



OUTSOURCING AS A MEASURE SEEKING FOR COST REDUCTION IN PUBLIC HEALTH CARE SECTOR: LITHUANIAN CASE

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Abstract. Public institutions not much differ from big corporations in which both cost saving and efficiency are the main aims to consider the model of outsourcing. The object of this article is cost reduction in public health care sector. The *aim* of the article is to identify the factors that determine the choice of outsourcing as a measure to reduce costs in public health care sector. The results of the research revealed that non-core activities as well as investing in resources and resource warehousing are the factors that determine cost reduction in Lithuanian health care sector while such factors as customer loyalty development, customer attraction and administrative work do not earn much attention as the ones that enable to reduce costs while buying outsourcing services in public health care sector.

Keywords: care sector, public sector, private sector, cost reduction, outsourcing.

JEL classification: H41, I11, L20.

1. Introduction

Topicality of the problem. During the period of economic recession, cost saving becomes the highest priority of the organisations operating in any sector. Advocates of outsourcing are of the opinion that any opportunity to reduce costs is a positive phenomenon, and that making of outsourcing contracts in public sector is a powerful political measure to reduce costs and to improve institutional activities (Jensen, Stonecash 2004; Moschuris, Kondylis 2006; Rajabzadeh *et al.* 2008; Alonso *et al.* 2013; Antucheviciene *et al.* 2013).

Scientific literature focuses on the establishment of the impact of outsourcing factors in private sector (Amiti, Wei 2004; Jain, Natarajan 2011; Susomrith, Brown 2013; Ok 2011; Gonzalez *et al.* 2013; Aubert *et al.* 2004; Shih, Chiang 2011 and etc.). The problems of outsourcing in public sector have been researched by such scientists as Aziz, Ali (2004) - outsourcing and quality performance in Malaysia's public work department, Vilko (2013) – outsourcing in electric industry, Barton (2006) - public sector accountability using outsourcing, Rajabzadeh, *et al.* (2008) - a generic model of outsourcing process in public sector,

Alsudairi, Dwivedi (2010) and Furlong, Al-Karaghoul (2010) – IT outsourcing in public sector, Elinder, Jordahl (2013) – the efficiency of public sector outsourcing in preschools and primary schools, Shoup, *et al.* (2012) - outsourcing contracts in Turkish cultural heritage sector, Burnes, Anastasiadis (2003) and Joha, Janssen (2010) – general comparison of public and private sector outsourcing and others.

Analysing the advantages of outsourcing, it can be summarized that outsourcing is useful due to cost reduction, economy of scale, increase in operational flexibility, service quality improvement, higher customer satisfaction, access to new technologies and skills, efficiency of risk and finance management and improvement of performance. In spite of generally recognised benefits of outsourcing in public sector, the analysis of the scientific literature has revealed that participation of private sector in public health care sector is rather limited. In the scientific literature, outsourcing in public health care sector was analysed by the following aspects:

- Public-private partnership models (Gerstberger, Schneider 2013; Indridason, Wang

- 2008; McKee *et al.* 2006; Basilio *et al.* 2011);
- Value for money (Siemiatycki, Farooqi, 2012);
 - Environmental factors (Oppen *et al.* 2005; Young 2005)
 - IT management (Drake, Davies 2006);
 - Quality management (Cesarotti, di Silvio 2006);
 - Supply chain management (Bowerman 2011; Guimaraes, Carvalho 2013) and others.

The studies revealed that outsourcing is the least advanced form of private sector's participation in public health care sector (Gerstlberger, Schneider 2013). That is why it is purposeful to research the factors that have the impact on the choice of outsourcing in public health care sector and identify the factors that have the biggest impact on cost reduction in this sector. The **problem of the research** is which outsourcing factors can help to reduce costs in public health care sector. **The goal of the article** is to identify outsourcing factors that contribute to cost reduction in public health care sector. The following *objectives* have been raised to fulfil the aim of the article: 1) to analyse the factors that determine the choice of outsourcing in public health care sector; 2) to reveal the links between cost reduction and different outsourcing factor groups; 3) to present the methodology of the research; 4) applying the method of expert evaluation, to identify outsourcing factors that can be used as a measure while seeking for cost reduction in Lithuanian health care sector.

The object of the article is the factors that can contribute to cost reduction in Lithuanian public health care sector. **The methods of the research** include logic and systematic analysis of the scientific literature and the method of expert evaluation.

The rest of the paper is organized as follows: section 2 systematizes the factors that have positive and negative impact on outsourcing decision in public health care sector; section 3 reveals the links between cost reduction and different outsourcing factor groups; section 4 presents the principles applied in Lithuanian health care sector; section 5 describes the methodology and data; section 6 presents the results and section 7 concludes.

