

*Full Length Research Paper*

# **A quality function deployment approach to HR strategy formation and prioritization: Meeting client satisfaction in service organizations**

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**Client satisfaction itself is a criterion for assessing service organizations in public sector. To reach to organizational objectives, HR strategy plays an important role. Clients usually faced with the human elements of public entities. Therefore, a client driven approach to HR strategy formation would benefit both organizations and clients. QFD is an effective client driven service development tool for inserting client requirements to design process. A customized version of QFD has been utilized to apply client needs in the process of HR strategy formation. Hence, the goal of this study was twofold: to prioritize the client needs and to propose appropriate HR strategies to meet them. This paper examined the applicability of QFD technique in HR strategy prioritization by using a two-stage methodology in which firstly, client needs were ranked and then QFD team used House of Quality to correlate the client needs and HR strategies. Results show that craft strategy scored the first (370.10). Between HR practices, high mobility scored the first important practice (398.08). Also, clients ranked assurance (5.59) as the first important dimension of satisfaction. The method used here is a demand oriented tool for public entities to improve their client satisfaction.**

**Key words:** QFD, HR strategy, client satisfaction, ACO.

## **INTRODUCTION**

Service organizations are facing with a growing demand of faster and on-time service delivery. In recent years, the demand is growing faster. Clients of public organizations want instant services as they check their bank accounts or register online in a few seconds; they hate standing in queues for receiving those services. One cause would be due to information revolution. Viewing from the public organizations glasses, it is human resource (HR) as the most valuable capital to meet that growing demand for services. The other kinds of capital – physical, financial, and information capitals – are also important; but it is the human capital that exploits the other resource to reach to organizational goals. Therefore, this human capital must be managed in the way that the organizational stakeholders (clients are the most important ones) would be satisfied. Exerting clients' needs in HR strategy

selection and prioritization as an input is a demand driven approach to HR management. Despite the importance of designing HR strategies in public organizations, there was rare evidence of studying on HR strategy formation based on using clients' needs in the formation process, as far as we know. One of the effective techniques used by industries to implement their customer requirements to product design and development is quality function deployment (QFD). We wanted to customize this helpful technique in HR strategy prioritization through collecting of clients' needs in Art and Culture Organization (ACO) of municipality of Tehran as a service organization in public sector. While a great deal has been written about QFD, there was no study to date focused on HR strategy formation utilizing QFD approach. Therefore, the best tool for exerting clients' needs in HR strategy formation would be QFD, as it was successfully being accomplished in many companies. QFD offers a rigorous analysis methodology for understanding client outcomes and developing comprehensive service specifications. QFD

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tools and principles are traditionally used for product development, but they are just as appropriate for the development of business strategy (Walker, 2002)

The aim of this study was to (1) prioritize the most important needs of the clients of ACO; and (2) select and prioritize the best HR strategies and their related HR practices to meet those clients' needs. The research was to answer the following questions: regarding the research model, which clients' needs would be scored as the most important priorities to be met by ACO? Which HR strategy and its related HR practices would be ranked by QFD team as the most important to be implemented by ACO? Findings show that craft strategy ranked the first (370.10) and internal market strategy (346.61) ranked the next. Between HR practices, high mobility scored the first (398.08), well-prescribed career paths (391.99), and guaranteed job security (391.33), were scored the second and the third. In terms of client needs, assurance (5.59) ranked the first important dimension of satisfaction by the clients and prompt services (8.20), continuously courteous employees (8.12), and exact time of service delivery (8.09) were ranked as the most important sub dimensions respectively.

## LITERATURE REVIEW

QFD is a structured approach to seek out clients and understand their needs. It begins by matching client requirements with the necessary corresponding design requirements, which in turn match with necessary corresponding HR requirements to ensure that the needs of the clients are satisfactorily met (Shaw et al., 2001). In this research, we want to improve client satisfaction through prioritization and selection of appropriate human resource strategies utilizing QFD technique. Therefore, the conceptual background of the paper focused on the following themes:

### Client satisfaction

Over the last decade, public organizations of all types and sizes have increasingly come to understand the importance of client satisfaction. It is widely understood that it is far less costly to keep existing clients satisfied than it is to satisfy new ones, and it is becoming accepted that there is a strong link between client satisfaction, client retention and having achieved organizational objectives. For many organizations in the public sector, client satisfaction will itself be the measure of success. Client satisfaction has therefore become the key operational goal for many service organizations. They have invested heavily in improving performance in areas that make a strong contribution to client satisfaction such as better quality and faster service delivery. Organizations in public sector have developed client charters to demonstrate

their commitment to client service, and just about every "mission statement" includes a reference to satisfying or, increasingly, delighting clients (Hill and Alexander, 2000).

