

## IDENTIFYING FACTORS AFFECTING ABOUT OUTSOURCING IN PARACLINICAL SERVICES: A SYSTEMATIC REVIEW OF LITERATURE

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Published online: 08 August 2017

### ABSTRACT

#### Objective:

Outsourcing refers to the transfer of services or functions to an outsider supplier, which controls them through a contract or cooperative. The main problem of senior managers in health organizations is determining the services which should be outsourced. The present study seeks to identify the factors that affect decision about outsourcing.

#### Methods:

We systematically searched relevant databases including Pub Med, Scopus, Science Direct and Web of Science databases using terms “Outsourcing AND Decision Making OR Policy AND health OR hospital OR health care OR health services OR healthcare”. Studies were identified and screened in accordance with the preferred Reporting Items for Systematic and Meta-Analyses (PRISMA) published in English or Farsi, determining factors that affect making decision about outsourcing a health organization services.

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doi: <http://dx.doi.org/10.4314/jfas.v9i2s.845>



## Results

The search retrieved (2585) citation of which 14 studies were eligible. Across the eligible articles, 10 overarching themes including 40 subthemes that affect decision maker to outsource a service or not, emerged.

## Conclusions

Results of this study offer evidence for a comprehensive approach to design and implement a strategic plan that can be used as guidance for policy makers, micro and macro healthcare authorities and managers, and other stakeholders in this area to select and apply the best strategies to make outsourcing in the best possible way.

**Keywords:** Outsourcing, Health Services, Effective factors, Health Organization

## INTRODUCTION

Nowadays organizations incline to apply new strategies in order to achieve competition merits in world of business, because of issues like increase of competition pressure, business difficulties, resource limitation, technological anfractuosity and duties specialization, increased costs, inordinate enlargement of some organizations especially in governmental part, and law limitations(1).

On the other hand, in organizations and institutions that are becoming more and more complex, Modern health care management takes place(2).

Outsourcing is one of these strategies that organizations utilize in order to cope with difficulties(3).

Outsourcing means the transferring of services or functions which traditionally performed by the organization to an outsider supplier, which controls them through a contract or cooperative(4).

Recently, in order to improve quality of services and products, reduce costs and production time, focus on main competitive advantages and, generally, increase effectiveness of the organization, some companies have started to outsource some of their activities(5).

Alliances, partnerships, or joint ventures, in that the flow of resources is one-way, from the provider to the user, differs from outsourcing(6).

health services are suffering from difficulties in efficiency and quality while Health costs are rising(7).

Early 1990s, a trend in health services of partial or total outsourcing can be observed(8).

As a legal and managerial tool, outsourcing can decrease costs, increase productivity and quality of services, improve performance and increase access, equity, efficiency and accountability of healthcare through motivating the buyer and provider(9-12).

The effects of outsourcing issue in health sector can be divided into two categories: short-term and long term effects. Short-term category comprises cost reduction, changes in the organizational structure, improvement of its quality and access to new technologies and techniques of treatment. Second category effects relate to increase in economic efficiency, organizational development, improvement of quality of services and the medical entity's image(13).

However, the effectiveness of outsourcing as a type of health system reformis still not to conclude by literature because the evidence from different parts of world shows variable outcomes(14).

According to the findings of some studies, determining the services which should be outsourced is the main problem of senior managers of organizations(15).

Outsourcing affects professional sectors with different intensities, although it is a general trend(8).

Outsourcing the clinical services has been accompanied by some risks, though outsourcing of non-clinical services has been highly successful. A study conducted in US, revealed a two-fold growth in outsourcing of nursing services from 1994 to 1995(16).

The spread of outsourcing non-core processes in healthcare has become very fast because, the hospital being a set of many departments handling large number of activities, there is the need to entrust outside the non-core services(17).

It should be noted that outsourcing is a complicated process and cannot solve all problems of health system. Besides, not all services can be outsourced(18).

The present systematic review aims at identifying the factors which affect healthcare organization decision about outsourcing. The results of this study can help to identify the main factors which may be practical for institute, state and national decision makers, in all countries, to make the best decision about outsourcing.