2. The factors that determine the choice of outsourcing in public health care sector

According to Gerstlberger and Schneider (2013), one of the limitations to use outsourcing in public health care sector is that outsourcing is rather recently applied in the analysed sector, so there is

little reliable information on the participation of private sector providing services to the institutions that operate in public health care sector (McKee *et al.* 2006). The second limitation, according to the authors (Basilio *et al.* 2011; Siemiatycki, Farooqi 2012), is the lack of outsourcing contract transparency since the terms of an outsourcing contract are usually strictly confidential seeking to protect commercial and operational secrets of private companies as well as their intellectual rights. Finally, the third restrictive factor is the narrow evaluation of public health care sector outsourcing since it is mainly evaluated by researching the changes of operational efficiency or costs in public health care institutions that use outsourcing services (Oppen *et al.* 2005; Controls 2013). From macroeconomic point of view, outsourcing in public health care sector is researched following micro or macro perspectives, or matching both of them. In the context of outsourcing, evaluation from micro perspective means evaluation of so-called "money value" (cost reduction, increase of the value added to the service) for a particular organisation, customers or the whole society. Evaluation from macro perspective is treated as evaluation of public sector outsourcing considering its impact on the budget of the country, infrastructure and state funding gap reduction. Since the aim of the article is to analyse outsourcing as a measure applied seeking for cost reduction in Lithuanian public care sector, the research will be carried out following the micro perspective.

The analysis of outsourcing in public health care sector from micro perspective includes the following factor groups:

- Financial (cost reduction, converting fixed costs to variable costs);
- Strategic (focus on core activities, availability to needful resources, improved service quality, risk share, flexibility gain, access to leading technologies);
- Administrative (faster application development, faster paperwork performance);
- Customer-oriented (customer satisfaction, customer loyalty);
- Personnel-oriented (shortage of staff, enhancement of staff expertise);
- Others (security ensuring, accountancy accuracy and audit quality).

The significant factors that determine the use of outsourcing in public health care sector fall into the groups of financial and strategic factors. The other factor groups include a smaller number of factors although they are not less significant and are related with operational fields of public health care institutions.

Summarizing the results, it can be stated that the choice of outsourcing depends on company's strategy and its position in the market. If company's managers treat outsourcing as investment, they aim at getting a constant cash flow from it. In accordance to the way of receiving economic benefits, the strategy of finance management is formed.

However, outsourcing in public health care sector can cause negative outcomes. The analysis of the scientific literature revealed that the main negative outcomes of outsourcing transactions in public health care sector are as follows (Gerstlberger, Schneider 2013; Controls 2013; Oppen *et al.* 2005; Cesarotti, di Silvio 2006):

- high transaction costs for the project development work;
- inadequately qualified experts engaged for project development, management and control;
- insufficient standardization of performance specifications;
- lack of available realistic concepts for public-private economic comparisons;
- poor quality of outsourced services;
- loss of internal coherence.

Anyway, the risk of negative outcomes can be properly managed, but only on condition that the institution (company) has defined its management requirements and strategic priorities. Each country as well as each institution operating in it has strong and weak sides, and the risk can involve not only outsourcing related outcomes, but also geopolitical risk (including governmental stability, corruption, safety), human resource risk (including the quality of educational system, labour market), IT competence risk (including IT management skills, programming competence, business process management experience), economic risk (including economic changes, price changes, interest rate fluctuations), legal risk (including peculiarities of the legal system of the country, the laws on protection of intellectual rights), cultural risk (including language compatibility, cultural compatibility, adaptation) and so forth.

3. The links between cost reduction and other outsourcing factor groups

Cost reduction is considered to be the most important factor of outsourcing application in public health care sector due to the reason that it is closely linked with other (strategic, administrative, customer-oriented, personnel-oriented) outsourcing factor groups. For example, according to Shih and Chiang (2011), the outcome of outsourcing in hos-

pitals is influenced by such factors as potential of cost reduction which rises due to stronger standardization, the degree of competition and cost-related strategies in the market segment where the service provider operates. Also, the less complex are outsourced services, the higher is the potential for cost benefit without losing quality (Susomrith, Brown 2013; Karre 2011). The impact of different outsourcing factor groups on cost reduction in public health sector is presented in Table 1.

