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### Income Review of Clinical Outsourcing in Jahrom Hospitals using Six Sigma and DMAIC approach

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#### ABSTRACT

The aim of this research is to enhance the understanding of profit and loss (advantages and disadvantages) of outsourcing in particular in Jahrom hospitals by using Six Sigma DMAIC approach was performed. The objective of this research is based on how you obtain the desired data in the present study Compare located. The population using simple random sampling of 160 managers and heads of hospitals, specialists, hospitals, medical and administrative authorities of the present study were considered The population data used to construct the questionnaire validity and reliability with a Cronbach's alpha of questionnaire were 0.96 . Comparison with a sample application Spss18 tests and analysis of variance with repeated measures was examined. Profit and loss analysis of outsourcing DMAIC consists of five parameters: define, measure, analyze, improve and control showed the index definition, improvement and control of the benchmark gains and losses resulting from the outsourcing of the desired level of significance level 0.10 more. The index is a benchmark for measuring and analyzing gains and losses resulting from the outsourcing of a significant level 0.10 lower than desired level. Also, in order to prioritize control measures, improved definition, analysis and measure respectively.

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#### INTRODUCTION

Financing of the health system for rich and poor countries is a major concern When efforts to improve the health of the population in developing countries to achieve economic development objectives and their alignment with the global economy is doing, Financing their health systems becomes a serious concern [14]. Hospitals, healthcare institutions as the most important role in promoting community health and consumer health care funding much countries. so that 35-70% in different parts of Europe and in at least 50 percent of the cost of the health care system is spent on hospital wards [19]. The overall performance ranking of the world's health systems in achieving 114 times in 93 health and the provision of health services is 58, which represents a significant inefficiency [13]. Hospitals are getting more and more attention to the process management and administrative measures, such as Planning and oversight led to inefficiencies and increasing development costs and ultimately stay away from global competition [24], Ministry of Health and Medical Education, as in other areas, in order to rationalize the size of government, strengthening the accountability and efficiency of health service delivery And in line with Clause 5 of Article 2 of the regulations implementing the 2002 budget and the law of development, providing resources from outside the organization put on its agenda [10].

Therefore, we outsource the services of one of the types of interventions that have been used Studies have shown that this strategy has the potential to impact on the performance of the health system. In recent years outsourcing in health services has significant importance. Iran is aware of this caravan structural reforms and since 2000 various units transferring work to non-public companies, all under the centers has started [14]. Outsourcing needs to provide higher quality at lower cost and risk associated with sharing strategy provides in this way organizations deliver innovative solutions and ideas into action faster than them. The manager of an outsourcing strategy to face various conceptual issues to more effectively use outsourcing [5]. Due to the increase in the funding allocated to the contractor and the contracting companies and organizations in many countries in the past few years, we can conclude that the velocity increased use of outsourcing but did not examine the results of outsourcing. (Ibid). Six Sigma as a bad customer experience 4.3 per million opportunities.

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Six Sigma is a management philosophy to improve and increase the effectiveness and efficiency simultaneously consider the (X, 1384). Approach, DMAIC, Six Sigma is a problem-solving approach in all programs and improvement of processes used It includes steps to define, measure, analyze, improve and control. Thus, this research analyzes the particular outsourcing Income from trees in hospitals using Six Sigma Using a problem solving approach DAMIC done. In this study, Income from outsourcing with five stages and will be reviewed DAMIC It is clear to which of these indicators in the case regarding which is the lesser attention.

#### *Literature review:*

Outsourcing is the act of transferring some of an organization's internal activities and granting the right decision was based on the external supplier. In fact, the practice of outsourcing are not only transmitted, it is also often the deciding factor and .Factors of production are: 1- employee 2- accommodations 3 for 4 - technology 5 -Other assets [18]. Also, outsourcing service providers are finding new ways to be able to make new materials, products, components and services to be subcontracted. In fact in the transferring or outsourcing of knowledge, experience and creativity of new service providers have not previously used the benefit.