## MATERIAL AND METHODS

### Eligibility Criteria

Using Preferred Reporting Items for Systematic Reviews and Meta-Data Analysis (PRISMA) guidelines (19), we searched PubMed, Scopus, Science Direct and Web of Science databases using simple search term “outsourcing AND health OR hospital OR health care OR health services OR healthcare” (to ensure that all pertinent citations were captured), along with searching the reference lists of identified articles for additional pertinent articles. The entire review process takes time about 5 months between March 2017 and July 2017. The final search was conducted on Jun, 5, 2017.

### Selection process

Electronic search results were collected in an Endnote library (for de-duplication of records).

Firstly, one of the authors screened all article references based on title and abstract to identify potentially eligible articles (and independently cross-checked the initial results) on the basis of the following inclusion criteria:

**Outsourcing AND health OR hospital OR health care OR health services OR healthcare:** only studies that concern medical/health outsourcing were included in the selection.

Factors affecting destination choice: records should aim at identifying decisive factors that play important roles in outsourcing a specific medical/health services to a private sector/ vendor. The potential benefits and risks of outsourcing were not of interest.

**Original research:** Conference proceedings, commentaries, editorials and letters were excluded.

**English or Persian language:** we excluded articles published in other languages other than Persian and English.

Then two of the authors independently screened remaining articles' complete full text to confirm eligibility.

Two reviewers independently rated the included studies using CASP (Critical Appraisal Skills Program)(20) checklists as quality appraisal tool.

Inter-rater reliability (for both study selection and quality appraisal processes) was assessed applying kappa statistic (21). Substantial agreement was observed between raters for the full text review and quality appraisal of the included articles. Whenever one of authors was doubtful about eligibility or quality, agreement was reached through discussion.

### Data collection process

A data extraction form was designed prior to data collection. One author independently extracted study characteristics (name of the first author, publication year, country, study design and research objective) as well as key findings related to factors affecting decision makers to outsourcing some selected services from included articles, and another reviewer verified the data extracted. In any event of disagreement between them, consensus was reached through discussion, and using third reviewer as required. For mixed-methods studies, we extracted only the qualitative components.

### Data Synthesis

We synthesized the findings of included articles with the methodology of thematic synthesis proposed by Thomas and Haden (22).

### Results

Our search strategy resulted in (2585) citations; after deleting 595 duplicates and screening titles, (600) abstracts and (93) full text articles were reviewed, and (14) studies were chosen to be included in this systematic review (Figure 1). All eligible articles were considered of good quality.

Although there was no time limitation for search strategy in this study, the publication year of all included papers is from 2000 onwards.

The included studies were conducted on a comprehensive range of stakeholders, including public and private service providers, service recipients and academic experts. We collected a total of 40 factors (subthemes) related to affecting factors on outsourcing under (10) main themes as follows:

#### Theme 1: Financial Consideration

One of the most important factors affecting outsourcing in healthcare organizations is a financial issue. In this regard, one of the important factors is **cost reduction or cost saving**(4, 23-27). Organizations that are outsourcing with this aim, believe that outsourcing will reduce some of the organization's costs. Reduction in costs can reduce transportation costs (28), reduce investment in facilities (29), reduce support costs, and other production costs (30). In fact, fixed costs change to variable costs(24).

The next effective factor in this field is the **efficiency**(25, 29, 30). So that by outsourcing the services, the secondary provider will produce the service more efficiently and therefore will make the purchase of that service more cost-effective for the organization.

On the other hand, outsourcing will lead to a reduction in **unit cost(25, 30)**, as a result, the service will be offered at a more reasonable price, and the profitability of each service for the secondary provider will be higher than the service provided by the organization itself.

Another financial issue that can affect outsourcing is the **lack of funds(23)** in the organization. In case of lack of funds, the healthcare organization will plan to make up for part of the lack through outsourcing.

**Financing(27)** service provision is also one of the factors affecting outsourcing. So that if financing is provided by the main organization (not by other sources), there is more tendency towards outsourcing.