Table 1. The links between different outsourcing factor groups and cost reduction in public health care sector (source: compiled by the authors)

Factors	Impact on cost reduction
Focus on core activities	Cost reduction for non-core activities
Availability of needful resources	Cost reduction for investment in resources and warehousing
Improved service quality	Cost reduction for attraction customers, customer loyalty development
Risk share	Cost reduction for risk protection
Flexibility gain	Cost reduction for the measures to react to market changes
Faster application development	Administrative cost reduction
Faster paperwork performance	Administrative cost reduction
Customer satisfaction	Cost reduction for customer loyalty development
Customer loyalty	Cost reduction for customer loyalty development
Shortage of staff	Personnel finding and maintenance cost reduction
Enhancement of staff expertise	Cost reduction for staff training
Security ensuring	Cost reduction for investment in security system
Accountancy accuracy	Cost reduction for accountancy personnel
Audit quality	Management cost reduction

As it can be seen in Table 1, in the group of strategic factors, cost reduction appears as lower expenses for non-core activities, investment in resources and resource warehousing, attraction of customers, customer loyalty development, risk protection measures and the measures necessary to react to market changes; in the group of administrative factors, it appears as administrative cost reduction; in the group of customer-oriented factors – as cost reduction for customer loyalty development; in the group of personnel-oriented factors – as personnel finding and maintenance cost reduction as well as cost reduction for staff training; finally, in the group of other factors it is cost reduction for investment in security systems, cost

reduction for employment and maintenance of accountancy personnel and management cost reduction. If a company decides to apply outsourcing, it has to select a service provider. In this case, public institutions face bureaucratic obstacles since buying outside services they have to follow the requirements of public procurement. That is why this research is aimed at helping public health care institutions to identify the outsourcing factors enabling to reduce costs so that following these factors the institutions could make purposeful outsourcing contracts.

4. The principles applied in Lithuanian health care sector

With reference to the Law of the Health Care System of the Republic of Lithuania (1998, No.112-3099), Lithuanian National Health Care System (further in the text – LNHCS) consists of:

- LNHCS executive bodies;
- health activity management bodies;
- LNHCS resources;
- LNHCS activities and services.

The activities performed by LNHCS subjects include:

- personal health care;
- public health care;
- pharmaceutical activities;

Other kinds of paid (free) services provided by LNHCS subjects are not attributed to health care and pharmaceutical services, but are necessary to ensure service provision.

By their competence, LNHCS can provide the following kinds of services:

- personal and public health care services which are funded from the compulsory health insurance fund, state or municipal budgets or municipal public health care support programs;
- personal and public health care services paid by their recipients (legal entities or individuals). The pricelist of such services is approved by the Ministry of Health (with reference to the Law of the Health Care System of the Republic of Lithuania, article 11).

The levels of health care are as follows:

- primary (primary health care);
- secondary (secondary health care);
- tertiary (tertiary health care).

Primary health care is organised by municipality institutions. Municipality executive institutions also implement organization of secondary personal health care. The scope and profiles of this care are established by the Ministry of Health and organised by county governors. The latter also or-

ganise public health care. The Ministry of Health and the subordinate bodies organise public health care. The institutions that belong to the tertiary level of LNHCS system can provide primary and secondary health care only for scientific and teaching purposes (with reference to the Law of the Health Care System of the Republic of Lithuania, article 12).

The principles applied for regulation of health care relationship are as follows:

- comprehensive personal and public health protection;
- the adjustment of personal, public health and state interests;
- equality of personal rights to have the best health regardless of a gender, race, nationality, citizenship, social status and profession;
- personal right to choose the best health care conditions;
- acceptability, availability and suitability of personal health care;
- personal right to join public organisations that protect personal and public health interests, and governmental support for the activity programs developed by such organisations;
- comprehensive, true and timely informing of society about the best health development conditions and advertisement of such conditions;
- participation of public organisations while managing health activities both directly and by representatives;
- governmental support to people protecting, restoring and strengthening their health;
- state-guaranteed (free) health care;
- comprehensive prevention of all risks to personal and public health;
- health care activities and initiatives are promoted by the state (with reference to the Law of the Health Care System of the Republic of Lithuania, article 5).

5. Methodology and data

Substantiation of the selected research method. Development of health care sector is one of the indicators reflecting the situation in the sphere of social protection in the country since the institutions that provide health care services faster than others feel the changes of demand in this sector.

Collection of the information about outsourcing in public health care sector was difficult not only because of the specificity of the topic, but also due to the lack of detailed information in statistical databases. This has determined the choice of the method of expert evaluation which enabled to col-

lect the data about the necessity of outsourcing in public health care sector, internal factors that determine the choice of outsourcing and the factors that can enable to reduce costs in this sector.