Hill and Alexander (2000) defined client satisfaction as a measure of how your organization's total product performs in relation to a set of client requirements. Of course, the client's view of the organization's performance will be a perception. Client satisfaction is in the client's mind and may or may not conform to the reality of the situation. People form attitudes quickly but change them only slowly. Client satisfaction measurement is therefore about measuring how clients perceive organizations' performance as a supplier. This explains why we cannot rely solely on internally generated information as a guide organizations' success in satisfying clients (Hill and Alexander, 2000).

### Human resource strategies

Human resource strategy was defines as the pattern of decisions regarding the policies and practices associated with the HR system (Bamberger and Meshoulam, 2000). Implicit in this definition are two core assumptions. First, the focus of attention needs to be on the HR *system*, not the HR function (Bamberger and Fiegenbaum, 1999). Second, it is impossible to understand the nature of HR strategy without taking both intraorganizational policies and environmental/institutional contingencies into account (Bamberger and Phillips, 1991). Osterman (1987) identified different HR strategies that he claimed arc derivative of the firm's overall business strategy. The craft strategy grounded on the assumption that participants in the labor market are skilled free agents with more loyalty to their occupation than to their employer. Mobility is an accepted fact, with staffing based almost entirely on external sources. Wages determined on the basis market supply and demand, little guaranteed job security, and an assumption that the employer is "buying" rather than developing a set of employee attitudes and behaviors. Employers adopting such a strategy seek competitive advantage by reducing labor costs and ensuring a high degree of stalling flexibility, thus allowing them to avoid having to assume payroll costs when market demand is low. According to this classic external framework, employees forfeit job security in return for control over the work process and market based compensation.

The next type of HR strategies make a second basic assumption, namely that the degree to which a firm views its human resources as an asset (as opposed to a cost) influences the nature of the employer-employee exchange or "bargain". For example, to develop a unique set of employee behaviors, attitudes, and relationships and use employee knowledge about products, processes, clients, and suppliers as a source of sustainable competitive advantage (Kogut and Zander, 1992), employers

viewing their human resources as an asset may be willing to exchange a guarantee of job security, extensive training and organizational career development for an employee understanding that compensation will be governed more by internal equity norms than by the going market rate. This type of employment framework is commonly referred to as an internal market strategy (Bamberger and Meshoulam, 2000). As a kind of hybrid strategy, the industrial strategy, typically adopted in heavily unionized firms, is characterized by narrowly defined jobs with clearly defined job responsibilities and limited internal mobility based, for the most part, on seniority. Employees are viewed as a limited source of sustainable competitive advantage. For example, wages are based on seniority and the actual jobs performed and are less influenced by external conditions, but employers offer only limited career development and retain some right to employment at will. Employees, in effect, exchange control over the work process and external equity in compensation for a limited degree of job security and a guaranteed wage.

Finally, a salaried strategy adopted in firms in which human resources are viewed as a key source of sustainable competitive advantage. It is characterized by a classic view: a strong commitment to job security, job descriptions that are open to revision by management, flexible job assignments, well-prescribed career paths with an emphasis on internal staffing, and a greater emphasis on meritocracy and salary differentiation. The exchange implicit in such relationships is one in which employers demand loyalty, flexibility in job assignments, and the forfeiture of external equity in compensation on the part of employees and in return offer job security, extensive development opportunities, and an organizational career (Bamberger and Meshoulam, 2000).

### **Quality function deployment approach**

QFD can be defined as converting consumers' demands into "quality characteristics" and developing a design quality for the finished product by systematically deploying the relationships between the demands and the characteristics, starting with the quality of each functional component and extending the deployment to the quality of each part and process (Akao, 1990). QFD is a useful client-driven service development tool that uses a series of structured management processes to translate the clients' needs into efficient communication through the various stages of service planning, design, and engineering. QFD provides a comprehensive and systematic approach to new service development, ensuring that new services meet clients' expectations (Chen and Ko, 2009).