On the other hand, achieving **economies of scale(25)** is one of the most important financial factors affecting outsourcing. So that if there is economies of scale for an organization's service it would not be desirable to outsource the service due to low-cost service production.

#### Theme 2: Customer Orientation

Another issue affecting the outsourcing decision is the impact of this decision on customers or service receivers. One of the important factors in this regard is the improvement of the **quality of services(4, 24-26, 28-32)**. Many healthcare organizations believe that outsourcing will result in improved service quality due to the competition and expertise of the secondary providers, or at least the current quality level will be maintained (04, 013.)

Another important factor in this area is the ability of the organization to **monitor and evaluate(24)** the quality of services after outsourcing. If the organization is not able to do this, outsourcing will face serious challenges.

The next factor is the effectiveness of the service, which ultimately leads to positive **health outcomes(26, 30)** in the individuals and society.

And finally, **customer satisfaction(23, 24, 26, 27, 30, 31)** is a very important factor whose realization or promotion is an important aspect in directing organizations towards outsourcing.

#### Theme 3: Personnel orientation

Based on the findings of this study, one of the factors affecting outsourcing is personnel orientation and its related issues. One of the important factors related to this area is the **expertise availability(24, 28, 31)** outside the organization that can produce the desired service in the right quality.

The **lack of personnel**(23, 24, 27)to serve in the organization also facilitates decision making in the field of outsourcing.

On the other hand, the presence of experienced and specialized personnel in the organization to **monitor and evaluate**(29)the services offered by the secondary provider in terms of quality, price, customer satisfaction, effectiveness, observation of the standards, and so on, to ensure contract fulfillment provisions, is another important factor in personnel orientation.

The fourth factor of personnel orientation that can affect the outsourcing of services is the **high cost of personnel**(25, 29, 33)of healthcare organizations that can be reduced through outsourcing. On the other hand, the salary of those employed by the secondary provider increases slightly, compared to those inside the organization.

#### Theme 4: Administrative issues

Another important issue that affects organizational decision making in the field of outsourcing is the administrative issue of the organization. The first factor in this area is the ability of the organization to **monitor and evaluate performance**(4, 24, 26, 29, 32, 33), which depends on the presence of experienced and specialized personnel in the organization and the existence of appropriate standards.

**Current workload**(31)of the organization is another factor that has been obtained from the studies. More workload of the organization leads to outsourcing.

In addition, health organizations that are in charge of **educating and training residents and fellowships**(31), have fewer opportunities for outsourcing.

On the other hand, findings of studies showed **that reducing the time of processes**(4, 30, 34)and, as a result, reducing the waiting time of service receivers, is another factor that encourages the organization to outsource.

Increased **productivity**(26, 30)of the organization, that is the result of increased efficiency and effectiveness, is another important factor in managing issues.

Furthermore, the impact of enhancing the **operational flexibility**(27)of the organization, which leads to an appropriate response to various situations and challenges, can also be mentioned in this context.

**Technical knowledge**(26, 30)is also one of the important factors in this field that refers to the technical ability of personnel, the presence of appropriate technology and the existence of technical knowledge in the use of technology.

Finally, the **core functions**(26, 29)of the organization and how outsourcing affects these functions and missions of the organization are also important factors. Studies have pointed out that outsourcing leads to the release of internal resources of the organization to focus on the main functions of the organization.

#### Theme 5: Strategic issues

Another important issue in decision making for outsourcing services in healthcare organizations is strategic issue. The first factor in this area is **innovation and creativity**(26, 27, 31, 33). Decision makers who agree with the impact of this factor on outsourcing believe that secondary organizations provide services more creatively and innovatively, which can even lead to the creation and delivery of new services or the development of the production process and the delivery of services.

On the other hand, outsourcing will lead to focusing on the **core business**(4, 23)of the organization and the organization will produce and support its core services and focus on its core capabilities, which will lead to better performance of the organization.

Another influential factor in strategic issues is the improvement of the **organization's image**(27). Since outsourcing advocates believe it will lead to a better quality of service and customer satisfaction, as a result, the organization's image will improve in the community.

