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Outsourcing of Primary Health Cares: Which Activities?

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ABSTRACT

the primary health cares are among the individuals' primary rights and their outsourcing can pave the way to more suitable use of resources for the field inside and outside of the organization and in this way make possible the better cares. The aim of this study was to determine the type of primary health cares that can be outsourced in Iran; this study embarked upon specifying which one, among the primary health cares, has ability of being outsourced by contractors outside the organization. This applied study has been done by a descriptive and cross-sectional method. According to the other studies at first a general framework was founded; hence the main framework with respect to the opinions of 30 experts. Thereafter a questionnaire was compiled for ensuring its correctness and gathering other experts' opinions. The method of experts' judgment was used for validity and for its reliability with distribution of 30 copies the method of calculating Cronbach' salpha, which was 0.925. Then it was distributed among experts and 786 questionnaires were completed and collected; by using the method of factor of factor and confirmatory analysis as well as the descriptive statistics we embarked upon investigating and deducing the results. For statistical investigation the software SPSS21 and AMOS20 were used. In the factor of outsourcing activities one factor only covering 55.25% of variables variance was discovered. The results suggest that the item q10, "possibility of outsourcing the concrete activities", with factor load of 0.791 and the item q6, "outsourcing and standardization", with factor load of 0.668 have respectively the highest load and the lowest one in the definition of the factor of cares of outsourcing. The more the primary health cares are more concrete, more simple, more standardized and have the further differentiability, their successful outsourcing is highly possible; in addition only those activities are able to be outsourced that can legally be taken charge by non-governmental sector.

Keywords: primary health cares, outsourcing, transferring the health services, PHC of contract work, health services

INTRODUCTION

The realization of the developed society depends on the existence of healthy, dynamic and lively citizens and providing the comprehensive health services plays an important role in promoting health of society (1) and definitely it can't be achieved without provision of the scientific and reasonable cares. In all countries of the world,

providing the health and needs of this area is Government and politicians' task, but the point is whether the Government alone can do this task. A glance at the missions and duties of the health systems shows its heaviness and seriousness. These tasks are:

Promoting health and improving the people's quality of life
Fairness of individuals' payments for health cares
An appropriate response to the expectations and demands of the people
The reduction of inequalities in health (2)

As one of the tools of the development of organizations and promotion of productivity in the form of downsizing, the outsourcing has attracted the attention of the administrators and managers of organizations in recent years and has been run in various ways. However, so far the topic of outsourcing has been often presented and evaluated in a general form and a determined pattern of outsourcing has not been provided (3). The outsourcing strategy is used in providing health services extensively not only in the field of services, but also in other areas. Today, the rapid growth of technology, increase of the speed in products market and expansion of the market boundaries have led companies toward the organizations without borders, organizations with a flexible structure and extensive supply network, organizations that are always able to adapt always themselves with environment changes; this requires the organization's quick and easy accessibility to the needed resources, such as specialist human resources, technical knowledge and advanced technology outside the organization (4). The choice of outsourcing as a strategy means that the company intends by benefiting from available resources in foreign interests to achieve its strategic goals and sees its existing interests in a wider range for the implementation of strategies (5). Salmani et al (6) admit the changes under influence of outsourcing the primary health cares; Mohaghegh et al (7) confess the impacts of outsourcing the pharmaceutical services in rural health centers, but they believe that this action requires the provision of effective mechanisms such as monitoring and evaluation for controlling the outsourced set. Turani et al (8) evaluate the pharmaceutical outsourcing of Firouzgar hospital as positive; Heydari et al (9) investigated the information technology projects outsourcing of hospitals and health centers that led finally to provide a model. Kshetri(10) believes that in India there is a potential for cost savings and outsourcing implementation for providing medical services compared to other services; this helps the low commercial value processes to increase productivity and necessary successes.

But a very important point is the kind of health cares that are able to be out sourced; or in other words, what kind of activities is transferable to others and what is not so, but they need to more exact study that is the purpose of this study.

