian method will be used which include study of the relevant theses, books, essays etc and the field research (questionnaire and interview) is used to identification and prioritization of effective factors on requirements and solutions. After identifying requirements AHP technique has been used for prioritization and weighting such requirements in order to determine the rate of compatibility and proportion of paired comparison, by application of Expert Choice software.

Generally, in this study, the followed the steps that illustrated as diagram 1.

Diagram 1: Research model
Table 1: Constituent members of QFD team

<table>
<thead>
<tr>
<th>Unit</th>
<th>Number of Members</th>
<th>Educational Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrollment and Identification</td>
<td>1</td>
<td>Bs. In accounting and MSc. in management</td>
</tr>
<tr>
<td>Executions and collection</td>
<td>1</td>
<td>Bs. In law</td>
</tr>
<tr>
<td>Services for customers</td>
<td>1</td>
<td>MSc. in accounting</td>
</tr>
<tr>
<td>Auditing</td>
<td>1</td>
<td>MSc. in management</td>
</tr>
</tbody>
</table>

It could be noted that requirements for establishment of VAT system mean the solution which are identified by QFD technique.

The initial point of QFD process is determining the user requirements. Two categories of customers are defined - internal and external customers. External customers are the taxpayers. Internal customers are the organization personnel that affected by it. Because their performance is vital for organization success.

Depth interviews were conducted with fifteen personnel from VAT unit in Qazvin Tax office with 30 taxpayers. According to Griffin and Hauser (1993), 20-30 customers should be interviewed to obtain 90-95 percent of possible customer requirements. Both focus group discussion and depth interviews were used to reduce the disadvantages of each method.

The contributors or participants in the focus group and depth discussions were asked to explain the characteristics of an ideal Tax System. They also said that what are their needs and wants and problems etc. All of them were selected randomly. These wants are commonly referred to as the whats.

In this study, with respect to the special subject of case study - VAT which new and it has not been executed for a long time, some other techniques have been used to gathering requirements in addition to present interview with taxpayers. It is because of the fact that the identified requirements are more authentic and reliable, such as these techniques which include: Observation, approach to companies, reading relevant theses and essays, interview with the experts and personnel who involve in VAT system, interview with some of experts and personnel of other units who have more experiences, study on the information that listed in the sites relating to VAT system concerning to different fields like introduction of this system, polling, question and answer, problems etc.

In this study, it is tried to deal with the requirements of both classes.

Since VAT Law is a newly established law, so it is not unexpected for them to be faced by a lot of problems where the classification of such problems has been done as Table 1, with respect to views from QFD team including some agents in Ghazvin Province VAT different units which attended from the beginning of system execution. Of course, it is worthy nothing that because of the mentioned reasons in the previous sections, it has tried to use directly and indirectly the views of expert colleagues of other units in the similar cases.

To gather the requirements via questionnaire, some questions were asked of taxpayers, experts and personnel about their problems and needs and after collection of the primary information and analysis of this information, fifty nine requirement were identified at first step and classified in eight groups; then at the next stages and during some session which held by QFD team, by using Delphi technique, through deletion of some trivial and or iterative cases or overlapping ones, the number of these requirements and groups were reduced to thirty and seven, respectively. One could observe those groups and their relevant requirements in Table 2.

**Identification of Criteria:** At the next step we should spot some criterias and use them in AHP hierarchy tree. By application management view those criteria were identified, so that first, team members were asked to present their suggested criteria for each requirement. After this step, through views of team members, 14 criteria were selected among them and transferred to the manager. The five overall criteria which selected by manager of Taxation Department General are as follows:

- To create self-declaration tax system?
- To increase tax collection?
- To reduce tax evasion?
- To decrease tax compliance costs?
- Tax justice?