Outsourcing is a process of communication and its main components are:

1. buyer or sales service (Client)
2. suppliers, logistics service (contractor or vendor)
3. The outsourcing of activities through the loop between the employer and the contractor

Outsourcing is a communication process in an organization by outsourcing (employer, purchaser, sales service) And on the other hand, the supplier (contractor, vendor, service provision) and the loop connecting the two, the activity is intended for divestiture .The main constituents of outsourcing can be expressed as follows [8]:

1. Buyer or sales
2. Supplier or contractor
3. Outsourcing activity

Six Sigma is a business management strategy which largely imperfect production unbelievable reduced. This method tries to reduce the amount of goods, imperfect as much as 3.4 per million. Six Sigma seeks to improve the quality of the output of the process is And the detection and elimination of errors and failures in promoting quality achieved [2].

Six Sigma is a philosophy of continuous improvement to the "Excellent in everything"-that is, System that determines where we've been, where we're like, how the destination is reached and how we progress along the path [4].

Six Sigma is a "methodology" is a comprehensive and effective organization within the structure, quality management programs are excellent tools [6] And insights on how to create a balance in the treatment of persons with the assistance and waiting for the right offers. Equilibrium where there is continuous improvement in the eye to eat. Extremes on both sides of the spectrum, very, very good or forcing people to do things beyond their understanding and readiness Interest will only be short-term and well overrides any results [7].

DMAIC Approach, Six Sigma is a problem-solving approach in all programs and improvement of processes used It includes steps to define, measure, analyze, improve and control. These steps are abbreviated by using the initials of the Latin words are called DMAIC.

D (definition): The first phase of the DMAIC Define the problem or opportunity, the process and requirements of the client. Since the DMAIC cycle is a recurring cycle, or trowel difficult process, work flow and needs to be updated and approved at any other stage has the necessary clarity [7].

Any errors in the "definition" Error proper starts. Six Sigma approach to define error from the customer to the organization [6].

M (measurement): M phase of DMAIC where the key values are identified and data are collected and processed and imaged [7].

Measurements lead to the formation and detection of information flow in the process and can process at a higher level of errors and identify their priorities [6].

A (analysis): One of the DMAIC phases in which the details of the review process to identify opportunities for improvement are [7].

The analysis of the previous section, the roots will cause errors in the process one of the common errors in organization, failure to detect the root cause of the error is [6].

I (recovery) phase of DMAIC where different strategies and innovative ideas are created and used in decisions about them.

When a problem or issue to be fully identified, measured and analyzed the number of possible solutions to the stated problem is a problem as and the goal provided in support of its state [7].

The answers to the questions raised in the previous steps caused. The decrease of error for the purposes of developing, evaluating the initial results of applying this approach to be improved [6].

C (control) phase of the DMAIC process which can improve the continuity and consolidation knew in the first stage, the full measure of performance at the beginning and end stages. Phase control can be improved further steps to ensure its effectiveness for the next cycle, he said. In the new documentary from the results and learn to control the next steps in the institutional memory for the storage of the standard. Is (ibid).

One of the success stories of Six Sigma is its ability to re-engineer. In many cases the recovery of six Sigma, have the legal right to decide for themselves the difficult process of "reform and repair" or "redesign" must. DMAIC can help you choose the correct option and chose the model with each of these approaches to adapt. [7]

Although a long term outsourcing of manufacturing and industry, but it is not new and has been used frequently in the past.

Although the term outsourcing for the first time in 1989, to describe Kodak's decision to divest its information technology activities of the subsidiaries' I B- sampling "was used as a business strategy, but However, before that, too many companies do not own all of their activities and the activities are assigned have less competition to outside contractors.

*The following literature can be cited:*

The study Roointan [20] regarding the transfer of radiology and hospital laboratory Imam Sadiq (AS) Aligudarz showed positive results in reducing cost and increasing revenue is Bob.

Nahari conducted a study entitled "A study of the theory and practice of outsourcing inpatient care in hospitals in Mazandaran University of Medical Sciences," states although outsourcing as a solution, but it is politically impose consequences and costs to the community.

In another of Akbari and Amani [3], "Outsourcing in a Supply Chain Process Control Model" has been studied and the results show that there are advantages and strengths and divestiture activities, risks are also plans to threaten. Of the risks, loss of control over outsourced activities that cause the failure of many projects are outsourced.

In another of Mohammadkarami examined "Factors influencing the strategic decision to outsource manufacturing executive system" in Tehran. In this study, we try to introduce different aspects of outsourcing, the impact of external factors and internal factors on the decision to outsource the management of higher levels examined in Tehran. The results demonstrate the effectiveness of organizational factors on the decision to outsource.

