Journal of Engineering and Applied Sciences 11 (3): 616-628, 2016
ISSN: 1816-949X

Designing a Model for Measuring Customer Satisfaction with E-Service Centers of Iran's Police

Seyed Ali Ziaee Azimi and Rasoul Noorossana
Faculty of Industrial Engineering, Iran University of Science and Technology,
Tehran, Iran

Abstract: The research is aimed at proposing a model formeasuring customer satisfactionin the e-services centersof Iran's police known as 10+policee-services centers. The research is classified as an applied one employing a descriptive, survey design to describe the status quo. Research population involves all costumers of 10+ police e-services centers, among which we have picked up 420 as sample size through simple random sampling while determining the number of respective e-services centers to be 45 by applying probability-proportional-to-size and multi-stage cluster sampling technique. After determining validity and reliability of researcher-made questionnaire, it has been used to collect required data and then exploratory factor analysis as well as SPSS software used to classify the data into various groups and giving each a name. Then, we validate our model as well as those factors considered effective in people's satisfaction by conducting confirmatory factor analysis and using LISREL software.Afterwards, improvement indices of the model were prioritized. At the end, a conclusion and introducing recommendations are discussed for improving customers' satisfaction with e-services provided by 10+policee-services centers.

Key words: 10+police, measuring the customer satisfaction, quality of the services, e-services, validate

INTRODUCTION

Customer satisfaction is regarded as a deciding element in the success of the state-run and private organizations. Accordingly, in order to hold respect in the customers and also to form a totally electronic government Iran's police has delegated some of its services to private sector, called 10+police office, under security considerations and supervision.

The number 10 refers to ten services that the Iran's police has provided people with since launching these centers. Undoubtedly evaluating the people's satisfaction with the services offered by 10+police is necessary in order to overcome possible drawbacks in these centers. Accordingly, this paper mainly focuses on measuring the customer satisfaction with 10+police on the basis of the suggested indices. Therefore, we outline research questions and objectives as follow:

The main question: What indicators and dimensions are appropriate for measuring customers' satisfaction with the 10+policee-service centers?

Secondary questions:

- Is it possible to further improve the existing customer service system of the 10+ police e-service centers (which are efficient as stated by customers) or not?
- Are there any services that the e-service centers have failed to provide people with or not?
- Is the model proposed in this research for measuring customer satisfaction with 10+policee-service centers different from the regularly-used customer satisfaction models?
- Are the strategies proposed for improving Customer Service System (CSS) independent of the regularly-offered services in these kinds of centers or not?

Primary objective: As stated above, our primary objective is to design a model for measuring customers' satisfaction with 10+police e-service centers.

Secondary objectives:

- Identifying decisive factors in customer satisfaction with 10+ police e-service centers
- Measuring customer satisfaction with 10+police e-service centers
- Assessing the overall performance of 10+policee-service centers at present
- Identifying the opportunities, threats, weaknesses and strengths of 10+policee-service centers
- Presenting a model for evaluating customers' satisfaction with 10+police e-service centers

Corresponding Author: Seyed Ali Ziaee Azimi, Faculty of Industrial Engineering, Iran University of Science and Technology, Tehran, Iran

- Prioritizing the improvement of the dimensions and indicators of measuring customer satisfaction with 10+police e-service centers
- Offering practical suggestions for improving the overall performance of 10+police e-service centers based on the research results

Review literature: Currently, the number of 10+police e-service centers has grown to more than 960 throughout the country while 51 more new centers are to start soon. The electronic services provided by 10+police are as follow: passport issue and renewal, driving license and renewal, car ticket, appeal against traffic ticket, fuel card issue, department of monitoring public places, military services, record household income data (for allocation of subsidies) and police clearance certificate. The followings surveys have been conducted on customer satisfaction with the e-services provided by 10+police centers:

In a research entitled "the evaluation of quality of the services provided by 10+police e-services centers by using the SERVQUAL Model" it was revealed that there was a significant difference between the viewpoints of the senior 10+police managers and that of people's on the quality of the services offered by Iran's police and quickness of 10+police e-services centers in performing the services has been identified as the primary factor to be considered while introducing corrective measures. (Assariannejad and Roumenan, 2011).

In an another research entitled "Assessing the Iranian government's success in offering electronic services through 10+police centers and communication service providers" which was conducted to assess the customers' satisfaction with the 10+police e-services centers by adopting G.Mihelis's multi-criteria satisfaction analysis and Loan and Mclean information system models, the findings revealed that the customers were more contended with the old bureaucratic systems than the services provided by the electronic government. (Haghighinasab *et al*., 2009).

Also, in a research entitled "investigation of the customers' satisfaction with the performance of 10+police e-services: case study of Kurdistan centers", it was found that there was a significant difference between the expectations and perceptions of 10+police customers in Kordestan province in all aspects of Parasuraman model. (Zare and Ghaemi, 2014).

In a research entitled "the privatization of passport issuance services in the 10+police centers", it was found that privatization of passport issuance would lead to achievement of objectives of national information technology development, increase in people's satisfaction level while decreasing quality of other three variables of the research, namely office controls, record keeping and security and safety matters. (Ghasri and Salehi, 2009). In a research entitled "assessment of people's satisfaction with 10+police services", conducted by the office of applied research of Iran's police, contributing factors to people's satisfaction were identified as: gender, quickness of the services, easy access to the services, staff performance and facilities of the 10+police centers; moreover, the research findings indicated that people, on the whole, were contended with the services provided by these centers. As it can seen in the research literature, no particular locally-made model has ever been proposed to measure customer satisfaction with 10+police services.

In a study titled "models of satisfaction with police service" citizens of Colorado Springs (n = 3591) participated in one of four yearly surveys (2002-2005) to test two structural equations models. One model used data from 2002-2005 and latent variables of victimization, neighbourhood safety, enough officers and police response to predict satisfaction with police service. A second model used data only from 2005 and 12 latent variables. The findings revealed that the five-variable model fits the data very well (CFI = 0.95). It did not vary from 2002-2005. The 12-variable model explained the satisfaction process more completely but fits less well (CFI = 0.91). Neither model varied by demographic characteristics of respondents (Dukes *et al*., 2009).