In domain of strategic issues, the next important factor is **risk sharing**(24, 25). So that through outsourcing the primary organization, it will share the risk of producing and providing outsourced services for the secondary organization and will transfer part of the risk to it.

The next factor in this area is the increased **flexibility of the organization**(4, 24, 25). The findings of the studies showed that as a result of outsourcing, without wasting internal resources, the organization's adaptation to rapid environmental changes is promoted.

#### Theme 6: Service related issues

Service related considerations are other important factors in decision making for outsourcing that were obtained from the studies. The first factor in this area is the **volume of service**(25, 28-30, 32). In other words, the volume of services or the demand for that service should be so that there is a possibility to create a market for the service.

On the other hand, in included studies it was believed that services that have a **definite definition and could be differentiated from other services**(4, 28, 35) must be maintained in the

organization, and complex services must be outsourced, and moreover, services that are less dependent on other services are more suitable for outsourcing.

Furthermore, services that **continuity of care**(31, 32, 34) is important in their improvement are not suitable for outsourcing. These cases refer to services in which direct hands-on patient care improves the effectiveness of healthcare.

On the other hand, those services can be outsourced, which is possible to maintain patient **confidentiality**(29) when providing a service by a secondary provider; otherwise, outsourcing will be accompanied by patient dissatisfaction.

Finally, services that are considered as **core competencies** (4, 23-25, 29, 31) of the organization must not be outsourced because these services are the reason for the existence of the organization and without provision by the main organization, the continuation of the organization's presence would be meaningless.

#### Theme 7: Market related subjects

One of the important subjects that guarantee the success of healthcare organizations in outsourcing is the market related topic. The first factor in this regard is the **flexibility towards the environment**(4, 23, 26) through outsourcing. This flexibility can be with regard to the customer, market instabilities, and so on.

Another important factor is **business opportunity**(27). In outsourcing, it should be noted that outsourcing a service provides a business opportunity for a secondary provider. Otherwise, the organization will have no reason to enter into this area.

On the other hand, outsourcing will be facilitated if it is accompanied by the **loyalty and commitment of customers**(24) to the organization. However, if this decision leads to customer dissatisfaction and disengagement from the organization, outsourcing will be a false decision.

Finally, if outsourcing is accompanied by **competition and transparency**(33), it will likely result in success.

#### Theme 8: Social oriented issues

Other important issues that affect outsourcing are social issues. One of the major limitations of outsourcing in the health field is the need for partnership and agreement among all **stakeholders interest** (26, 28, 33). Stakeholders include healthcare organizations, healthcare personnel, patients and the community, insurance organizations and the government. The balance between

all stakeholders makes challenges to the public interest, equality, responsiveness or potential conflict of interest.

Another influential factor in this regard is the **legislation**(29, 33-35)that affects outsourcing. The manner of contracting with the secondary provider, the prices and even the type of service that can be outsourced, are influenced by the legislation of each country, province, or city.

Theme 9: Equipment related subjects

An important factor in this regard is the availability of automation and appropriate information system. Outsourcing will be facilitated if there is a **good infrastructure in the field of information technology**(24, 25, 30)as well as an information network that provides faster service delivery and easier information exchange.

Theme 10: Issues related to the secondary provider

The only factor obtained in this area is the **availability (proximity), the stability and reliability of the provider**(29, 34), which is one of the most important factors in the decision-making field for outsourcing. The above points refer to all types of access, including cultural, geographical, temporal, as well as types of sustainability, including organizational, financial, and so on.

Discussion

Considering the increasing growth of outsourcing of services in health care organizations in the world, this study sought to identify factors that are effective in outsourcing decision-making.