Next stage is to draw requirements hierarchical tree-diagram where the first level includes goal, second level for criteria, third level involving requirements main groups and the fourth group also includes the identified requirements so the questionnaires which are related to paired comparisons have been prepared based on thus chart [diagram 2].
Table 2: The identified requirements of VAT taxpayers and experts

<table>
<thead>
<tr>
<th>Training and information</th>
<th>a1</th>
<th>Being informed on time of rules and procedures without presence of taxpayer in office</th>
<th>Executive properties</th>
<th>g1</th>
<th>Binding all companies to pay tax</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>a2</td>
<td>Being informed of tasks and method of execution of rules and regulations</td>
<td>g2</td>
<td>Observance tax justice and avoiding from discrimination</td>
<td></td>
</tr>
<tr>
<td></td>
<td>a3</td>
<td>Rapid and proper response to questions and problem</td>
<td>g3</td>
<td>Updating information of Taxation Organization</td>
<td></td>
</tr>
<tr>
<td>Administrative and hierarchical</td>
<td>d1</td>
<td>Increase in fast doing affairs</td>
<td>g4</td>
<td>Co-orientation of incongruent rules and regulations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>d2</td>
<td>Improvement of administrative organization</td>
<td>g5</td>
<td>Characterization of exemptions exact list</td>
<td></td>
</tr>
<tr>
<td></td>
<td>d3</td>
<td>not being stranded in office reasonably</td>
<td>g6</td>
<td>To make rules and regulations clear and transparent and reducing number of procedures</td>
<td></td>
</tr>
<tr>
<td>Space and time</td>
<td>b1</td>
<td>Existence of welfare services and facilities</td>
<td>g7</td>
<td>Minimization of exerting personal taste</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b2</td>
<td>Appropriateness of office location in terms of accessibility</td>
<td>g8</td>
<td>Removal problems concerning to attending (tax)</td>
<td></td>
</tr>
<tr>
<td>Personnel’s characteristics</td>
<td>f1</td>
<td>Personnel with the needed ability and adequate trainings</td>
<td>h1</td>
<td>Problems of personnel Increase on organization facilities</td>
<td></td>
</tr>
<tr>
<td></td>
<td>f2</td>
<td>To observe administrative order and discipline and occupational morals</td>
<td>h2</td>
<td>Being proficient in rules</td>
<td></td>
</tr>
<tr>
<td></td>
<td>f3</td>
<td>Confidentiality</td>
<td>h3</td>
<td>Removal living problems completely</td>
<td></td>
</tr>
<tr>
<td>Returns and internet system</td>
<td>c1</td>
<td>Site appropriate accountability, especially at weekends, submission of declaration letter</td>
<td>h4</td>
<td>To change social negative</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c2</td>
<td>Confidence in site</td>
<td>h5</td>
<td>To reduce work high capacity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c3</td>
<td>Disambiguation of some cases and lack of general statement</td>
<td>h6</td>
<td>Transparency of tasks description</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c4</td>
<td>Proficiency over filling out declaration letter</td>
<td>h7</td>
<td>Doing actual assessments and not based on personal taste</td>
<td></td>
</tr>
</tbody>
</table>

Diag. 2: Requirements hierarchical tree- chart
Diagram 3: Requirements prioritization calculated by using AHP via Expert Choice software

At this stage, as it mentioned before, the questionnaires of paired comparisons between criteria with each other and sub-criteria in relation to criteria and choices to sub- criteria were prepared and explained for team members and experts during some sessions; then the questionnaires were filled out.

After doing all comparisons, chart software of priorities was displayed where it showed rate of inconsistency so the higher rate also leads to the increased inconsistency in judgement. Based on this fact that the validity of AHP questionnaires is obtained through calculation of this rate, so all gathered data were entered into Expert Choice software and the inconsistency rate was calculated separately; then the inconsistent questionnaires (more than v 1) were discussed and completed again in these sessions while the rate of their inconsistency was calculated by this software.

After paired comparison and calculation of local priorities of choices and criteria, the overall priority should be calculated for each option. This task is done through synthesis. With respect to different criteria, composition is done for calculation of choices priority. One could do composition for the model wholly or partially. To do this task, the following order is pursued while model scheme is active:

**Synthesize > with Respect to Goal:** Finally and after completing paired comparisons matrices, the requirements importance was calculated as diagram 3 and inserted in HOQ.