In an another study entitled "Differentiating confidence in the police, trust in the police and satisfaction with the police" it is concluded that "confidence in the police" is the preferred choice when we survey the citizenry about the level of support for the police and when the police is evaluated as a political institution (Cao, 2015).

In a research titled "Exploring citizen satisfaction with police in India: The role of procedural justice, police performance, professionalism and integrity" older citizens reported higher satisfaction with the police. Among the contextual characteristics, the researcherss find a positive relationship between perceived police performance, fairness, professionalism and citizen satisfaction with police (Madan and Nalla, 2015).

In an another paper entitled "Assessing the quality of police services using SERVQUAL" the findings show that while there is a significant shortfall in meeting customer expectations, the police force appears to have a good understanding of what these expectations actually are (Donnely *et al*., 2006).

Theoretical framework of the research: Table 1 outlines a variety of definitions of the customer satisfaction provided by scholars and thinkers in the recent years. (Talaee Delshad, 2013).

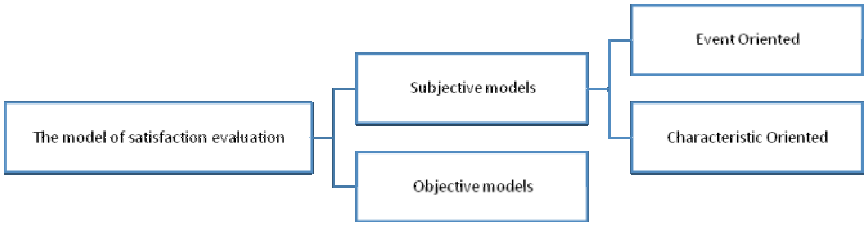

Fig. 1: Different types of models regarding customer satisfaction

Table 1: The definitions of customer satisfaction

Definition of customer satisfaction	Year	Scholar
Discrepancies between ideal and actual attribute of service/product	1976	Pfaff
Lack of agreement between customer's expectation, prior to consumption and actual experiences of product	1986	Hampel
Differences between service quality perceptions and customer expectations	1992	Oliver
Customer perception of products/services as they are worth his/her money	1996	Teracey
When customer feels attributes of product meet his/her expectations and needs	1998	Juran
The result of relationships between perceived performance and levels of customer expectation	2000	Miller
A balance between major company's products and customer demands and needs	2002	Hill
A person good feeling experienced through comparing his/her expectations and actual performance of product	2007	Kotler

Table 2: The national index of customer satisfaction in some countries

Index	Year
Swedish Customer Satisfaction Barometer (SCSB)	1989
American Customer Satisfaction Index (ACSI)	1994
European Customer Satisfaction Index (ECSI)	1999
Norwegian Customer Satisfaction Index	2000
South Africa Customer Satisfaction Index (SASI)	2001
South Korea Customer Satisfaction Index	2001

The evaluation models of customer satisfaction: The classification of the models of the customer satisfaction measurements indicates. Figure 1 that in the present research the Characteristicoriented method is applied (Toepfer, 1999).

The national customer satisfaction indices: Developed countries have invested considerable efforts in R&D to arrive at more accurate understanding of the customer satisfaction measurement. Table 2 shows some countries customer satisfaction index as well as the year in which each respective index has been created. (Kavoosi and Saghaei, 2013).

MATERIALS AND METHODS

The present research is classified as an applied one employing a descriptive, survey design to describe the status quo. A diversity of methods have been employed for gathering required data such as reviewing documentation and online resources, seeking expert opinions as well as studying topic-related books, papers, magazines, archives of the organizations, theses, etc. available at libraries. Moreover, customers' feedback has been collected through conducting interviews and administering researcher-made questionnaire. The reliability coefficient of the research was calculated to be 0.959 by Cronbach Alpha which indicated that the questionnaire had very good internal coherence. To determine the contextual validity of questionnaire, it was distributed among managers, scholars and experts in customer service evaluation to ask for their opinions before conducting field study and the exploratory and confirmatory factor analyses were performed to confirm the divergent and convergent validity of data collected through questionnaire respectively. The research population consisted of all 10+police customers in Tehran which was large enough to be considered statistically infinite population. Given large number of 10+police centers (115 active centers) in Tehran, the number of required centers for the survey was determined through probability-proportional-to-size and multistage cluster sampling. Tehran is divided into 22 divisions and the 10+police centers are widely dispersed around the city, therefore 1-5 centers have been selected from each division which made the number of respective centers to 45. additionally the simple random sampling method has been adopted to select a sample of 10+police customers, accordingly 3-15 questionnaires distributed between them based on the number of times they have visited the centers and, given the infinite number of 10+police customers, size of the research sample has been determined using Eq. 1 in which Z is the standard normal statistic which has been calculated to be 1.96 at 95% confidence level. The probability of success, probability of failure, standard deviation and sample size are denoted by p, q, d and n symbols respectively. If value of the product of p cannot be estimated, it can be set to 0.5; since q = 1-p, the value of q is to be 0.5 either. In this situation the variance is 0.25, its maximum value (Sarmad *et al*., 2012).

The "d" is set to 0.05 as well; therefore the minimum size needed for our statistical sample is calculated to be 385. Finally, this number is rounded up to 420 to take the lost probable data into account and making the research more accurate:

$$n = \frac{z_{\frac{\alpha}{2}}^{2} pq}{d^2}$$

RESULTS AND DISCUSSION

The exploratory factor analysis: Looking at Table 3, KMO measure is 0.949 for the research variables which is counted as a perfect value proving adequacy of sampling to perform factor analysis. Meanwhile Bartlett's test was significant at 0.000 level which is less than 0.05. Therefore, the structure of the data is also appropriate for carrying out the exploratory factor analysis.

The communalities factor analysis: Table 4 shows communalities for initial and extraction respectively. Any low extraction communalities make extraction of another factor necessary; therefore variables with extraction communalities lower than 0.5 are candidates for exclusion from the analysis. Indeed, it must be done through a step by step process. (Pallant, 2004).