Improving the quality of services and reducing the costs, were the items mentioned in the vast majority of studies as factors affecting outsourcing. In 09 study, the reduction of personnel costs through elimination of workforce positions in outsourcing, is mentioned, which is one of the main sources of cost formation in the organization. In Reuveni et al (27)study cost reduction has been referred to as the most important outsourcing factor. In Callahan(36), Galloro (37)and Magnezi et al(38) studies, it has been pointed out that promotion of quality and customer satisfaction are important factors in outsourcing, but they do not necessarily lead to reduction of costs. In Moschuris and Kondylis(23) study has mentioned reduction of costs and customer satisfaction as the most important factors affecting outsourcing. The point to be made here is that cost reduction is not only the first element related to outsourcing, but in the next steps, it includes all external aspects of outsourcing. On the other hand, what is more important than improving the quality of services and the health outcomes of patients and society?

The next factor obtained from the findings of this study, which should be considered, is the existing legislation. Some of these legislations are facilitating, and some others, are an obstacle to outsourcing. If the existing legislation does not allow the outsourcing of a service, even if the other factors are available, outsourcing is not possible. The Madani et al (35) study confirms the mentioned result. In these studies, it has been pointed out that the overall policy and approach of government and policymakers that determine the rules governing the healthcare system, is very influential. If the government does not want to outsource, despite the presence of other factors, the outsourcing would not be possible. Therefore, one of the ways to facilitate rational and purposeful outsourcing is to reduce government ownership.

On the other hand, after cost reduction and quality improvement, most of the studies had focused on the services or core functions of the organization and their preservation in the organization and the outsourcing of other services. On the other hand, it must be noted that some services are dependent on other services that make the outsourcing difficult. Meanwhile, simpler services that are well-defined and have clear-cut standards are suitable for outsourcing. As it can be seen, there may be a contradiction in the criteria and conditions outlined for outsourcing. Therefore, it should be noted that organizations, according to their own circumstances, make final conclusions and decide about the outsourcing of a service. The studies of Madani et al(35), Lambros and Socrates(39), Hsiao et al(40), Pandey and Pansal(41), Wullenweber et al(42), and Prencip(43) confirm above result. Another factor that was mentioned in included studies was the financing of the organization. If the provision of the organization's resources lies with the organization itself, the organization will be more willing to outsource. For this reason, outsourcing in non-governmental organizations is expected to be higher than governmental organizations. Since most governmental organizations do not have the responsibility of financing, there is little pressure to reduce costs. Study of Callahan confirms the above findings.

Additionally, findings from studies indicate that risk sharing with a secondary provider is one of the factors affecting outsourcing. It was previously noted that healthcare organizations that are not responsible for financing costs, and the costs are covered by government or other sources of funding, are less willing to share risk due to outsourcing, because there are almost no resource constraints and financial risk does not threaten them. The study of Reuveni et al (27) also confirms this finding.

### Implication for practice

According to the findings of this study, it seems that the main factors affecting outsourcing in healthcare organizations are the two main components of internal factors and external factors in an organization.

In the context of internal organizational factors, it should be noted that when deciding on outsourcing, all key parts of the organization should participate in making this decision in order to make a decision on the basis of expertise knowledge from different perspectives, so that the best decision is made and the success of outsourcing is guaranteed. In the context of external organizational factors, one can point to the important and influential role of the government that can facilitate outsourcing through legislation. On the other hand, the government can provide an outsourcing context by providing information transparency, creating market competition, and providing incentives, and supporting secondary providers. Finally, the government should reduce its direct involvement and ownership in healthcare organizations in order to allow organizations to be independent in decision making. On the other hand, cooperation between primary and secondary organizations is possible only through bilateral and long-term partnerships, so the terms of outsourcing contracts should include these items.

### Study strengths and weaknesses:

According to our information, this study is the first systematic study that has collected effective factors in outsourcing decision-making without restricting it to a particular country.

However, this study is not devoid of weakness. The weakness of this study is the lack of separation in healthcare organizations based on their field of activity (prevention, treatment and rehabilitation). Another weakness of this study is the lack of separation of various healthcare organizations based on their type of ownership. Since the incentive of activity is different in various organizations, the factors that influence their decision on outsourcing can also be different.

### Recommendation for further researches:

It is suggested that future studies should try to study the factors of success and failure of the performed outsourcing, in the form of longitudinal studies. Moreover, the factors affecting outsourcing should be studied depending on the different services and different properties of healthcare organizations (private, charitable, and governmental organizations).