MATERIALS AND METHODS

This applied study is a descriptive-comparative and cross-sectional one; 2015 was the time for project implementation. The scientific research population was the department members of universities and the relevant experts in the Ministry of Health, medical sciences universities and experts of the health centers of the province, the city and also rural and urban health centers. All these people dealt with the theoretical or executive activities in the field of PHC. The research statistical population that was studied in order to explain the initial framework included 20 experts of the primary health cares; the number of the selected samples for standardization of questionnaire was also 30 people. To complete the questionnaire the opinions of 786 people (as a sample) were received in different regions of the country. Sampling was done based on selection so that the relevant centers of the North, South, East, West and center are present in the samples.

The used statistical methods were the exploratory and confirmatory factor analysis, descriptive statistics and the calculation of Cronbach's Alfa; to ensure the competence and sufficiency of the number of samples, the indicator of KMO and Bartlett test have been used also as a help. The tools and methods of data collection were as follows:

Library studies, conversation with experts for preparing an initial framework and questionnaire. Data analysis tools were the software of SPSS21 and AMOS20, too.

This study was conducted in five stages as follows:

First stage: qualitative study (library studies)

At this stage with studying the articles, available books and data banks, we called the study of conducted outsourcings and the factors affecting them and their causes of success or failure and investigation of the existing patterns and effective factors in them into action and the overall framework was prepared.

Second stage: qualitative study (study of Delphi, investigating the experts' viewpoints)

At this stage the overall framework that was crafted in the previous stagewas provided for30 experts; the amendments they thought were applied and they saw it again.

Third stage: preparing the questionnaire

To ensure the correctness of the initial framework, formulation of a researcher-constructed questionnaire with 11 questions by using the Lickert specter was taken into action. In developing the questionnaire, in addition to the library studies the viewpoints of approximately 30 experts were received and applied in the questionnaire. For standardizing the questionnaire and measuring its validity, the method of experts' judgment was taken; after applying the opinions of about 30 experts, it was made sure of the validity of questionnaire.

The reliability of the questionnaire was investigated by the method of calculating Cronbach's alpha; so after making sure of the validity of the questionnaire, at first it was distributed among 30 participants and Cronbach's alpha 0.925 was obtained; in the second turn, after distributing and collecting all of the questionnaires Cronbach's Alpha was calculated again that 0.965 was obtained. Cronbach's alpha of all questions was over 0.950.

Fourth stage: collecting information

At this stage the standardized questionnaire was distributed among the target groups and 786 questionnaires were completed and collected.

Fifth stage: the data analysis and conclusion

To carry out this, the method of exploratory and confirmatory factor analysis was used. Also the Bartlett test and calculation KMO and the method of Varimax in turning the axes were used; in this way the descriptive statistics of the data helped researcher. After these measures, the main factor in the field of activities of outsourcing the primary health cares was discovered and explained.

Table 1: factor loads, correlation coefficients, mean, standard deviation and variance of items

Q item number	Number of factor	Phrase	variance	Criterion deviation	mean	Factor loading	Correlation square in factor analysis
Q1	first	Simplicity of services & possibility of outsourcing	1.14	1.07	3.66	0.742	0.550
Q2	first	Simplicity of services & further facility in outsourcing	0.86	0.93	3.88	0.739	0.547
Q3	first	Being more difficult of outsourcing the complex services	0.90	0.95	3.88	0.752	0.565
Q4	first	Further successfulness of outsourcing the more simple services	1.00	1.00	3.75	0.763	0.582
Q5	first	Possibility of outsourcing & taking charge	0.77	0.87	3.93	0.719	0.517
Q6	first	Outsourcing & standardization	0.67	0.82	4.05	0.668	0.446
Q7	first	Further standardization of quantitative activities compared to qualitative ones	0.73	0.85	3.99	0.759	0.576
Q8	first	Possibility of further outsourcing of differentiated activities	0.67	0.82	3.97	0.780	0.608
Q9	first	Possibility of outsourcing the interrelated services	0.61	0.78	4.12	0.702	0.493
Q10	first	Further possibility of outsourcing the concrete activities	0.65	0.81	4.03	0.791	0.625
Q11	first	Less possibility of outsourcing the mental activities	0.81	0.90	3.095	0.753	0.568

Findings

The study of the patterns and the other researches prepared a general framework that provided an introduction to the characteristics of outsourcing activities; this framework was made available to the experts and was amended

according to their opinions; then in the form of a questionnaire, an extensive number of experts were taken a poll in the field of primary health cares of the whole country. What has been presented as the findings are the analyses related to the answers of these experts that in the three sections of, descriptive statistics of data, exploratory factor analysis and confirmatory factor analysis.