According to the preceding explanations, the table below shows the corrected communalities.

Determining the number of factors to retain: Table 5 shows results of variance analysis. Looking at the table, there are 7 factors with eigenvalues more than 1, those ones are kept in model. Cumulative variance of those factors adds up to 63.871 i.e. those 7 factors can account for, approximately, 64% of variance of the variables. The value of cumulative variance must be higher than 60%.

Graph of scree plot: As it is noticeable in the graph, the number of slopes is 7 which verifies those results generated by the cumulative variance analysis. The rotated component matrix and testing the divergent validity shown in Fig. 2.

The rotated component matrix is used to find out the correlation between each variable (question) and the particular component it measures or determines. Looking at Table 6, questions number 15 and 18 are removed from the questionnaire as their correlation value is <0.4.

Grouping and interpreting the factors: Based on the Table 6-7 dimensions specified for the customer satisfaction can be explained as follow: staff performance (represented by X1), environmental facility (represented by X2), confidence and trust (represented by X3), service cost (represented by X4), basic amenities (represented by X5), easy access to centers (represented by X6) and system facilities (represented by X7). Moreover, the variable of customer satisfaction is represented by Y in Fig. 5-6.

The confirmatory factor analysis: The first and second-order factor analysis have been conducted in the research to show the relation between variables, in cases of standard estimation and t-values. The first-order factor analysis tested the relationships between a set of manifest variables and a set of latent variables.

Accordingly Fig. 3 and 4 illustrates the relationship between the manifest variables (questions) and their dimensions, viz. "staff performance", "environmental facilities", "trust", "service cost", "basic amenities" "easy access to centers" and "system facilities. "The second-factor analysis has been performed to exam the relationship between effective factors on customer satisfaction and the satisfaction. In other words, it has been carried out to look at the

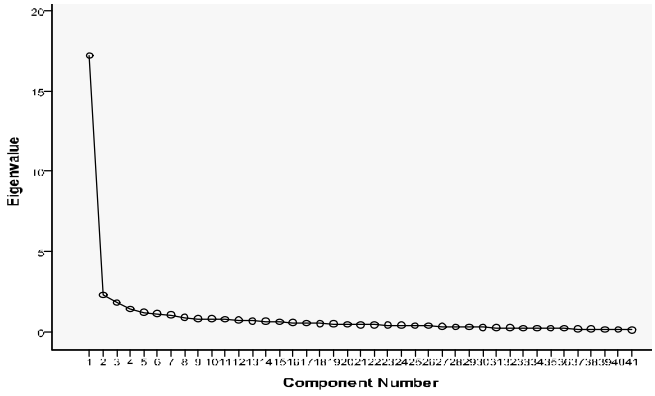

Fig. 2: The graph of eigenvalue curve

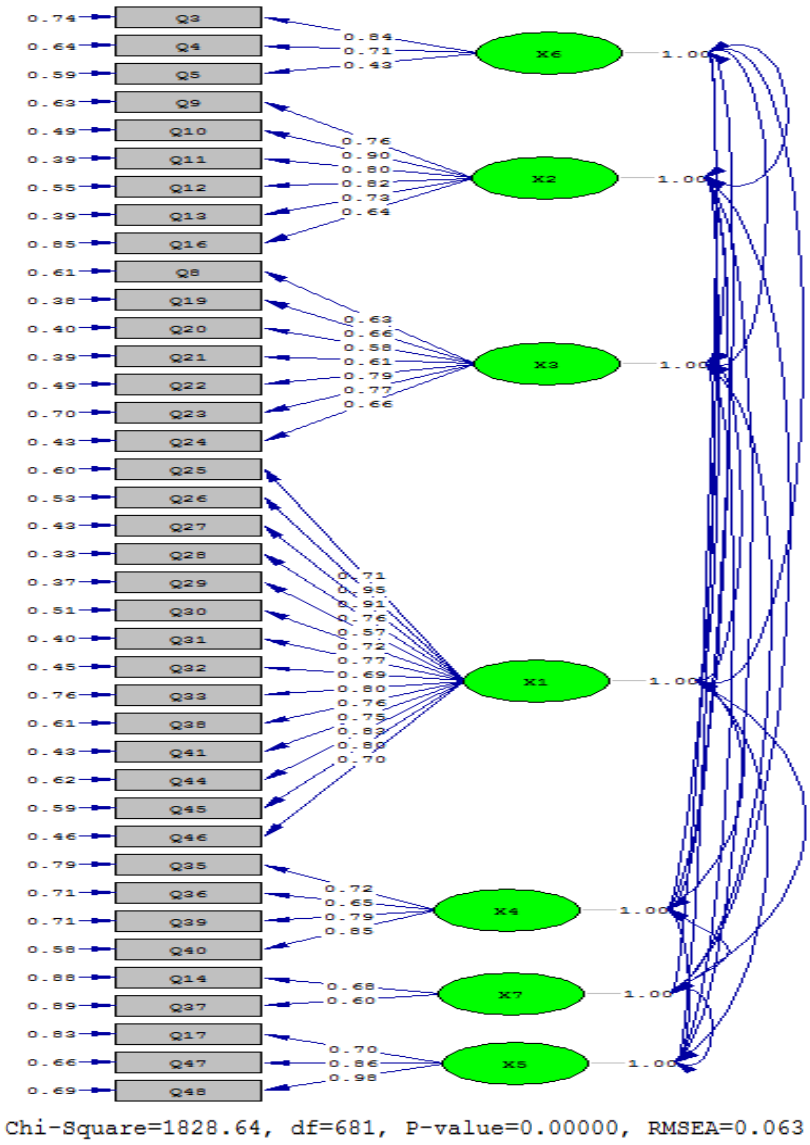

Fig. 3: The model of first-order confirmatory factor analysis in case of standard estimation

Table 3: KMO and Bartlett's test

Kaiser-Meyer-Olkin measure of sampling adequacy	0.949
Bartlett's test of sphericity, Approx. Chi-Square	7595.548
df	820.0000
Sig.	0.000000

relationship between the 7 respective dimensions and the factor of "customer satisfaction". Figures 5 and 6 show the results of second-order factor analysis.