The QFD technique is a systematic procedure for defining customer needs and interpreting them in terms of product features and process characteristics. The systematic analysis helps developers avoid rushed

decisions that fail to take the entire product and all the clients need into account (Cohen, 1995). There are four key documents commonly used in carrying out QFD, namely, the overall client requirement planning matrix, the final product characteristic development matrix, the process plan and quality control charts, and operating instructions (Sullivan, 1986).

### **(i) Background of QFD**

Historically, the concept of QFD was initiated by Akao in 1966, expanded in 1969, and published as a system prototype in 1972. Then, the application of idea was widespread towards the individual organizations (that is, Mitsubishi Heavy Industry, Toyota Auto Body, Sawada Auto Body etc.) in different industrial branches (Velle et al., 1997). QFD has been widely used at some of the world's largest and most successful companies including Ford, Hewlett-Packard, General Motors, IBM, Kodak, Procter and Gamble, Toyota, and Xerox (Griffin and Hauser, 1993).

### **(ii) A brief review on QFD applications**

The QFD is a technique for product or service development, brand marketing, and product management. The primary purpose of the QFD approach is to help planners in order to focus on the characteristics of the products or services from the viewpoints of market segments. Furthermore, it is a concept and mechanism for translating the voice of the clients through the various stages of service planning, engineering, manufacturing into product (Celik et al., 2009).

In a broad sense, the QFD method consists of three main steps: (1) identifying the client needs as voice of the client, (2) determining the engineering characteristics of products or services that meet the needs, (3) setting development targets and test methods for the products or services (Celik et al., 2009). By assessing how each "how" (HR strategy) impacts on each "what" (client needs), QFD makes it possible to rank "hows" in terms of efficiency to reach the required "whats" (Eleonora and Antonio, 2006). The tool for correlating Hows, in terms of Whats, is House of Quality whose main parts are illustrated in Figure 1.

### **METHODOLOGY**

The research methodology of this paper was established on the basis of QFD principles. But, the difference was here that this research has been conducted in a public organization in which there would be no competitors. Therefore, this is a customized application of QFD in public management field. The method employed was explained in details through the following three phases:

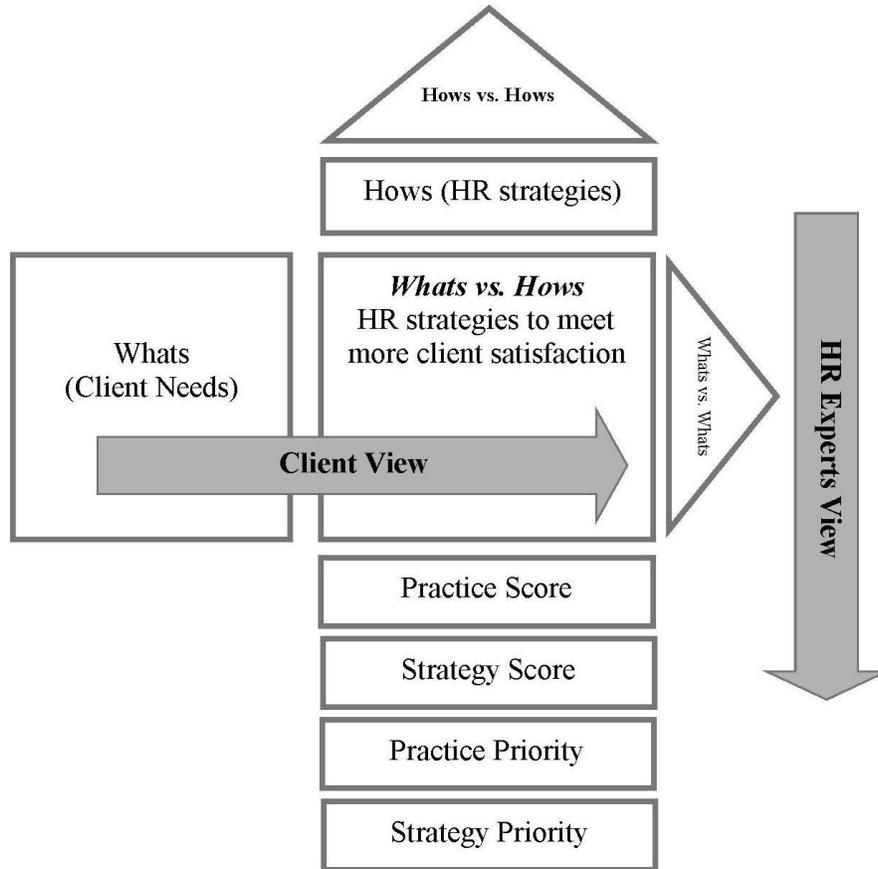


Figure 1. Main parts of house of quality. Adapted from Marsot (2005).