In a study of Valykhany [22] to "examine the role of outsourcing in improving the management of State Road Transport Industry" has been investigated and the results are expected the safety of shipping traffic increased after outsourcing industry.

In the study of Tabibi *et al* [21] in the field of "medical outsourcing support services in hospitals," stated that enhance efficiency and increase employee satisfaction with the result of the actions taken, is.

In study of Turani *et al* experience in hospital pharmacy outsourcing Firouzar in Tehran. In this research, outsourcing costs reduced to zero and the number of personnel increased after outsourcing and the manuscript was wrapped twice.

Other research station in Shaban elahi and Kalantari to "investigate and identify the benefits and barriers to outsourcing of information systems and their ranking" deal. Results indicate significant differences in the benefits and barriers of IT companies in Tehran is one of two types of outsourcing.

Also in the study by Kavoussi *et al* to "investigate the propensity to outsource is based on the characteristics of the various units of the hospital administrators and staff" took place at the Hospital, Shiraz University of Medical Sciences. The results tend to outsource food services (87%) to outsource Lab (2/62%) to outsource radiology (2/42%) and service outsourcing nursing (2/43%) shows.

In another study, Ferdowsi *et al* [10] to "investigate the Outsourcing of Kashani Hospital, Isfahan Medical Records" began. Results show (5/4%) reduction in the cost of each medical record, (2/37%) reduction in defects, medical records, (2/76%) improvement in medical procedures (59%) increase in customer satisfaction and domestic (70%) were compliant with regulatory requirements.

In a study of Emadi [9] to "calculate the benefits of business process outsourcing" deals with the results suggests that benefits play a critical role in shaping the organization's top management tend to outsource plays.

A study of the constructive and colleagues about "the martyr Beheshti University of Medical Laboratories Hospitals after the establishment of outsourcing", shows that after income lab outsourcing has increased 144 percent.

In another study of Mosazade, *et al* [16] "Identification and prioritization of outsourced hospital units" in this study utilizes health experts, The results show that most units in the hospital is to provide them can be used from the private sector. Using outsourcing to efficiently manage resources, improve the quality and satisfaction of stakeholders.

Trust Group in 2004, with interviews with senior executives of various companies from 16 countries showed that 70% of EU Europe to review this paying approach. These survey results show that 74% of

companies surveyed have at least one of the matters related to information technology and business process outsourcing have.

A study of Dong Yang and Seong Hoon Kim Chyvl on "Development of a Model for Outsourcing Business" to come in three options, making predictions, and environmental risk factors have been defined:

- 1 Forecast include: cost savings, focus on core competence, and flexible.
- 2 risks including information security, loss control management, trade union and ethical issues.
- 3 and environmental factors, including the quality of the contractor, the company is outsourcing market maturity and decisions.

This study identifies factors affecting the BPO decision and a decision model using a hierarchical analysis Process (AHP) is structured. By providing a quantitative decision model, not only in the management decision to outsource processing helps, but also helps them to gain more benefits from BPO.

The Chandra Outsourcing in India in relation to hospitals that have done and hospitals that had not benefited from this approach It was found that the direct and indirect costs of outsourcing has decreased by about 40%. Chandra was also noted that the use of ultrasound and MRI services in the private sector has an important role in generating income.

Howell [12] also showed that as a result of outsourcing services to hospital pharmacies in Aspen in America, earning 7.6 million dollars over three years to increase the hospital.

In another study of esophageal Lasyty and Leslie that "a review of the literature on the outsourcing of information technology", and factors such as incentives for outsourcing are:

- Reduce Costs
- Focus on key skills
- Access to specialized resources
- Improve process performance / business
- For technical reasons
- Flexible
- For political reasons
- Reduce the number of people
- Scalability
- Transforming the Organization
- The commercial exploitation
- Access to Global Markets
- Set IS and Business Strategy
- Greater predictability of cost and schedule
- Creativity and innovation
- Get Immediate Delivery
- Focus on IT system

Also, Glzant [11] study "Income from outsourcing" to the analysis of outsourcing in particular Kazakh banks pay. The results indicate that outsourcing has become one of the most extensive operations in today's businesses. But along with advantages such as lower costs, focus on core activities and flexibility, the hidden costs associated with outsourcing. So you have to be implemented carefully in order to successfully achieve its advantages and disadvantages prevented from occurring.