Analysis of indices of model fit: Table 7 is illustrates values of fit indices.

Interpretation of the model: Looking at the indices illustrated in the Table 7, it could be interpreted that the model is a well-fitting one.

Factor loadings, t-value and analysis of convergent validity: The factor loading for all factors in the model proposed in this research were above 0.5 which confirmed the convergent validity and, consequently, the structural validity of the model.

Additionally, since all the factor loadings, concerning the research structures, have been significant at the margin of error of 0.05 and their t-value are above 1.96, they have been well able to have a significant role in measuring the related structure.

Table 4: Communalities

Question	Initial	Extraction	Question	Initial	Extraction
q3	1	0.63	q26	1	0.718
q4	1	0.657	q27	1	0.712
q5	1	0.551	q28	1	0.718
q8	1	0.53	q29	1	0.582
q9	1	0.66	q30	1	0.681
q10	1	0.789	q31	1	0.707
q11	1	0.725	q32	1	0.704
q12	1	0.667	q33	1	0.6
q13	1	0.65	q35	1	0.67
q14	1	0.624	q36	1	0.651
q15	1	0.532	q37	1	0.575
q16	1	0.55	q38	1	0.671
q17	1	0.669	q39	1	0.513
q18	1	0.514	q40	1	0.548
q19	1	0.616	q41	1	0.661
q20	1	0.728	q44	1	0.679
q21	1	0.628	q45	1	0.754
q22	1	0.655	q46	1	0.64
q23	1	0.666	q47	1	0.58
q24	1	0.595	q48	1	0.62
q25	1	0.567			

Table 5: Total variance explained

	Initial eigenvalues			Extraction sums of squared Loadings			Rotation sums of squared loadings		
Question	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	17.202	41.956	41.956	17.202	41.956	41.956	7.276	17.745	17.745
2	2.297	5.603	47.56	2.297	5.603	47.56	4.613	11.251	28.996
3	1.837	4.481	52.041	1.837	4.481	52.041	4.145	10.109	39.106
4	1.43	3.487	55.528	1.43	3.487	55.528	3.428	8.36	47.466
5	1.229	2.998	58.527	1.229	2.998	58.527	2.531	6.172	53.638
6	1.138	2.776	61.302	1.138	2.776	61.302	2.306	5.625	59.263
7	1.055	2.573	63.876	1.055	2.573	63.876	1.891	4.613	63.876
8	0.913	2.226	66.102						
9	0.825	2.011	68.113						
10	0.819	1.997	70.11						

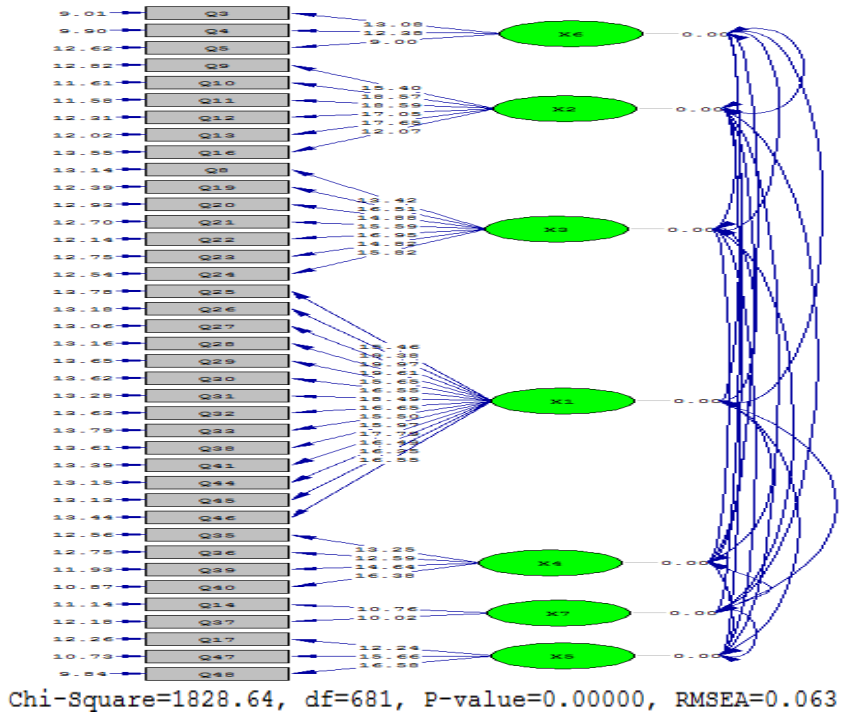

Fig. 4: The model of first order-confirmatory factor analysis in case of significant t-value amounts