Expert selection and characteristics. The heads of 5 public health care institutions including Panevezys Republican Hospital, Kaunas Republican Hospital, Pasvalys Regional Hospital, Radviliskis Regional Hospital and Pauliukas Family Clinics who hold the positions not shorter than three years and have enough (at least three years) experience buying outsourcing services in public health care sector were selected as experts. With reference to Augustinaitis *et al.* (2009), in order to retain the reliability and accuracy of expert evaluation, it is recommended to include not less than five experts.

Aim and process of the research. The aim of the research is to establish experts' attitude towards the factors that would encourage (discourage) to apply outsourcing in public health care institutions and the factors that can enable to reduce costs in the analysed sector. The expert evaluation was performed in three stages:

1. Questionnaire formation.
2. Survey of the experts.
3. Analysis and summarising of the expert survey results.

With references to the analysis of the scientific literature, in the first stage of the research, the questionnaire for the expert survey was formed. The questionnaire consisted of two parts. The first part "*The spread of outsourcing in public health care sector*" included a few questions of closed type with possible answer alternatives. The first question "Do you use outsourcing services?" was aimed at the establishment whether public health care institutions operating in Lithuania are inclined to use outsourcing. Further question "What outsourcing services do you use?" was aimed at the establishment of the nature of outsourcing services. The second part "*Internal factors of outsourcing that have the impact on the efficiency of public health care sector*" included the questions with Likert evaluation scale, where 1 means that a factor or a criterion does not have any impact, and 5 means that it has very significant impact on the efficiency of public health care services. For the evaluation of the efficiency, with reference to the analysis of the scientific literature, the factors that can have positive and negative impact on the choice of outsourcing as well as the factors that can contribute to cost reduction in the analyzed sector have been introduced in the questionnaire.

The expert survey was carried out via e-mail and telephone. It lasted from February 5 to February 20, 2014. The data of the survey was processed

using Microsoft Office Excel and SSPS software packages.

Limitation. Performance of the empirical research was difficult due to the reason that most managers of the researched public health care institutions did not know the term of outsourcing, so the authors of the article had to introduce the managers with the terminology.

6. The results of the empirical research

Having processed the data with SSPS software package, Cronbach alpha coefficient ($\alpha = 0.953$) was calculated. This coefficient revealed that the questions formulated in the questionnaire reflect the target size with an adequate accuracy. The answers presented by the experts enabled to identify and group the internal (microeconomic) factors that determine the choice of outsourcing in public health care sector (see Table 2).

Table 2. Internal factors that determine the choice of outsourcing in public health care sector (Kendall's coefficient of concordance $W^a = 0.311$) (source: compiled by the authors)*

The main factors	Mean rank (Mean value)	Less important factors	Mean rank (Mean value)
Cost saving	12.8 (4.6)	Customer loyalty increase	4.8 (3.4)
Access to new technologies	12.8 (4.6)	Lack of personnel	6.5 (3.8)
Better service quality	10.8 (4.4)	Fast paperwork performance	6.5 (3.8)
Increased flexibility	9.8 (4.2)	Risk sharing with another company	7.2 (3.8)
Faster application development	9.8 (4.2)	Accountancy accuracy	8.2 (4.0)
Customer satisfaction increase	9.8 (4.2)	Security ensuring	8.2 (4.0)
Audit quality	9.8 (4.2)	Enhancement of staff expertise	8.2 (4.0)
Availability of needful resources	9.8 (4.2)	Focus on core activities	8.4 (4.0)
Fixed costs converting to variable costs	9.6 (4.2)		

* if a mean value is equal to or lower than 3.5, the factors is considered to be not important while choosing outsourcing.

As it can be seen from Table 2, the most important factors that have the biggest impact on the choice of outsourcing in public health care sector, with reference to the opinion of the experts, are cost reduction, access to new technologies and better service quality. Such factors as increased flexibility, faster application development, customer satisfaction increase, audit quality, availability of needful resources and fixed costs converting to variable costs were given the equal number of points (mean value is equal to 4.2) which proposes that these factors have an equal positive impact on the choice of outsourcing of the institutions operating in public health care sector. Only one factor – customer loyalty increase (mean value 3.4) – can be rejected and considered to be not important while choosing outsourcing services in public health care sector. Lack of personnel, faster paperwork performance and risk sharing with another company are considered to be less important factors while choosing outsourcing services since they were given equal average value of 3.8. It can be proposed that the reason why these factors are considered to be less important while choosing outsourcing services in public health care sector is that public health care sector does not face any problems with the lack of personnel; it is not thought that outsourcing can help to contribute to faster paperwork performance, and the level of risk sharing with another company is minimal since outsourcing services are used not for core activities. Public health care sector buys such outsourcing services as cleaning, security, water/food supply, legal, IT and laundry services.