Synthesis could be done in two ideal and distributive forms. At first mode, the overall priority is obtained where first in each criterion, the option priority is divided by the greatest priorities (Unlike the second mode where sum of priority is set to one), then the resulted number is multiplied to the given criterion priority. By adding the resulted figures, a number is allocated for each priority. In distributive mode, criteria priority is divided based on choices priority. Thus sum of choices local priority is equal to the related criteria priority under each criterion. (Ghodsipour, 2000) Since one of application cases of distributive mode is in a situation where choices priority is considered, not selection of the option with maximal rank, so in this study, the second mode of synthesis, namely distributive mode, was used in the part that related to AHP application, aiming at determining of customer’s requirement priority. All these computations were done by Expert Choice software. One of the properties of the mentioned software is the ability to receive quantitative and qualitative data.

At the present study, in order to exist a criterion for comparison, by using taxpayers’ views and through the delivered questionnaires among them, requirement were also prioritized and entered into HOQ again while prioritizing solutions.

**Determination of Effective Factors and Formation of House of Quality (HOQ):** To find effective factors and their relations and the relationships among requirements and effective factors, the views of QFD team were used.
Table 3: Effective factors on House of Quality (HOQ)

<table>
<thead>
<tr>
<th></th>
<th>Communication</th>
<th>8</th>
<th>Technology infrastructure</th>
<th>15</th>
<th>Space and facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Simplification</td>
<td>9</td>
<td>Personnel’s job satisfaction</td>
<td>16</td>
<td>Tax rewards</td>
</tr>
<tr>
<td>2</td>
<td>Cost reduction</td>
<td>10</td>
<td>Creation of tax culture</td>
<td>17</td>
<td>Work capacity</td>
</tr>
<tr>
<td>3</td>
<td>Information updating</td>
<td>11</td>
<td>Rules and procedures</td>
<td>18</td>
<td>Personnel’s behavior and morals</td>
</tr>
<tr>
<td>4</td>
<td>Integration</td>
<td>12</td>
<td>Objectivity and justice</td>
<td>19</td>
<td>Internet system</td>
</tr>
<tr>
<td>5</td>
<td>To create trend stability and consistency</td>
<td>13</td>
<td>Examining reformation</td>
<td>20</td>
<td>Personnel’s accuracy and skill</td>
</tr>
<tr>
<td>6</td>
<td>Reduced administrative formalities</td>
<td>14</td>
<td>Fast action</td>
<td>21</td>
<td>Confidence building</td>
</tr>
</tbody>
</table>

At this stage, each of members was asked to introduce the effective factors on each requirement. Similarly, in identification of these factors, some methods were used like study of books, the relevant researches as well as domestic and foreign essays. After collection of all data, totally 69 factors were identified and eventually and after conducting analysis and investigation by group, deletion of reiterative (similar) and trivial factors etc, 21 effective factors were considered to complete HOQ as Table 3.

It is observed that the number of identified factors is not few, so this signifies that Iranian taxation system has a lot of problems which require improvement. By HOQ relations matrix, the impact of each of product technical specification (effective factors) on customer’s requirements and desires is characterized and presented. With respect to different factors, QFD executive team determined the given relations. In some cases, an increase or decrease in one of engineering properties may affect directly on other engineering features. To address such correlation among product engineering specifications, the way of correlations with some special signs is characterized in ceiling part of HOQ.