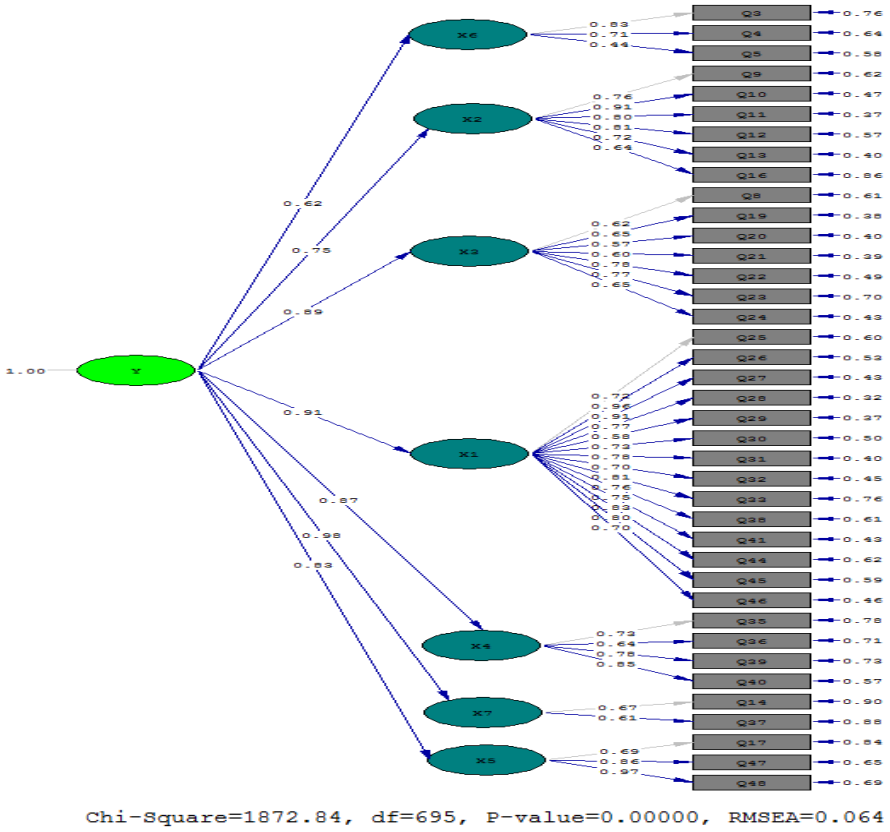

Fig. 5: The second-order confirmatory factor analysis in case of standard estimation

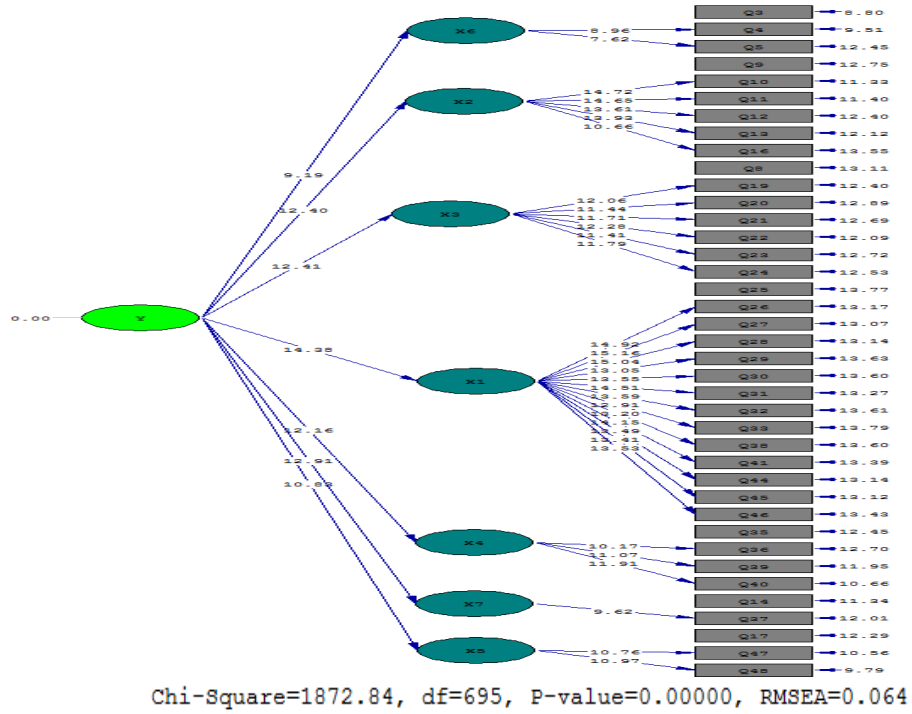

Fig. 6: The second-order confirmatory factor analysis in case of significant t-value amounts

Table 6: Rotated component matrix

	Component						
Index	1	2	3	4	5	6	7
q3	0.072	0.158	0.166	0.202	0.37	0.624	-0.074
q4	0.044	0.074	0.237	0.134	0.12	0.747	0.055
q5	0.227	0.186	0.112	0.109	-0.033	0.654	0.107
q8	0.232	0.294	0.515	0.323	0.111	0.092	0.014
q9	0.249	0.742	0.096	0.14	0.069	0.107	0.052
q10	0.225	0.832	0.092	0.19	-0.023	0.042	-0.001
q11	0.208	0.788	0.181	0.103	0.122	0.04	0.033
q12	0.226	0.641	0.044	0.052	0.25	0.296	0.224
q13	0.217	0.558	0.138	0.169	0.217	0.315	0.313
q14	0.271	0.345	0.26	0.077	0.266	0.049	0.533
q15	0.18	0.337	0.318	0.273	0.244	0.103	0.375
q16	0.084	0.556	0.234	-0.078	0.367	0.069	0.181
q17	0.118	0.311	0.135	0.082	0.608	0.15	0.376
q18	0.345	0.382	0.31	0.023	0.313	0.173	0.157
q19	0.316	0.117	0.598	0.243	0.097	0.177	0.213
q20	0.322	0.194	0.738	-0.011	-0.061	0.119	0.156
q21	0.371	0.143	0.617	0.046	0.033	0.271	0.113
q22	0.225	0.113	0.669	0.312	0.176	0.108	0.066
q23	0.084	0.111	0.605	0.413	0.31	0.115	0.009
q24	0.274	0.031	0.59	0.191	0.326	0.114	0.124
q25	0.488	0.302	0.289	0.097	0.355	0.127	-0.05
q26	0.632	0.358	0.287	0.174	0.257	0.035	-0.102
q27	0.7	0.225	0.278	0.244	0.079	0.064	0.159
q28	0.726	0.228	0.272	0.097	0.133	0.123	0.149
q29	0.681	0.073	0.179	0.181	0.067	0.125	0.17
q30	0.653	0.179	0.091	0.078	0.243	0.129	0.363
q31	0.629	0.253	0.306	0.139	-0.042	0.181	0.316
q32	0.605	0.349	0.154	0.169	-0.081	0.334	0.215
q33	0.444	0.383	-0.006	0.384	0.158	0.284	0.044
q35	0.174	0.164	0.174	0.727	0.099	0.2	0.06
q36	0.23	0.042	0.18	0.741	0.049	0.041	0.1
q37	0.227	0.064	0.181	0.391	0.142	0.015	0.56
q38	0.514	0.137	0.125	0.396	0.008	0.226	0.405
q39	0.325	0.104	0.173	0.55	0.128	0.163	0.146
q40	0.346	0.169	0.235	0.537	0.119	0.145	0.144
q41	0.668	0.145	0.268	0.26	0.034	0	0.232
q44	0.671	0.269	0.154	0.224	0.284	0.027	-0.029
q45	0.669	0.163	0.15	0.319	0.386	0.027	-0.075
q46	0.68	0.147	0.281	0.205	0.174	0.069	-0.01
q47	0.395	0.138	0.192	0.157	0.542	0.215	0.069
q48	0.314	0.227	0.155	0.298	0.571	0.075	0.159