The value of KMO is equal to 0.932 that due to the high amount shows the capacity of materials for categorizing. Bartlett test (55) and corresponding significance level (0.00) indicate that the data matrix is not a union matrix; in other words, there is an enough correlation amongst the materials for analyzing the factors.

Table 1 shows the common denominator of each item with a linear combination of all items. The results of this table suggest that the multiple correlation square of all items with the item of "the simplicity of services and possibility of outsourcing" is equal to 0.550. The item of "further possibility of outsourcing the concrete activities" is of the most correlation square by 0.626 and the item of "outsourcing and standardization" is of the lowest correlation square by 0.446.

After performing factor analysis by the Varimax method, finally a factor was identified that represents the actual dependency among the items and the lack of the possibility of their differentiation.

Table 2 shows the explained variances.

Table 2: the explained variances as the only factor of outsourcing activities before and after turn

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative%	Total	% of Variance	Cumulative%
1	6.078	55.256	55.256	6.078	55.256	55.256
2	.988	8.986	64.242			
3	.679	6.171	70.413			
4	.561	5.104	75.517			
5	.524	4.288	80.279			
6	.472	3.582	84.564			
7	.394	3.582	88.149			
8	.378	3.434	91.584			
9	.348	3.160	94.743			
10	.316	2.871	97.614			
11	.262	2.386	100.1000			

**Because in the factor analysis of this section only one factor was discovered, the Varimax turn was not done.*

The results of table 2 indicate that only on factor has been extracted whose special value is equal to 6.078. The share of this factor in explaining the variance is 55.256 percent. Given that only one factor was extracted, the Varimax turn was not implemented. After being determined the optimized number of factors, by help of factor load values after turn the items were categorized. To this end the only variables whose factor load is more than 0.4 were noted. Table 1 shows the factor load, mean and standard deviation of respondents' opinions for each of the variables of factor of outsourcing cares. The results of this table indicate that the item q10, "possibility of outsourcing the concrete activities", with the factor load of 0.791 is of the highest load and the time q6, "outsourcing and standardization", with the factor load of 0.668 is of the lowest load in the definition of the factor of outsourcing cares.

Table 3 shows the indicators of model fitness of the factor of outsourcing cares. Based on the findings of this table, a set of the fitness indicators shows that the above model is supported by collected data.

Table 3: fitness indicators as the only factor of outsourcing activities

Relative chi-square	Significance level	RMSEA	PCFI	NFI	CFI
4.411	0.00	0.066	0.672	0.989	0.972

According to table 3 and the fitness indicators inserted in it, the confirmatory factor analysis model could appropriately explain the relationship among variables. For factor of "outsourcing activities", the fitness indicators of confirmatory factor model were acceptable so that the significance level indicator in this model is less than 0.001; this shows the model is of a suitable fitness. The relative chi-square value of this factor is also 4.411 that indicate a suitable fitness of data. Comparative indicators of (0.972) CFI and (0.989) NFI have been formulated model in order to investigate the acceptability of model on the basis of its comparison with the independence model

in which the values more than 0.9 have been interpreted as acceptable. In terms of the factor of outsourcing activities this indicator reflects the proper fit of the model.

The indicator of the economical comparative fitness, (0.672) PCFI, shows whether the model economy has been performed or not; this represents the proper fitness of model. The indicator of second root of residual mean squares of RMSEA also indicates whether the formulated model can be considered acceptable or not. The value of this indicator is changeable between zero to one and the smaller is this amount, the formulated model is considered more acceptable. In terms of the factor of outsourcing activities this indicator is equal to 0.066 that indicates a proper fitness of model. In total, we can claim that regarding the factor of "outsourcing activities" the confirmatory factor analysis confirms the model and declares its enough fitness. Therefore, this factor has a sufficient trust and confidence.