The experts were also asked to evaluate the factors that discourage public health care institutions from using outsourcing services. All the factors presented in the questionnaire were recognized as demotivating (mean values are higher than 3.5). The rank of the demotivating factors is as follows:

1. High transaction costs for the project development work (mean rank 3.33);
2. Insufficient standardization of performance specifications (mean rank 3.17);
3. Inadequately qualified experts engaged for project development, management and control (mean rank 3.00);
4. Lack of available realistic concepts for public-private economic comparisons (mean rank 2.92);
5. Poor quality of outsourced services (mean rank 2.58).

The experts have pointed that outsourcing reduces performance costs (see Table 2). This reason induces a deeper analysis in the spheres of health care sector where cost saving through outsourcing is the most significant (see Fig. 1).

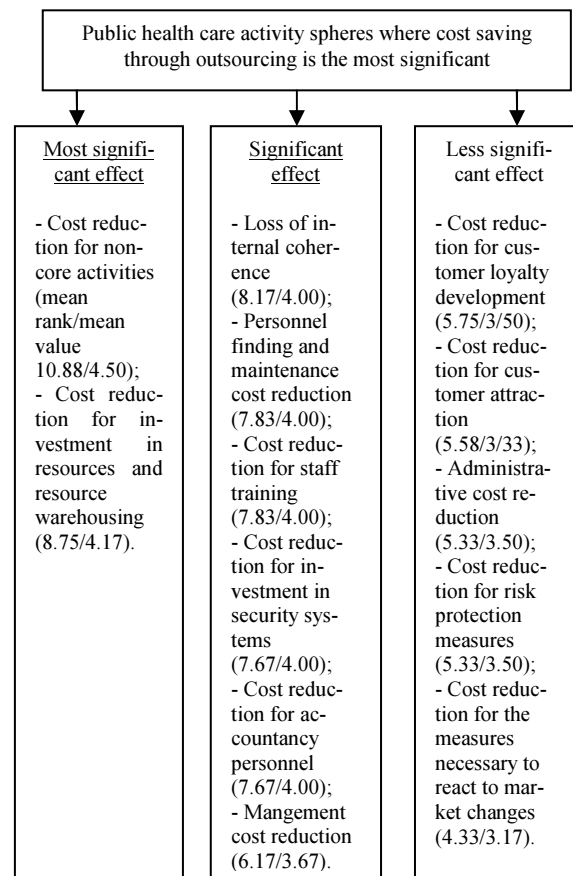


Fig. 1. Cost minimization through outsourcing in different public health care sector activity spheres (source: prepared by the authors)

Summarizing the results of the research, it can be concluded that significant cost reduction can be observed in non-core activities, investment in resources and their warehousing while customer loyalty development, customer attraction and administrative work do not earn much attention as the factors that enable to reduce costs while buying outsourcing services in public health care sector.

7. Conclusions

With reference to the results of the research, the following conclusions can be made:

1. The main factors that determine the use of outsourcing in public health care sector are focus on core activities, availability to needful resources, improved service quality, risk share, flexibility gain and access to leading technologies in strategic factor group, cost reduction and converting fixed costs to variable costs in financial factor group. The other factor groups include a smaller number of factors although they are not less significant and are related with such operational fields as administrative, customer-oriented, personnel-oriented and others (security ensurance, accountancy accuracy and audit quality).

2. In the group of strategic factors, cost reduction appears as lower expenses for non-core activities, investment in resources and resource warehousing, attraction customers, customer loyalty development, risk protection measures and the measures necessary to react to market changes; in the group of administrative factors - as administrative cost reduction; in the group of customer-oriented factors – as cost reduction for customer loyalty development; in the group of personnel-oriented factors – as personnel finding and maintenance and staff training cost reduction; in the group of other factors – as cost reduction for investment in security systems, cost reduction for accountancy personnel and management cost reduction.

3. The results of the empirical research revealed that the factors that have the biggest impact on the choice of outsourcing in public health care sector are cost reduction, access to new technologies and better service quality. Such factors as increased flexibility, faster application development, customer satisfaction increase, audit quality, availability of needful resources and fixed costs converting to variable costs are considered as less significant.

4. Significant cost reduction can be observed in non-core activities and investment in resources and their warehousing while customer loyalty development, customer attraction and administrative work do not earn much attention as the factors that enable to reduce costs while buying outsourcing services in public health care sector.

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