Table 7: Indices of fit model

Index name	Value of index	Desired value	Conclusion
CMIN/DF (normed Chi-square)	2.67	Less than or equal to 3	Good fit
RMSEA (Root Mean Square Error of Approximation)	0.065	Less than or equal to 0.08 or 0.1	Good fit
RMR (Root Mean squared Residual)	0.053	Greater than or equal to 0	Good fit
NFI (Normed Fit Index)	0.96	Greater than or equal to 0.9	Good fit
NNFI (Non-Normed Fit Index)	0.97	Greater than or equal to 0.9	Good fit
CFI (Comparative Fit Index)	0.97	Greater than or equal to 0.9	Good fit
IFI (Incremental Fit Index)	0.97	Greater or equal to 0.9	Good fit
RFI (Relative Fit Index)	0.96	Between 1 and 0	Good fit

Analysis of customers' satisfaction with 10+police e-services centers: Here we look at the data collectedfrom questionnaire in order to identify the weaknesses and strengths of performance of e-service centers of Iran's police known as 10+police. The indices were evaluated by assigning a question to them and then were distributed among the 10+police customers. The items of the questionnaire were scaled based on the 1-to-5 point likert standard which is translated as: 1= the least satisfaction (poor) and 5 = complete satisfaction (excellent). The mean and the standard deviation calculated for the dimensions of model and their relative indices are illustrated in Table 8 from the mean of each dimension which is greater than 3, we could arrive at this conclusion that 10+police customers have been generally satisfied with performance of these centers regarding all dimensions of the research. Moreover, it can be seen that the customers have been mostly satisfied with indices of "Trust in 10+police to

Table 8: The mean and the standard deviation for indices and dimensions of the model and specifying the improvement priorities

Dimensions	Indices	Mean	Standard deviation	Importance rate	Gap score	Improvement priority(%)
Staff performance(x1)	Neat and clean appearance of staff	3.83	1.05	0.502	1.17	59
Mean: 3.78	Approachability and favorable treatment of staff to customers while coaching them by phone or in person	3.75	1.193	0.573	1.25	72
SD: 0.795	Speed and accuracy of performance of staff	3.78	1.12	0.591	1.22	72
	Staff's skills and competence in doing their duties and providing customers with accurate information	3.95	0.954	0.603	1.05	63
	Punctuality and regularity in observing office hours	4.01	0.839	0.506	0.99	50
	Ignoring any attempts to get served out of order	3.91	1.018	0.528	1.09	57
	Unceasing efforts to completely fulfill customer's demand when their turn come	3.9	1.002	531	1.1	58
	Constant presence of staff in the workplace to perform their duties	3.94	0.965	0.506	1.06	54
	Adequate number of staffs and counters to serve customers	3.46	1.188	0.545	1.64	89
	Serving customers completely at their first (or second) visit	3.74	1.089	0.569	1.26	72
	The process of offering services	3.78	0.997	0.643	1.22	78
	Accountability of director of center to customers about staff performance	3.54	1.153	0.59	1.46	86
	Quickness in responding to complaints and the way they are handled	3.36	1.111	0.542	1.64	88
	Providing customers with all (previously-mentioned+10 police) services	3.74	0.981	0.552	1.26	70
Environmental Facility	Spacious lounge room	3.67	1.093	0.421	1.33	56
(x2) Mean: 3.62	Comfortable and relaxed atmosphere of office	3.57	1.138	0.479	1.43	69
SD:0.836	Illuminance and lightning of office	3.79	1.012	0.436	1.21	53
	Refurbishment of office building e.g. clean walls, beautiful decoration, etc	3.48	1.114	0.446	1.52	68
	Partitioning office into separate rooms and using each one for offering a particular service	3.69	0.961	0.463	1.31	61
	Good ventilation system (cooling-heating)	3.52	1.127	0.357	1.48	53
Trust and confidence	Possibility to check on the status of service demand	3.57	1.006	0.495	1.43	71
(x3) Mean:3.65	(e.g. driving license, passport, etc)					
SD:0.733	Confidence about accuracy of the presented services and fulfilling commitments in the due date	3.77	0.905	0.538	1.23	66
	Trust in the e-services centers as electronic service authority	3.96	0.855	0.453	1.04	47
	Trust in the e-services centers to keep people's documents and data secret	4.02	0.872	0.463	0.98	45
	Use official website to keep people updated with available services provided by 10+ police e-services centers	3.5	1.055	0.478	1.5	72
	Use SMS to keep people informed about necessary requirements, service costs, physical address and telephone of the e-services centers	3.19	1.142	0.435	1.81	79
	Provide people with precise information on necessary requirements (e.g. to obtain driving license, etc.), a list of approved doctors (for administering vision test) and their e-services centers, service costs, etc	3.64	0.935	0.49	1.36	67
Service cost (x4)	Affordable cost of the services	3.22	1.147	0.431	1.78	77
Mean:3.35 SD:0.865	Affordable cost of folders used to keep passport, driving license and the military service necessary requirements	3.46	1.065	0.422	1.54	65%
	Always-on connection of computers to database server	3.32	1.16	0.552	1.68	93
	Lead time between completion of a given process (e.g. to get passport) in the office and get it delivered straight to your door	3.38	1.14	0.579	1.62	94