In addition, the lack of experiences and innovations of leading countries in the field of outsourcing is clearly felt.

### Conclusion

Now that the importance and benefits of outsourcing are clear to everyone, countries need to design and implement comprehensive and systematic plans to integrate all of their capabilities in a targeted manner in this direction. The results of this study include those items that can be used as guidance for policy makers, micro and macro healthcare authorities and managers, and other stakeholders in this area to select and apply the best strategies to make outsourcing in the best possible way.

### ACKNOWLEDGMENTS

This study was supported by **International campus Iran University of Medical Sciences** officials and staff. Thus, the authors find it incumbent to appreciate the president, managers and all the staff members.

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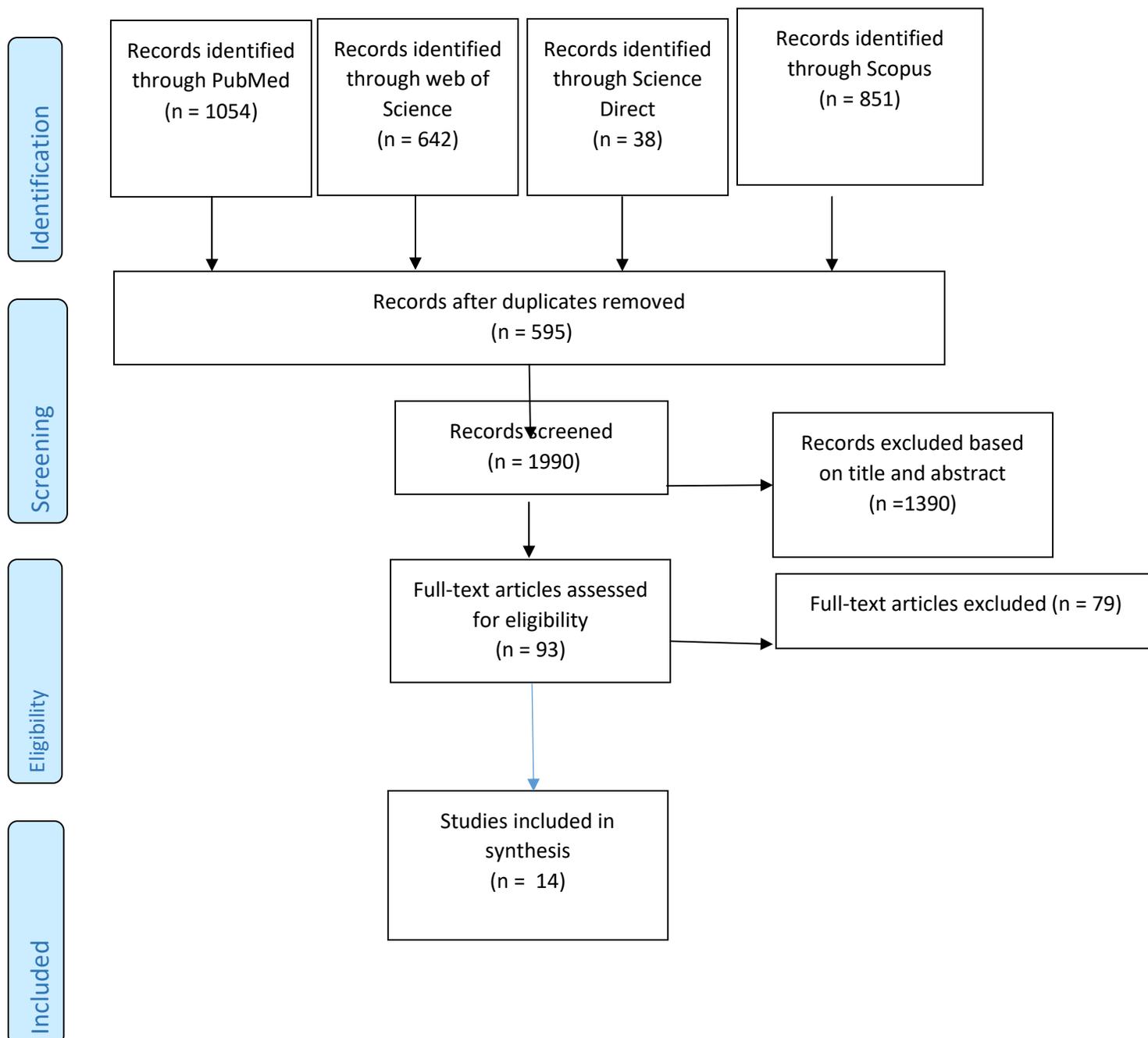
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**Fig.1. PRISMA Flow Diagram**