At the present study, because of a large number of calculations, only the positive correlation has been considered. It requires noting that overall priority of factors is characterized based on the percentage which determined by group after calculation of direct and indirect impact where such percentages are considered based on experiences by group members and librarian study:

Overall priority = 0.6 (Direct priority) + 0.4 (Indirect priority)

Determination of Solutions and Completion of Product/Service Design Matrix: To improve effective factors, the solutions should be identified which are effective on satisfaction of customers’ requirements and needs. For this purpose, while we dealt with interview with experts of VAT and its performance, study of essays, magazines and the related theses and referring to the given site, 115 solutions were gathered among of them we selected 39 solutions based on group’s view and entered them in QFD second matrix where they are shown in table of effective factors and solutions. These relations were determined by group’s view. Indirect priority of solutions which has been also indicated in table of solutions effects on each other was calculated with respect to view of the group; and eventually, by discerning of the members and with respect to the following formula, overall priority has been calculated:

Overall priority = 0.8 (Direct priority) + 0.2 (Indirect priority)

Solutions:

- Giving services to taxpayers so that such services to be accessible for them via site etc at high level
- Planning and object-orientation of auditing activities in terms of prioritization, equalization of examining techniques, determining of important and noticeable cases in these examinations, identifying and introduction of tax circumvention ways, to identify prosper taxpayers at the next stages of examining etc.
- To prepare ground for returning (tax extra value) to taxpayers quickly such as identifying accurately the needed items for the file, omission of non-essential administrative formalities, addressing the fines which were considered in taxation organization in this respect etc.
- Confidentiality, safekeeping and avoidance from revealing taxpayers’ information
- Utilization of appropriate and updated hardware and communication facilities for mechanization of affairs as possible
- Review of the existing administrative procedures and codification of new procedures if possible
- Allocation of more material sources to taxation management to meet personnel’s financial and spiritual satisfaction through some ways such as Allocation of adequate budget, considering sport and recreational facilities etc.
Designation of different systems for surveying taxpayers according to their magnitude and formation of LTU in VAT Deputy.

Accurately determination of the needed cases in examination in order to be prevented from exertion of individual tastes as it possible.

To absorb and increase educated personnel in different fields of accounting, auditing and expert in computer sciences

To generate auditing software

To make the leading companies to be obliged for delivery of declaration letter along with auditing report

Synchronization of VAT examination and tax over income to decrease work of examination officials as well as further satisfaction of taxpayers

To increase internet site facilities through setup a system for using taxpayers’ digital signature to reduce needing of taxpayers’ presence in taxation organization and formation online systems for such cases like issuance of certificate of clearance, enrollment certificate, tax payment

Coordination of offices and organizations which are related to taxation organization in some way such as Custom House, BMI to prevent taxpayers from being stranded in the given office

Amendment of administrative organization so that the amount of taxpayer’s transport is minimized between different units

Planning to train personnel regularly and to increase information and abilities as well as holding training classes for acquaintance with accounting software which are applied to many companies and for personnel of examining unit in order to increase examinations speed and accuracy.

To provide training manuals and brochures for taxpayers.

To establish turn-taking system for taxpayers in service units.

To increase internet bandwidth and reaching site to the reasonable level of confidence.

To adjust forms and declaration letters so that the ambiguous items may be removed and the requested and mentioned information in declaration letter maximally conform with the required cases in examination process.

And at last the priorities which were calculated by Expert Choice software and the priorities which were computed based on taxpayers’ views are entered into HOQ separately and QFD next steps are implemented where the calculated priority for solutions are as Table 4.
As it seen in Table 4, four first priorities which obtained from both techniques are identical so it shows that experts and taxpayers have close views on prioritization and the identified requirements and solutions are adequately valid.

**DISCUSSION AND CONCLUSION**

In many countries where VAT system has been implemented, this tax is considered as prior tax items for government in terms of income generation. Even in some close countries, approximately half of governmental tax revenues are provided by this technique.

Using the experiences of other countries, one could focus on this point because of its novelty within taxation system, so for successful execution of this system all needed conditions and beds in national economy, taxation organization, public culture as well as all the relevant organization to this system should be provided. Unless, tax circumventions reduce effectiveness of this tax and lower it down to the level of a simple tax on sales along with all its negative consequences in efficiency, justice and exports. There is no doubt and no one could deny this fact that taxation system is weak in Iran whether in terms of collection of revenue for government or in terms of moving toward more justice delivery of income, so it is completely criticized because this prepares ground for greater tax circumventions. Under these circumstances, to enact a type of new tax does not seem so rational, regardless of necessity of appropriated bedding for its implementation.