### Research model and sample

This study focused on the people (clients) using Art and Culture Organization (ACO) services between Jun to Sept 2009 and having a continuous relation with ACO during the year; there were special programmes whose participants were yearly selected (e.g. cultural tours). First of all, the research model would be explained to show how the clients' needs and HR strategies were selected and prioritized. In this model, the needs of the clients were the criteria for choosing HR strategies as the alternatives to meet higher satisfaction level as shown in Figure 2. The population of the research surveyed was the people who participated to those programs of ACO in district 11 of Municipality of Tehran. The number of respondents was estimated according to the following formula:

$$n = \frac{NZ_{\alpha/2}^2 P(1-P)}{\varepsilon^2 (N-1) + Z_{\alpha/2}^2 P(1-P)}$$

Where:

$$P = 0.5, Z_{0.05} = 1.64, \varepsilon = 0.05 \text{ and } N = 4500$$

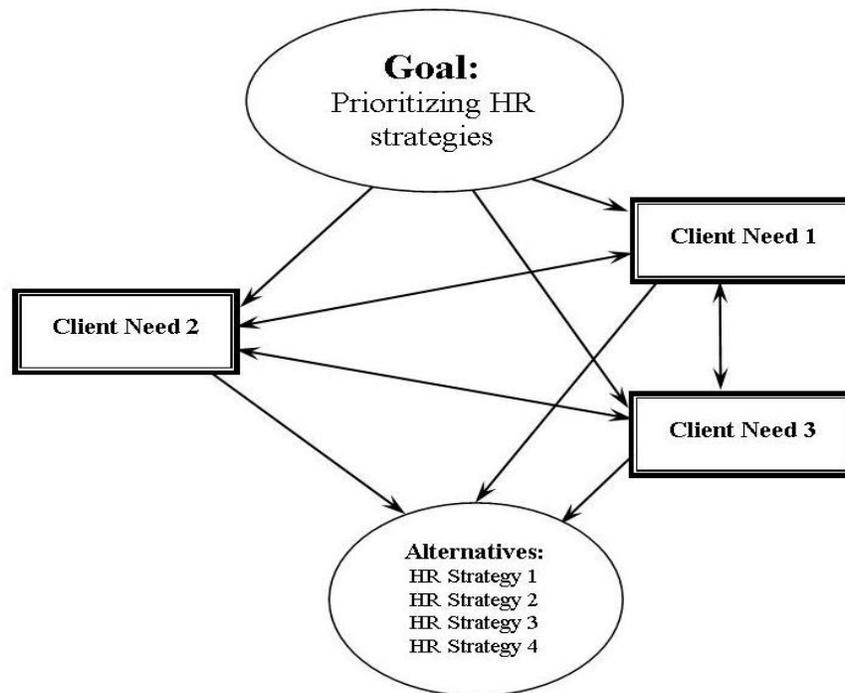
Therefore, the number of respondents would be nearly 187. Taking into account the number of non-respondents, 210 questionnaires were randomly distributed and 187 questionnaires were returned in first phase for prioritizing clients needs.

### Prioritizing the clients' needs

In order to collect the client demands of ACO, the satisfaction dimensions and their related sub dimensions (items) were used according to the client satisfaction questionnaire in the book Hill and Alexander (2000) Handbook of customer satisfaction and loyalty measurement. We have used the first questionnaire for prioritizing the client needs in those five dimensions and their related sub dimensions as shown in Table 1. Each question measured an item which was ranked by the clients on a seven-point scale in which 1 was used for "strongly disagree" to 7 for "strongly agree". The average value of the 20 items and their standard deviation were calculated and used. The standard deviations were just presented to QFD team to have better understanding of clients' responses to each item. Then, the average values of each five dimensions of client satisfaction were calculated by averaging of their related sub dimensions. Moreover, the importance of each dimension and its related items were also ranked by the clients on a nine-point scale in which 1 was used for "hardly ever important" to 9 for "very very important". The average value for importance of each 20 items and their standard deviation in clients' views were calculated. These findings were presented to the QFD team to be used for correlating client needs and appropriate HR strategies in House of Quality.