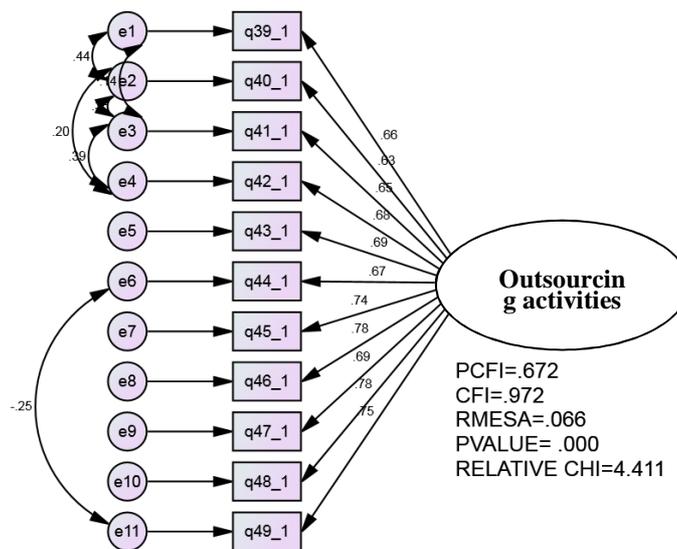


Figure 1: confirmatory factor analysis model of the factor of outsourcing activities

Figure 1 shows the confirmatory factor analysis of each item. This diagram represents the role of every item in explaining the factor of outsourcing activities.

Table 4: factor loads, correlation coefficients and mean items of the factor of outsourcing cares

items	Item phrase	Significance level	Critical ratio	Criterion error	Standard parameter	Estimating parameter
q_1	Simplicity & possibility of outsourcing	***	21.783	.046	.777	1.000
q_2	Simplicity & facilitation of outsourcing	***	19.261	.045	.742	.993
q_3	Being more difficult of outsourcing the complex services	***	19.937	.047	.688	.943
q_4	Being more successful of outsourcing the more simple services	***	19.702	.054	.682	1.071
q_5	Taking charge & outsourcing	***	18.642	.052	.651	.961
q_6	Standardization & outsourcing	***	17.926	.051	.629	.906
q_7	Being more successful of quantitative outsourcing	***	19.072	.058	.663	1.110
q_8	Outsourcing & differentiation of cares	***	19.893	.042	.687	.839
q_9	Interdependence of cares & outsourcing	***	23.264	.043	.784	.989
q_10	Concreteness & outsourcing	***	21.870	.048	.749	1.060
q_11	Outsourcing of non-objective activities	***				

Findings of table 4 and figure 1 indicate that from between the above variables, according to standard coefficients of the parameter, the item 10, "the possibility of outsourcing of concrete activities", with standard parameter 0.784 has a great correlation with scores of the factor of the outsourcing cares; on the other hand item 7, "simplicity of services

and more facility in outsourcing", with standard parameter 0.629 is of the lowest weight in defining the factor of the outsourcing cares.

Table 5: descriptive statistics of items of the factor of outsourcing activities in the pattern third section

Items	Frequency & percentage	Very low	low	moderate	high	Very high	Lost values	variance	Standard deviation	mean
Simplicity & possibility of outsourcing	Frequency	6	34	134	316	296	0	1.14	1.07	3.66
	percentage	.8	4.3	17.0	40.2	37.7	0			
Simplicity & facilitation of outsourcing	Frequency	34	72	208	286	186	0	0.86	0.93	3.88
	percentage	4.3	9.2	26.5	36.4	23.7	0			
Being more difficult of outsourcing the complex services	Frequency	14	48	162	358	204	0	0.90	0.95	3.88
	percentage	1.8	6.1	20.6	45.5	26.0	0			
Being more successful of outsourcing the more simple services	Frequency	16	38	194	314	224	0	1.00	1.00	3.75
	percentage	2.0	4.8	24.7	39.9	28.5	0			
Taking charge & outsourcing	Frequency	18	68	206	296	198	0	0.77	0.87	3.93
	percentage	2.3	8.7	26.2	37.7	25.2	0			
Standardization & outsourcing	Frequency	10	32	172	358	214	0	0.67	0.82	4.05
	percentage	1.3	4.1	21.9	45.5	27.2	0			
Being more successful of quantitative outsourcing	Frequency	2	32	136	370	246	0	0.73	0.85	3.99
	percentage	.3	4.1	17.3	47.1	31.3	0			
Outsourcing & differentiation of cares	Frequency	6	34	152	364	230	0	0.67	0.82	3.97
	percentage	.8	4.3	19.3	46.3	29.3	0			
Interdependence of cares & outsourcing	Frequency	2	34	164	374	212	0	0.61	0.78	4.12
	percentage	.3	4.3	20.9	47.6	27.0	0			
Concreteness & outsourcing	Frequency	4	30	128	398	226	0	0.65	0.81	4.03
	percentage	.5	3.8	16.3	50.6	28.8	0			
Outsourcing of non-objective activities	Frequency	12	46	132	378	218	0	0.81	0.90	3.95
	percentage	1.5	5.9	16.8	48.1	27.7	0			