**Table 1.** final emerged theme and subtheme

<b>Theme</b>	<b>Subtheme</b>
<b>1. Financial Considerations</b>	<ol style="list-style-type: none"> <li>1. Efficiency (02, 05, 012)</li> <li>2. Unit price (05)</li> <li>3. Cost savings (01, 02, 05, 07, 08, 09, 010, 012, 014)</li> <li>4. Lack of funds (07)</li> <li>5. Financing (09)</li> <li>6. Economies of scale (012)</li> </ol>
<b>2. Costumer oriented</b>	<ol style="list-style-type: none"> <li>1. Quality improvement(01, 02, 03, 04, 05, 06, 08, 010, 012, 013, 014)</li> <li>2. Audit quality (010)</li> <li>3. Effectiveness (014) (05)</li> <li>4. Customer satisfaction (03, 05, 07, 09, 010, 014)</li> </ol>
<b>3. Personnel oriented</b>	<ol style="list-style-type: none"> <li>1. Availability of technical expertise (01, 03, 010)</li> <li>2. Lack of personnel (07, 09, 010)</li> <li>3. Monitoring and evaluation team (02)</li> <li>4. High cost of manpower (05, 012, 013)</li> </ol>
<b>4. Administrative issues</b>	<ol style="list-style-type: none"> <li>1. Ability to monitor the performance of external providers (02, 06, 08, 010, 013, 014)</li> <li>2. Current workload (03)</li> <li>3. Education, training and consultation duty (03)</li> <li>4. Timeliness (04, 05, 08)</li> <li>5. Productivity (05, 014)</li> <li>6. Operational flexibility (09)</li> <li>7. Human resources expertise (05, 014)</li> <li>8. Focus on key functions (02, 014)</li> </ol>
<b>5. Strategic issues</b>	<ol style="list-style-type: none"> <li>1. Innovation (03, 09, 013, 014)</li> <li>2. Focus on core business (02, 07, 08)</li> <li>3. Increased flexibility (08, 010, 012)</li> <li>4. Improved image (09)</li> </ol>

	5. Risk sharing (010, 012)
6. <b>Service oriented</b>	<ol style="list-style-type: none"> <li>1. Volume of services (01, 02, 05, 06, 012)</li> <li>2. Standardized activities (01, 08, 011)</li> <li>3. Continuity of care (03, 04, 06)</li> <li>4. Confidentiality (02)</li> <li>5. Core competencies (02, 03, 07, 08, 09, 010, 012)</li> </ol>
7. <b>Market oriented</b>	<ol style="list-style-type: none"> <li>1. Flexibility (07, 08, 014)</li> <li>2. Business opportunity (09)</li> <li>3. Customer loyalty (010)</li> <li>4. Competition and transparency (013)</li> </ol>
8. <b>Social oriented</b>	<ol style="list-style-type: none"> <li>1. Stakeholders interests (01, 013, 014)</li> <li>2. Legislation (02, 04, 011, 013)</li> </ol>
9. <b>Facility oriented</b>	1. Information system and automation (05, 010, 012)
10. <b>Vendor oriented</b>	1. Availability, stability, and reliability of external provider (02, 04)

**How to cite this article:**

Omrani A, Delgoshaei B, Gorgi H A. Identifying factors affecting about outsourcing in para-clinical services: a systematic review of literature. J. Fundam. Appl. Sci., 2017, 9(2S), 1290-1308