### Formation of QFD team

The QFD team was formed including 3 persons from the academia



**Figure 2.** Research model. Adapted from Onut and Tuzkaya (2008).

**Table 1.** The dimension of Satisfaction and their related sub dimensions (Hill and Alexander, 2000).

	Dimension	No.	Items
<b>Client satisfaction dimensions</b>	Appearance	1	The center has modern-looking equipments
		2	Physical facilities are visually appealing
		3	Employees are neat-appearing
	Reliability	4	The center does what it promise by a certain time
		5	Employees show a sincere interest in solving problems
		6	The center deliver services right the first time
		7	The center provides services at the time it promise to do so.
	Accountability	8	Employees tell clients exactly when services being delivered.
		9	Employees give prompt services to clients.
		10	Employees are always willing to help clients.
		11	Employees are not too busy to respond to requests.
	Assurance	12	The behavior of employees insists confidence in clients.
		13	Clients feel safe in their transactions
		14	Employees are continuously courteous with clients
		15	Employees have knowledge to answer questions
	Community	16	The center gives clients individual attention
		17	The center has operating hours convenient to clients
		18	The center gives clients personal attention.
		19	The center has the clients' best interests at heart
		20	Employees understand the specific needs of clients.

majoring in Ph.D of HR and 2 senior HR managers from ACO. The team was asked about the correlations between HR practices and clients' needs to meet client expectations gained from Phase one of the research. The second questionnaire was used to understand the relationships between each item of client satisfaction and each HR practice. The results of the first phase of the research are presented in Table 2.

### Human resource strategy prioritization

In this paper, QFD team proposed accepting the HR strategy framework given in the book authored by Bamberger and Meshulam (2000) Human Resource Strategy: Formulation, Implementation, and Impact as the most comprehensive HR strategy theme for public organizations. The prioritization was to be done in House of Quality between the HR strategies that related to public organization in general and ACO in specific, based on some criteria. The criteria were meeting the clients' needs gained from phase one of the research. In other word, the QFD team must rank each HR practices in terms of meeting each client need satisfactorily. The practices of each HR strategy were also extracted from the book and inserted to the questionnaire. The second questionnaire, including 240 blank fields related to the 20 items of clients' satisfaction and 12 HR practices, were distributed to be filled by QFD team. The five members of the QFD team were individually asked to rank the strength of the correlation between each client need and each HR practice in House of Quality on a three-point scale (5 = strong correlation, 3 = moderate correlation, 1 = weak correlation, or no correlation). After collection of the second questionnaire, the average value of each 240 fields were calculated by using SPSS and inserted to the House of Quality. The numbers in each column of HR practices were multiplied by *importance* column. Then, each column of HoQ was summed up and final results were gained. Finally, by averaging the related HR practices, the average value of each strategy was calculated.

### RESULTS

Respondents were 34.4% male, 39.6% were under 20, 25.7% between 21-25, 15.5% between 26-30, 4.8% between 31-35 and 4.8% upper 35 year old. In terms of education, 30.5% of the sample had attained a diploma, 52.4% an undergraduate degree and 5.9% a graduate degree. The results of the first phase of the research (prioritizing of clients' needs) were shown in Table 2. Through conducting this research, 4 HR strategies and their related 12 HR practices were prioritized on basis of QFD principles. In HoQ, craft strategy scored the first (370.10). The other HR strategy priorities were internal market strategy (346.61), salaried strategy (325.81), and industrial strategy (311.37) respectively. It is clear that there is no huge interval in the range of the strategies. It means that none of the strategies is in the absolute supremacy to the others. Between HR practices, high mobility scored the first (398.08). The other priorities for HR practices were well-prescribed career paths (391.99), guaranteed job security (391.33), extensive training (374.60), wages based on market supply and demand (370.81), little guaranteed job security (341.41), limited

internal mobility (317.58), clearly defined job responsibilities (315.33), flexible job assignments (307.55), control over the work process (301.20), greater emphasis on meritocracy (277.98), and organizational development (273.91) (Figure 3).