## MATERIALS AND METHODS

The objective of this study is on how to obtain the necessary data needed, causal research is descriptive and Comparative.

*The population, sampling and sample size:*

The study was conducted in 2013-2014 in hospitals. State Institute of Medical Sciences, both under the trees in the areas of treatment, education, research and health care work. Each hospital has a clinical departments (laboratory, radiology, pharmacy, crusher, physiotherapy, hospital admissions, sanitation, medical records), medical (EMS, Surgery, Operating Room, ICU, CCU, local anesthesia, eyes, dialysis, women, maternity, pediatric, ICU babies) and administrative (administration, finance, logistics, it department, service department, improve quality, etc. The population of this study consisted of managers and heads of hospitals, specialists, medical and administrative departments are responsible for a total of 270 million per year is allocated to 2013-2014.

In the present study because it is a non-experimental survey, using the following formulas can be used to determine sample size:

$$n_0 = \frac{Z^2 pq}{d^2}$$

$$n = \frac{n_0}{1 + \frac{n_0}{N}}$$

$n_0$ : The sample size here is 270.

$n$ : number of samples

$d_2$ : Since 95% error rate is considered, the probability of error in 05/0 placed.

$Z$ : Unit normal value corresponding to the confidence level  $1-\alpha$ , which is 96/1.

$P$ : Select the success ratio, calculated as the ratio varies from previous studies (successes that have been considered in this study 5/0)

$q = 1-p$  of failure to be selected according to the value of  $P$ , 5/0 is. In this case, the variance reaches a peak of 25/0

Population variance is unknown because of the formula used. The population is about 160 270 people, according to the calculations of the sample is obtained. As a result, the sample size is 160.

Due to the possibility of loss and lack of accountability of employees, 170 questionnaires were distributed in total, 160 completed questionnaires were answered by their All of which were statistically analyzed.

Goals

General Purpose: To assess the benefits and harms of clinical outsourcing in hospitals using Six Sigma DMAIC approach is the use?

#### *Research hypothesis:*

Hypothesis 1: Based on the definition of average income equal to the average level of outsourcing is desirable.

Hypothesis 2: The index measures the average gain or loss equal to the average level of outsourcing is desirable.

Hypothesis 3: Based on the analysis of outsourcing mean to the average income level is desirable.

Hypothesis4: The average recovery of profits and losses resulting from outsourcing to the average level is desirable.

Hypothesis 5: Control index is based on average income equal to the average level of outsourcing is desirable.

Hypothesis 6: The various parameters define, measure, analyze, improve and control the desired level of income is derived from outsourcing.

Given the assumptions and definitions are presented in a variety of research variables, the variables are defined as follows:

In this study, "Income from outsourcing" as the dependent variable and "outsourcing" as the independent variable.

#### *Collection tools of Data:*

The survey questionnaire used in the construction of the questionnaire, two standard questionnaire about the "benefits of outsourcing" and "Reasons for Outsourcing" extracted And researcher in the DMAIC problem-solving approach and the concepts and definitions of each indicator is designed.

The questionnaire included 30 questions based on the profit (benefit) is the result of outsourcing, in which the questions 1 to 6 on the defined benefit outsourcing, benefits of outsourcing based on questions 7 to 13 measurements, 14 questions18 Benefits of Outsourcing Based on the analysis, questions 19 to 25 based on improvements and benefits from outsourcing Questions 26 to 30 Benefits of Outsourcing Based on the monitoring indicators will be measured.

Outsourcing also benefits from the following four cost savings, focus on core activities, access to resources, expertise and flexibility made. The main focus of development activities, focusing on the aspects of strategic management, risk reduction and increased management control of the management of the different levels of performance indicator "variable focusing on core business" is. Overcome the shortage of skills and tasks with greater accuracy and less error indicator "variable access to specialist resources" are. The flexibility to respond to changes, reduce restrictions on the use of internal resources and reduce operational headaches indicator "variable flexibility" is.

To assess the face validity of the questionnaire five university professors Shiraz and Jahrom Payamenoor All faculty members are given. After review and final approval was obtained imposing their views on items. To determine the criterion validity was used Cronbachs Alpha. To calculate Cronbach's alpha demonstrated using SPSS software Before a Cronbach's alpha of the scale, calculated for each DMAIC criteria for reliability was questioned assumptions that define its results for the 90/0, the index measuring 84/0 index 83/0 analysis, indicators and improvement 84/0 85/0 control indices, respectively. Also, for the entire questionnaire, the Cronbach's alpha coefficients 96/0 that it was all due to the fact that more than 7.0, indicating a high reliability of the questionnaire. To test hypotheses 1 to 5 from a comparison of single sample and to test the sixth hypothesis of ANOVA of repeated measurements were used.