Table 8: Continue

Dimensions	Indices	Mean	Standard deviation	Importance rate	Gap score	Improvement priority(%)
Basic Amenity (x5)	Bathroom amenity	3.01	1.152	0.335	1.99	67
Mean:3.22	Copy machine, desk, pen, etc	3.54	1.188	0.494	1.46	72
SD:0.978	Water dispenser/cooler, TV, newspaper, etc.	3.14	1.286	0.5	1.86	93
Easy access to office	Adequate parking spaces in surrounding of the office	2.38	1.209	0.329	2.62	86
(x6)Mean:3.22	Location of the e-services centers	3.36	1.072	0.276	1.64	45
SD:0.816	regarding restricted traffic zones					
	Location of the e-services centers regarding which floor they are on	3.92	0.882	0.27	1.08	29
System Facility (x7)	Good ticketing system	3.5	1.161	0.456	1.5	68
Mean:3.725 SD:0.920	POS system for prompt payment	3.95	1.124	0.426	1.05	45%

keep the documents and data secret" and "Punctuality and regularity in observing office hours" while they were least satisfied with index of "Adequate parking spaces in surrounding of the office".

Identifying priority areas for improving indices of model: A diversity of methods, e.g. importance-performance analysis, can be employed to identify opportunities for improvement. (Saghaei and Kavoosi, 2005).

Furthermore we are able to determine the improvement rate required for each one of the customer satisfaction indices through calculating the importance coefficient for each one of customers' demands and adding it to score gap computed for that demand.(Saghaei *et al*., 2004).

We could measure improvement rate required for each one of them and, based on which, prioritizing them to provide customers with complete satisfaction and to improve weaknesses in performance of 10+police through calculating the importance coefficient for each index and adding it to its gap score. Table 8 illustrates the result of this analysis.

As it is illustrated in the table above, "Always-on connection of computers to database server" and "Lead time between completion of a given process (e.g. to get passport) in the office and get it delivered straight to your door" and "Basic amenities" are indices that take the top priority for improvement.

CONCLUSION

Based on the statistical analysis, seven factors were identified as the criteria of customers' satisfaction with 10+police e-services centers. These criteria were ranked according to the assigned correlation coefficients which include: Staff performance, trust and confidence Service Cost. Environmental facilities, Basic amenity System facilities, Ease of access to the e-services centers. Also, the values of the calculated indices model fit were considered as absolutely appropriate.

Considering all the indexes examined in this study, it can be concluded that the customers have above average satisfaction with the performance of 10+policee-services centers. Furthermore, customers have the highest satisfaction with the indexes called "Punctuality and regularity in observing office hours" and "trust in the e-services centers to keep people's documents and data secret" and the lowest satisfaction with "adequate parking spaces in surrounding of the office".

After that, the model's indexes were prioritized according to the importance to improve. The results indicate that the indexes "Always-on connection of computers to database server" and "Lead time between completion of a given process (e.g. to get passport) in the office and get it delivered straight to your door" and "Basic amenities" have the highest improvement priority.

SUGGESTIONS

- Providing directors and employees working at 10+police e-services centers with regular training on customer interaction skills based on "customer-based" approach
- Specialized training of the staff within their sphere of activities
- At the discretion of directors of the e-services centers, the number of operating employees should be in proportion to the number of the services;
- Continual supervision of all the defined operations of the services while at the same time improving the process, in order to make the way for operating all the services without supervision and achieve greater profitability
- Offering all the current expected services; though there are e-services centers that cut back some services like issuance of fuel card or business license as they are not economic. (Correcting the process and improving the system)
- Establishing a voice-of-customer unit (the customer relationship management) and providing people with an easy access to this unit through all communications tools such as internet, SMS, IVR, telephone, mobile application etc. so it would be

easier to receive people's comments, complaints or suggestions and respond to them. Although, the phone number 197 has been established for dealing with respective matters, it still needs further improvement and its deficiencies should be corrected. Additionally it should be mentioned that the managers and the employees of the e-services centers have a crucial role in the customer satisfaction, therefore it is recommended to provide managers and employees with regular training on communication and the customer interaction skills
- Devising an efficient supervisory performance assessment system to monitor performance of 10+police e-services centers, based on people's satisfaction and also between specified intervals and sending feedbacks to the directors of e-services centers and, based on which (people's satisfaction) best centers are identified, their members appreciated and introduced to community they serve by the mass media at every year

"Environmental facilities":
- Considering the number of services offered by 10+police centers, they need enough room space (as large as bank e-services centers)
- Enough and suitable seating
- Proper partitions having the possibility of the clients to sit in front of them harmonizing and standardizing the partitions used in the e-services centers
- Suitable lightning and lamp for the work being carried out in the e-services centers
- Refurbishment of office building e.g. clean walls, beautiful decoration, etc
- Efficient cooling and heating systems in the e-services centers.

"Trust and confidence": Use internet to keep people up to date (10+police website). The information people are not provided with on the 10+police website is as the following:

- Information about the physical address and telephone number of all e-services centers in each province and city
- Information about physical address and telephone number and working hour of doctors approved by Iranian police in each province and city
- Information about customer complaint centers and their telephone numbers
- Information about status of service request
- Information about the physical address of Bureau of Consular Affairs, Department of monitoring Public Places, drug testing centers, etc

Use SMS and mobile applications to keep people informed: At the present moment, there are SMS services offered limitedly but such services must be expanded to provide people with all sort of information on necessary requirements (e.g. to obtain driving license), physical address and telephone number of the e-services centers, service procedures and statues of service request, car tickets, the possibility of paying traffic tickets and other related services to 10+police e-services centers. Information offered by the e-services centers (at the time of visit)

Taking a visit to 10+police centers, it has been observed a huge difference between them regarding quality and content of information and methods they employed to convey information. Thus, following suggestions have been made to harmonize and standardizemethods of conveying information inside the e-services centersas well as increasing the customer satisfaction:

- Install sufficient number of bulletin boards on the office walls where they can be easily seen by customers
- Provide customers with a comprehensive list of services offered by 10+police e-services centers
- Use standard format to write necessary requirements to be fulfilled for make use of each one of services and their costs as well as how complaints are to be dealt and putting them in uniform frames
- Distribute small pieces of papers, about necessary requirements to be fulfilled for using each one of services and between customers to make them informed (which are done in some e-services centers at the moment)
- Store paper documents ,forms, instructions and guidelines in file folders
- Use standard format for writing the physical address and telephone number of each one of e-services centers and putting them in uniformed frames (now the address of approved doctors for administering vision test is listed on banners)

"Service cost":
- Optimize the financial resources in order to decrease the service costs.
- Minimize the lead time between completion of a given process in the office and get it delivered straight to your door (correcting the process).
- Decrease the frequency of server disconnects and stopping it for good (correcting the computerized subsystem).