### DISCUSSION

To be more responsive, public organizations need an effective HR strategy which is aligned with corporate strategy. Global competition between private companies made them much more responsive than public organizations. Therefore, clients' expectations for receiving services from public entities increased, because they compare public and private organizations. Hence, public organizations with a specified HR strategy do better than those without a clear HR strategy. In this research, we wanted to select and prioritize the most appropriate HR strategies for organizations such as ACO. In the first phase, the clients' needs were ranked and in the second phase, the HR strategies were prioritized. Before the distribution of the second questionnaire (second phase), we were predicting that internal market strategy would be ranked as the first priority between HR strategies. Because, this is an art and culture organization in which the quality of service delivery through internal HR development is important. However, craft strategy and high mobility practice were ranked as the most important. One of the reasons could be the nature of the work in such these organizations; ACO' branches offer many educational services. Therefore, it needs on-time and fast service delivery, friendly behavior of the employees and limited span of control rather than employees being flexible, thoughtful, creative and hardworking or employers using extensive training or guaranteed job security practices. Therefore, high mobility is inevitable and it leads to more planned service delivery for each scope of ACO's branches. If compensating an employee would be based on its performance and guaranteed job security would not be offered by the employers, the employee would do its best to secure its job, so its performance would be improved. Guaranteed job security would be suitable for those who have much information about that cultural centers and would be familiar with artistic artifacts exhibited in those centers. Substituting these persons would be costly for ACO. The findings show that high mobility was ranked as the first; it means that job responsibilities for employees are rather simple and easygoing and each person can learn them in a short period of time, namely implementing educational programmes and inviting artist for teaching. Therefore, each employee would be able to change its job and workplace easily; job diversification and organizational burn-out would be decreased. All of them would result in faster service delivery and then more client satisfaction.

**Table 2.** The results of phase one of the research. Dim: Dimension, IM: Importance, STD: Standard deviation

	Dimension	No	Items	Mean of Dim	Mean of Items	STD	Mean of IM	IM	STD
Client satisfaction dimensions	Tangibles	1	The center has modern-looking equipments	4.63	4.13	1.701	7.50	7.81	1.716
		2	Physical facilities are visually appealing		4.55	1.765		7.44	1.729
		3	Employees are neat-appearing		5.21	1.729		7.24	1.895
	Reliability	4	The center does what it promise by a certain time	5.05	5.01	1.904	7.89	7.86	1.931
		5	Employees show a sincere interest in solving problems		4.61	1.987		7.58	2.019
		6	The center deliver services right the first time		5.40	1.842		8.07	1.381
		7	The center provides services at the time it promise to do so.		5.20	2.003		8.03	1.642
	Responsiveness	8	Employees tell clients exactly when services being delivered.	5.04	5.03	1.953	7.81	8.12	1.552
		9	Employees give prompt services to clients.		5.12	1.740		8.09	1.344
		10	Employees are always willing to help clients.		4.84	1.924		7.67	1.821
		11	Employees are not too busy to respond to requests.		5.16	1.876		7.37	2.106
	Assurance	12	The behavior of employees insists confidence in clients.	5.59	5.50	1.825	7.97	7.90	1.686
		13	Clients feel safe in their transactions		5.57	1.631		7.79	1.801
		14	Employees are continuously courteous with clients		5.94	1.488		8.20	1.451
		15	Employees have knowledge to answer questions		5.36	1.629		7.99	1.635
	Empathy	16	The center gives clients individual attention	4.50	5.24	1.723	7.26	7.67	1.793
		17	The center has operating hours convenient to clients		4.96	2.012		7.95	1.668
		18	The center gives clients personal attention.		4.35	2.100		7.14	2.352
		19	The center has the clients' best interests at heart		4.02	2.220		6.86	2.596
		20	Employees understand the specific needs of clients.		3.93	2.203		6.75	2.695

The details of the results are given in house of quality.

## CONCLUSION

The objectives of this study were to indicate the necessity of having a deep understanding of clients needs in meeting the higher level of clients' satisfaction in public organization though presenting a new model of HR strategy formation on the basis of that needs. Therefore, this research has discussed the practicality of QFD in the HR

strategy formation. More specifically, a new approach has been proposed and adopted to rate the most important HR strategies that a public organization can utilize in meeting more satisfaction for its clients.