**Results:**

According to information obtained from the questionnaires, we examined the distribution of demographic characteristics of employees. The results are given in Table 1 Frequency distributions.

**Table 1:** Distribution of demographic characteristics of the study staff.

Cumulative Percent	Percent	Frequency		
43.1	43.1	60	<35	age
73.1	30	48	35-40	
87.5	14/4	23	40-45	
100	12.5	20	>45	
64.4	64.4	103	Female	sex
100	35.6	57	Male	
11.9	11.19	19	>5year	
65	53.1	85	6-15	Work
88.1	23.1	37	16-25	
100	11.9	19	>26	
	100	160		Total

Also, check for normality and randomness of random test data sample Runs Test is used. The results are given in Table 2.

According to the results of Table 2, the level of significance in all parameters studied more 05/0 ( $P > 05/0$ ), respectively, show that the hypothesis of a random admitted because  $05/0 < P$  is. The parameters obtained from a random sample of the target population is obtained.

To test the hypothesis  $H_0$  and  $H_1$  hypothesis is as follows:

$H_0$ : The data obtained from these samples are not random.

$H_1$ : The data obtained from these samples are random.

How to judge:

The calculated value is greater than the 05/0 show that Data with normal distribution are the result of random selection. Otherwise, assume that  $H_0$  is not random and therefore the data are not normally accepted.

**Table 2:** Random test data Runs Test.

C	I	A	M	D	
3.8	3.71	3.6	3.57	3.79	Test Value <sup>a</sup> Cases < Test Value
78	75	68	76	70	Cases >= Test Value
80	83	90	82	79	Total Cases
158	158	158	158	158	Number of Runs
88	85	79	72	89	Z
1.279	0.833	0.807	-1.261	1.437	Asymp. Sig. (2-tailed)
0.201	0.403	0.931	0.207	0.151	

**Testing hypotheses:**

The results of hypotheses 1 to 5 using the mean of a sample are summarized in Table 3.

**Table 3:** Comparison of Income of Outsourcing desirable.

sig	df	t	optimal outsourcing levels	Std. Deviation	mean	
0.000	157	50.91	3.51	0.87	3.52	D
0.000	157	56.39	3.51	0.76	3.43	M
0.000	157	54	3.51	0.8	3.44	A
0.000	157	61.04	3.51	0.73	3.55	I
0.000	157	56.69	3.51	0.80	3.62	C

According to information obtained in Table 3, with the benchmark index gain or loss resulting from the outsourcing and observed that out of the indicator definition, process improvement and process control for optimal outsourcing levels and a significant level of 01/0 Income is significantly higher. These findings suggest that define and identify the most desirable and expected.

In fact, out of the profits of the optimal level of outsourcing in favorable conditions, not conditions in these parameters were measured in the questionnaire population perspective.

**The hypothesis:**

$H_0$  = mean of defining, measuring, analyzing, improving and controlling the desired level of profit and loss is the result of outsourcing.

$H_1$  = out the definition of indicators to measure, analyze, improve and control the desired level of income is derived from outsourcing.

Are examined. The repeated measures analysis of variance was used to test the results are given in Table 4. For this purpose, multivariate tests including: Pillai, Wilks Lambda, Hotelling-ray was performed and the results are given in Table 4.

**Table 4:** Multivariate tests.

sig	df	F	value	
0.001	4	5.292	0.122	Pillai's Trace
0.001	4	5.292	0.878	Wilks' Lambda
0.001	4	5.292	0.139	Hotelling's Trace
0.001	4	5.292	0.139	Roy's Largest Root

Table 4 shows that the  $05 / 0P <$  (which is less than  $01/0$ ) obtained can be judged the sets of variables are significant at the 99% probability level  $01/0$  and solidarity with the link. In other words DMAIC statistically significant effects of factors and indicators and indices groups with no significant difference in the mean vectors.

To investigate the hypothesis of the origin, rotating and circular Mauchly test was done and the results are given in Table 5.