"Basic amenity":

- To necessitate all e-services centers offering bathroom services for their customers.
- To necessitate all e-services centers having working copy machine as it is commonly used in the process of gathering customer documents and considered important to bring customer satisfaction.
- The presence of writing instruments such as desk, pen, etc. in the e-services centers.
- The existence of basic amenity such as working water dispenser, TV, magazine as well as connectivity tools like Wi-Fi network, etc. which can be effective in attracting the customer's satisfaction.

"The easy access to e-services centers":

- Location of the e-services centers is preferred to be on the ground floor with only few steps (otherwise installing elevator is a must even for the first floor). Because in some cases the presence of applicant is necessary while s/he may suffer from physical disability or other problems
- Location of the e-services centers is preferred to be in places with convenient parking spaces

"System facility":

- To necessitate all e-services centers installing and using separate ticketing systems for customers of various services, due to the importance and efficiency of this system in keeping the e-services centers in order especially during the peak hours
- To necessitate the e-services centers installing POS systems for paying the cost of all services which have not been offered yet concerning the issuance of fuel card

After offering suggestions about the different aspects of the model we review the questions and the objectives of the research.

The suggestions offered by customers:

- Offering online or internet services such as
- The possibility of registering or completing the profile must be given to the person himself through which the person will be responsible about the accuracy of the data and not the e-services centers (Like in universities)
- The possibility of paying the costs related to services (except the commission of the e-services centers) such as passport, driving license, etc
- The possibility of paying the fines
- The possibility to get feedback from people
- The possibility to register the claims, criticisms, ideas or suggestions, offering on time tracking code and proper responding to people with the "the customer-oriented" viewpoint as soon as possible
- Establishing 24-h speaking phone system and if possible connecting to the operator and giving information about all issues related to the services of the e-services centers
- Offering more complete services through SMS and mobile application explained as before
- Presenting on time tracking code after each service in the e-services centers and receiving their barcode but there is no proper possibility to follow the services of the passport and department of public places
- The possibility of resolving all conflicts and passport problems in the e-services centers and increasing the authorities of the passport officers as there will be no need for the person to personally go to the visa company (correcting the processes)
- The possibility to resolve the conflicts and the problems of the driving license in e-services centers as there is no need for the person to refer to the traffic police personally, in any circumstances (correcting the processes)
- The possibility to resolve the conflicts and the problems of the military service in e-services centers as there is no need for the person to refer to the military organization personally, in any circumstances (correcting the processes)
- The increase in work hour of some e-services centers (if the managers request for it)
- The attendance of the doctors and the officials of the registration office in the e-services centers or in one building (collecting the services)
- Using the noncommissioned doctor in e-services centers and increasing the doctors who are in contract with iranian police across the city
- Increasing the number of the e-services centers on the scientific basis such as location and population index along with dedicating more services to e-services centers, some of which have been included in the answer of the question2 of the research
- The e-services centers should be established in main streets having easy access to the public transportation
- Naji Research and Development Company can proceed to install the sufficient signs at the time of establishing the e-services centers through an agreement with the municipality
- Using outgoing and experienced passport officers

REFERENCES

Assariannejad, H., R. Shirazi and H. Summer, 2011. Police services quality assessment of police+10 through using servqual analysis model. Police Manage. Stud. Q. PMSQ., 6: 208-221.

Cao, L., 2015. Differentiating confidence in the police, trust in the police, and satisfaction with the police. Policing Int. J. Police Strategies Manage., 38: 239-249.

Donnelly, M., N.J. Kerr, R. Rimmer and E.M. Shiu, 2006. Assessing the quality of police services using SERVQUAL. Policing Int. J. Police Strategies Manage., 29: 92-105.

Dukes, R.L., E. Portillos and M. Miles, 2009. Models of satisfaction with police service. Policing: Int. J. Police Strategies Manage., 32: 297-318.

Ghasri, M., and A. Salehi, 2009. Effect of privatization ofpolice services in trend of disciplinary force practices b approach to police+ 10 agencies. J. Nazmvaamniyat- Entezami, 2: 123-159

Kavoosi, A. and A. Saghaei, 2013. Methods of Measuring Customer Satisfaction. 3rd Edn., Aime Publication, New York, USA.,.

Madan, M. and M.K. Nalla, 2015. Exploring citizen satisfaction with police in India: The role of procedural justice police performance professionalism and integrity. Policing: Int. J. Police Strategies Manage., 38: 86-101.

Pallant, J., 2004. SPSS Survival Manual. Amazon Publisher Inc, New York, USA.,.

Saghaei, A. and M. Kavoosi, 2005. Customer Satisfaction Measurement Methods. Sabzan Publication, Tehran, Iran,.

Sarmad, A.S. and E. Hejazi, 2005. Research Methods in the Behavioral Sciences. 11th Edn., ArianaQalam Publication, Tehran, Pages: 177.

Toepfer, A., 1999. Customer Satisfaction Measure and Increase. 2nd Edn., Luchterhand Publishing House, Germany,.

Zare, Z. and M. Ghaemi, 2014. Evaluating the quality of 10+ Police e-services centers in the Kordestan Province. Q. Police Organizational Dev., 11: 81-103.