Utilizing a QFD-based approach to introduce a new model of prioritizing and selecting the best HR strategies in service organizations would be the main contribution of this paper. On the basis

of exemplification of HR strategies in public organizations, it could be thought of as an efficient solution for helping ACOs in improving clients' satisfaction with implementation of the best HR practices. With respect to the questions of the research surveyed, it was found that between clients' needs, *assurance* is the most important one to be met by ACO. In terms of the HR strategies, *craft strategy* is the first strategy for

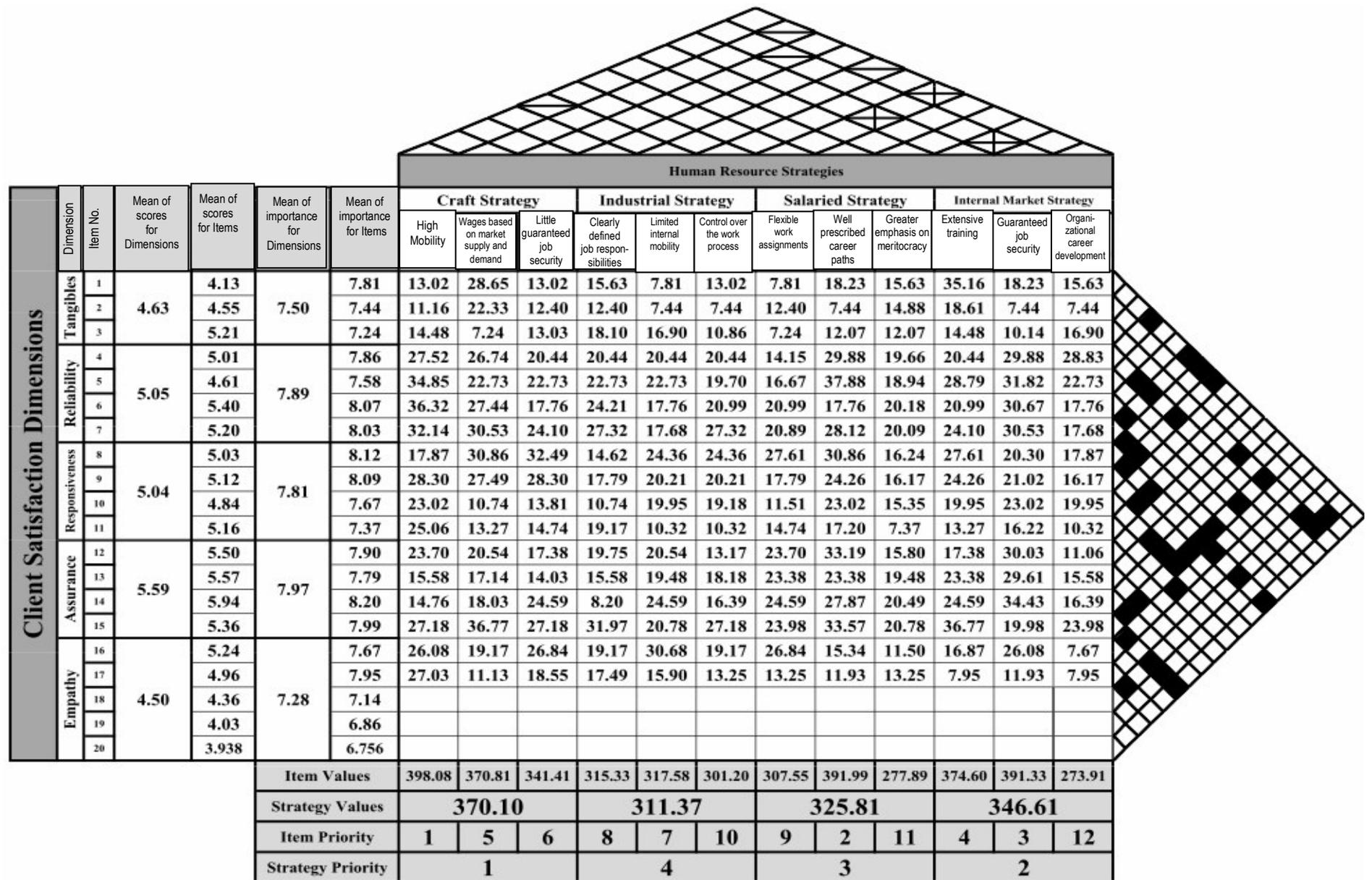


Figure 3. House of quality; Average value of QFD team.

necessary to be carried out for additional application of QFD in other scopes of public organizations, namely designing useful cultural programmes for ACOs' clients, proposed compensation models, and evaluating educational needs of employees through utilization of QFD; a demand driven approach with a supply serving perspective.

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