**Table 5:** Test circular, rotating and Mauchly.

sig	df	Chi-square	Mauchly	
0.156	9	13.138	0.918	Factor1

Information obtained from Table 5 according to the significance level ( $05/0 P >$ ) indicates Calculating the covariance matrix with a rotation around the hypotheses tests, the dependent variable is correctly defines the matrix and In fact, this test can be used to achieve the desired results.

Then the group of tests performed in the analysis of variance with repeated measurements are given in Table 6.

**Table 6:** Effects of intra-group tests.

sig	F	Mean Square	df	Mean Square3	resources
0.010	6/857	1.403	1	1.403	Error(factor1)
0.001	12.257	1.99	1	1.99	Sphericity Assumed
0.149	2.101	0.289	1	0.289	Greenhouse-Geisser
0.541	0.375	0.048	1	0.048	Huynh-Feldt
		0.205	155		Error(factor2)
		0.162	155	31.725	linear
		0.1380	155	25.164	Sphericity Assumed
		0.127	155	21.35	Greenhouse-Geisser
				19.738	Huynh-Feldt

Table 6 Analysis of variance for two factors to enter linearly, chi-square test for the third and fourth. The results obtained and the significance level of  $P < 05/0$  in the linear model analysis of variance and chi next steps are done correctly.

Finally, Table 7 shows the results of the ANOVA test to compare the benefits and drawbacks of outsourcing shows the DMAIC approach.

**Table 7:** Results of ANOVA comparing Outsourcing Income DMAIC approach.

sig	F	df	Std. Deviation	Mean	N	
0.000	3746.5	4, 157	0.80	3.62	158	D
			0.73	3.55		M
			0.87	3.52		A
			0.80	3.44		I
			0.76	3.43		C

According to the results in Table 7, the assessment and prioritization of the five DMAIC problem solving approach the highest average gains and losses resulting from the outsourcing of control and the lowest index corresponds to the index measuring the 4 and 157 degrees of freedom at a significance level  $01/0$  the difference between profit and loss in the expression of these markers was outsourced. In fact, these results suggest that a high level of control applied to achieve the benefits of outsourcing, But the measure at the lowest level are used to obtain benefits from outsourcing and The least use it out to be.

#### Discussion and results:

Demographic characteristics of the population studied. According to the results, 4/64 percent of the female population and 6/35% of the male form. In the case of age, most under the age of 35 years with a frequency of

approximately 43 percent. Check the status of hired workers showed the highest frequency of formal employment status with frequency of about 47% was obtained. The population's education level showed that most of the bachelor's degree level with a frequency of 6/70, respectively. The results of the survey also showed that most of the previous work experience of 6-15 years with a frequency of about 53 percent.

The results obtained from the analysis of the questionnaire data, index definition, improvement and control of outsourcing to be compared with the benchmark Income and observed that out of the indicator, the optimal level of outsourcing gains and losses are significant and more meaningful level 01/0. The index is a benchmark for measuring and analyzing income and a significant level of outsourcing is significantly lower 01/0. These findings suggest that the two factors assume equality of means is rejected and the null hypothesis can be confirmed.

In more detail, Having defined the index items include alternative outsourcing activities of the organization, contributing to a sustainable competitive advantage in the market, has the potential to impact on the performance of health systems, has added value and quality, using professionals have been identified.

Assessment and prioritization of profits and losses resulting from outsourcing using DMAIC indexes defined on the index, the index is meaningful to the desired level of profits and losses resulting from outsourcing more. This means that the problem definition stage of the process and requirements of the clients and the clients of the hospital is receiving much attention. Therefore, Jahrom city hospital is a correct definition of profits and losses resulting from outsourcing, but indicators are classified in Avlvlyt the index and middle third place. It is the result of research Amin Shayan Jahromi *et al* [1], is not consistent, however, with the study of heaven Far, Ghafarian and Jahangir, Noorshahi and Indigo Ahmedabad is consistent.

The measure index, the index items include: availability of health system goals with outsourcing, with appropriate criteria and measurable indicators, to reduce administrative costs and reduce staffing, activities to do less time, reduce costs rights and thus reduce investment costs for the activities of the hospital were studied. The results showed that the index of the desired level of profit and loss in such a significant outsourcing will be smaller. This means that Six Sigma emphasizes measurable indicators to explain the situation to change or improve the situation leading to the formation and detection of data streams in the process. And the errors and the errors show, at the hospital level is not desirable. The priority index is the index of the last priorities. The result of the investigations Remarkably Shayan Jahromi *et al*, Heaven Far, Hadavand, Indigo Ahmedabad (1992), Ghafarian and Jahangir is consistent with the study of X, reveal the Emadzadeh and Hussain and Latifian is not consistent.