In practice, the favorable tax is one that is tolerable by different strata of taxpayers and taxation good system is what it could realize three aims: Efficiency, justice and ease.

Some sparse studied were conducted to identify the problems and requirements of taxation system, but no study has ever been carried out in order to dealing with the prioritization of such requirements. At the present research, Iranian VAT system was studied and some solutions were purposed to promote it. It is clear that the taxation system which has been governed over our country has a lot of weakness, so in the execution of VAT system where we are at its beginning, we should try as possible, to identify the existing problems and predict the possible problems, while seeking for an appropriate design for the system. One of important advantages of this study is in that at this current study, identification of
system requirements means the solutions which were determined and prioritized through stage and by application of QFD technique; and on the other hand, by using AHP technique, it is possible to prioritize the choices with respect to several criteria. In one hand, utilization of Expert Choice and Excel may cause to do calculations more accurately and quickly.

VAT has a significant role in the revenue system of the Iran government. To sustain VAT’s revenue role in the government’s finance, it is crucial to ensure that the revenue generated by this tax is raised as efficiently as possible. This is usually caused by factors including weaknesses in the administration, that is, the incapacity of the administration to put the attributes of VAT in practice.

A good VAT administration is critical in fully implementing the design attributes of the tax and reducing gaps between the effective taxation and what it is purported to be in the legislation. More broadly, a good tax administration, VAT administration in this case, is important to achieve the policy objectives of a government.

In the context of the above, this paper attempted to identify key problem areas that deserve the government’s due attention by QFD and AHP method. The findings of the analyses suggested that in Iran there is divergence between the effective VAT taxation and the legislation. The main group of problems that need to be attended include tax payers Train and inform, Space and location, Returns and VAT site, Administrative, Hierarchical and speed, Staff traits and attributes, Executive traits and circulars, employee’s problems. All of these groups include some alternatives that they prioritized by AHP and "Expert Choice" software and the mail elements that affect on tax administration have been identified and prioritized. The most significant of them are Stability and unit of procedures, Laws and circulars, Taxpayers informing, Internet site, Simplifying.

Accordingly, the Responses for the Questions of Present Study Are as Follows:

First Question: “What are the important requirements and problems of taxation system and taxpayers?”

As it described in [Table 2], the requirements and problems of VAT system are placed into several groups including: Training and giving information, administrative and hierarchical, space and location, personnel’s characteristics, declaration letter and internet system, executive properties and procedures and the personnel’s problems where each of them are subdivided into detailed items. This point is noticeable that these are not few numbers so reformation in Iranian taxation system is an important process which requires a great deal of care and attention.

Second Question: “What are the prioritized needs based on indices?”

At the current research, the requirements were prioritized based on several selected criteria through AHP technique and Expert Choice software where the results are observed in Diagram 3. Accordingly, three first priorities of requirements concern the rules, so this indicates the severe weakness of Iranian taxation system regarding to rules and procedures and lack of perfect knowledge in taxpayers about this subject.

Third Question: “Would solutions prioritization lead to change in them by integrated method?”

To answer to the third question, Spearman- Pearson correlation test was used where the given data was entered into SPSS software, so the results were the same at both techniques. The mentioned hypotheses are as follows:

\[ H_0: \rho = 0 \]
\[ H_1: \rho \neq 0 \]

Sig calculated values were less than 0.05 in both methods, while assuming zero is refuted i.e. there is a significant correlation among both techniques. This shows the calculated priorities in both techniques (Integrated QFD-AHP and QFD) - are almost identical which observed at [Table 4].

Comparative Study: Each of the studies that were conducted about improvement of tax management system has explored some cases of effective factors and in Table 5, a comparison was done between these studies and the identified cases.

Some of the mentioned factors have not been implied in other countries and by others. On the one hand, some of these items were identified by a few authors so after exploring the study results, it is seen that they are the same cases which are more important than the rest of factors at this study and this shows that the major problems in the countries are similar in the field of executive reforms.
Table 5: Comparison of identified factors in Iran with other countries

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