Based on table 5, the mean score of respondents to the factor of outsourcing activities is 3.93; this shows that the respondents have answered in the *high* area (of course, the mentioned mean indicates the distance with the *very high* area is very little) or in other words they are in accord greatly with this factor; this represents also the correctness and acceptability of the results. The highest mean score of answers is related to q9 (the possibility of outsourcing of interrelated services) by 4.12 and their lowest one is related to q11 (less possibility for outsourcing of mental activities) by 3.095.

DISCUSSION AND CONCLUSION

The objective of this study was to identify the characteristics of transferable activities in primary health care area. In other words, the researcher of this study tried to identify the characteristics of activities transferable to out of organization to do correct outsourcing in light of them and to enjoy correct outsourcing advantages, and to prevent outsourcing of activities that have not required characteristics. Identification of a factor within the initially developed framework means that there is logical correlation among findings. In other words, findings are logically in the care area that can be outsourced, and there is no dispersion and discontinuity among them.

Considering the questions asked from experts and their announced answers, the results of the research could be classified as follows:

As the health care and activities are simpler, the possibility of their outsourcing would be high and the outsourcing would more successful. In other words, the outsourcing of simpler activities would be easier and more successful than complex activities. Gi Bai et al (11) have also referred to relationship between complexity of task and decision of organization for outsourcing. They predict that there is negative correlation between these two factors. In their

special classification, Lambros and Socrates (12) refer to product or service complexity factor. In their investigation on outsourcing of food support activities, Xiao et al (13) study the complexity of food supply chain. In his decision model, Ashrafzadeh (1) also speaks on complexity of activities and the impact that they can have on outsourcing along with other factors. Pandi and Pansal (14) also consider simplicity and stability as characteristics of outsourcing activities.

- Outsourcing is possible only in activities related to primary health care that can be tenured, that is, there is possibility to transfer them to private sector in terms of rules. Alam Tabriz and Shayesteh (15) refer to reduced government takeover in their study. Relying on Article 44 of the Constitution (16), they refer to necessity of organizational activities outsourcing to the private sector. Soleimani -and Davarzani (17) believe that by privatization and consequently reduced government takeover, in addition to economic variables, social variables are also affected.

- As activities related to primary health care are standardized highly, their outsourcing capability would also increase. Score obtained in this variable was lower than other characteristics of "outsourcing care", indicating that experts gave lower value for this characteristic compared to other characteristics. Asian Development Bank (18) is concerned with service standards as one of the outsourcing requirements and use of private sector. Wollen Weber et al (19) refer to the impact of standardization in the success of outsourcing of business services. They believe that this is necessary due to economizing the costs, improving treaties, better monitoring, and facilitating the communications. Ashrafzadeh (1) also study the capability of standardizing the activities in his model.

- Although interdependent activities can be outsourced, activities related to primary health care that can be separated (their dependency to each other is lower) can be outsourced better and easier. Princip (20), quoted by Rahnavard and Baba Seifollahi (21), believes that when a task has higher dependency to other tasks and functions, there would be lower possibility to outsource it. Ashrafzadeh (1) refers to separation of activities and products.

- Intangible and abstract can be outsourced, but when activities related to primary health care are more tangible, their outsourcing capability would be high. Ashrafzadeh (1) has also stated that transfer of more tangible and objective activities would be easier.

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