For the analysis, Items of converting fixed costs to variable, the main focus of development activities, taking advantage of The latest technology with minimal investment, using hardware efficiently and reduce operational headaches were studied. Results of the analysis showed that the index of the desired level of profit and loss are significantly lower than outsourcing. This means the criteria for consideration at the hospital gains and losses resulting from outsourcing are not given much importance. However that This indicator details the process used to identify improvement opportunities are part. This step uses the data to measure the root causes of errors and poor quality of the deals. And root cause analysis of detected errors to examine the According to the data obtained in the study hospitals have little relevance to the Index and importance Fourth priority. It concludes with a study by Amin Shayan Jahromi *et al*, Heaven Far, Indigo Ahmedabad, Ghafarian and Jahangir is consistent with considerable research and Amin, X [4] and Merchant is not consistent.

The index improved, higher-quality items for chance to perform with a lower error rate than the organization overcome the skills shortage of skilled labor and equipment shortages, the increased focus on core activities and outsource enforcement activities, Provide an opportunity for management to focus on strategic aspects of the core business, reduce restrictions on the use of internal resources, enhance organizational flexibility in responding to changes examined. Results of the analysis showed that this indicator has significantly from the desired level of profits and losses resulting from outsourcing more. In the recovery stage, a variety of creative solutions and ideas are created and decisions are done on them .In the recovery stage, a variety of creative solutions and ideas are created and decisions are done on them. Error reduction targets to be developed and preliminary results after application and measurement techniques improve, this stage takes place in hospitals in this study is of considerable importance. The second priority is the priority indicators are showing that it is due. It concludes with a study by Amin, X [4], Bagherpour Yazdi, [6] Kasmn, Bdyan *et al* (1991) and Hussain and Latifian is consistent with considerable research Amin Shayan Jahromi *et al* [1], Hadavand, Indigo Ahmedabad, Ghafarian and Jahangir is not consistent.

In the case of control, the items included: reducing liability management, increase management control over the level of performance of the principal activity, reducing the complexity of control processes for the organization, reducing investment costs by implementing outsourcing, Increased focus on the core business of providing outsourcing organization achieve its goals, according to schedule, Increased supervision of outsourced activities, efforts to provide outsourcing activities in order to improve their productivity and service quality. The results of investigations of the questionnaire data showed that this indicator has significantly from the desired level of profits and losses resulting from outsourcing more Continue monitoring to ensure the effectiveness of



the recovery phase for the next cycle is. It would be a return to the situation prior to being applied and feedback for process improvement this leads to a rapid and appropriate response to the problems and issues. The prioritization of these indicators is the first priority and importance, The hospital staff studied these parameters are compared with other indicators attach the greatest importance. This result is a consequence of Noorshahi in line but the result was worth Amin Shayan Jahromi *et al* [1] suggest. The priority index is significant but less than the desired level, So on the one hand and on the other line is suboptimal because it cannot be aligned. Also, the results of research Hadavand, Indigo Ahmedabad, Ghafarian and Jahangir is not consistent:

#### *Suggestions for future research:*

Since its grand plans to develop a holistic approach towards the inclines the application of this technique to the other activities, including manufacturing, non-manufacturing industries, and even goes Studies in this field in order to develop as an effective strategy used for other activities.

In subsequent studies of economic, political, social and cultural outsourcing looping a chain of interdependent, in order to increase productivity in the organization and management of hospitals offered.

In subsequent studies of factors affecting outsourcing risk factors include: information security, loss control management, unions and the ethical issues in implementing and deploying more attention to outsourcing and more extensive research done on the issue, Because of lack of attention to the risk factors that can lead to failure of outsourcing and profit from it.

One of the areas of information technology which has always been a pioneer in the outsourcing market and It is in fact part of the evolution of outsourcing is influenced by the technology, as well as in hospitals and other organizations to be studied.

In fact, part of the evolution of outsourcing is influenced by these technologies, as well as in hospitals and other organizations to be studied.

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