

THE INFORMATION TECHNOLOGY OUTSOURCING and ITS IMPACTS ON HEALTHCARE

Introduction

Organizations require to access for critical resources by creating the necessary interactions with other organizations. Outsourcing, as a managerial strategy proposed by the Resource Dependence Theory (RDT), is applied for reaching resources required mainly for the activities outside the core competences of organizations. Technology, mainly in today's highly competitive environment, has capacity of significantly influencing the structure and performance of the organizations [1].

In recent decades, the advancements of technology is faster than ever, resulting to the digital era, in which the information and communication technologies are becoming increasingly and expandingly a native and essential core component of our daily lives [2]. As the accessibility, availability and affordability of technologies are increasing, organizations are becoming to widely utilize these technologies as an integrated part of their daily operations rather than something as an external instrument. As for each and every single part of today's world, the technology has the capacity of significantly influencing the structure and performance of organizations. The influence of technology, especially information technologies, on many aspects of the society is very clear in such a way that the world today is even referred as information society [3].

Thus, this paper aims to investigate the use of outsourcing strategy in terms of developing organizational responses to the Information Technology requirements. Regarding the complexity, size and diversity of the domain, the impacts of outsourcing approaches in resolving IT resources have been investigated by mainly focusing on the healthcare industry in which the IT resources are one of the vital instruments to achieve better and more effective healthcare services

Methodology

The increasing growth of outsourcing approach in recent years, has eventually (and as expected), generated a great interest for the researchers to understand the main causes and the impacts of this new phenomenon in organisations [4, 5]. Although IT outsourcing practice in organizations are young comparing with the other applied strategies, the questions about what the main reasons are behind the selection of IT outsourcing approach, as well as the impact of outsourcing on the performance of the organisations, are very common which actually implies that there is still much to be understood about the IT Outsourcing processes and its consequences [6].

The use of outsourcing is expanding quickly in health sectors due to the expansion in both characteristics and type of afforded services and also due to the limited financial resources, increased demand and expectations which makes the adoption of outsourcing as one of the strategic solutions to overcome these challenges.

On the other hand, although healthcare is very critical domain directly related with human health and although the utilization of IT has become an indispensable instrument for healthcare organizations, the existing researches related to the healthcare organizations and IT strategies are relatively very limited.

In light of such a conceptual background, this study aims to provide deeper understanding about IT outsourcing research by utilizing the different research findings carried out on outsourcing approaches

mainly in healthcare and also to guide the direction of future outsourcing researches by reviewing the previous ones and their theoretical frameworks.

Mainly two data collection processes were utilized for this research study, one was the content analysis method using selected literatures and the other was the interviewing method. Hence the collected data was constituted of primary (as literature reviews) and secondary (as individual face-to-face interviews) sources.

Content Analysis Study

As the content analysis study, first of all, a primary key-word search has been developed in available electronic databases to find related articles representing the main inclusion criteria of being related to IT outsourcing approaches in the healthcare. But after performing these search activities, it was realized that there are very little researches on the IT outsourcing in healthcare sector hence this literature search has been expanded to cover also the IT outsourcing approaches in other service sectors. The searches were conducted mainly for the articles published at least in the last 15 years. The utilized keywords for the literature search included “IT outsourcing, outsourcing in healthcare, “outsource in hospitals”, “Information Technology outsourcing”, “the needs for IT Outsourcing”.

Although there might be many different internal reasons for organizations to choose outsourcing approach for providing their required IT resources, the researchers generally claims two main phenomena for the growth of IT outsourcing. The first main reason behind the increase in IT outsourcing is the consequences of shift in business strategy[2]. The second main driving factor for the growth in IT outsourcing is, on the other hand, the unclear value delivered by IT. In many organizations, senior executives can not measure and hence underestimate the real value of IT and view IT as an overhead – an essential cost but one to be minimized nevertheless [2].

While it is growing in number and value, the philosophy behind IT outsourcing have also changed over the last couple of years. IT outsourcing becomes more common and standard practices for reliable delivery of services. Thus, the issue of core and non-core is diluted and the organizations were becoming carefully looking for “strategic and long term partners” that provide the required IT resources while controlling the uncertainty and dependence [7]. Many organisations began to use IT outsourcing as a strategic tool to complement missing internal capabilities [5] in contrast to the previous conventional outsourcing approach in which the focus was primarily on short-term cost reduction.

IT Outsourcing has very young but on the other hand very dynamic history. Hence as a result, despite the youth of the IT Outsourcing literature, there are many researches and studies on this subject and especially, the questions about what leads organisations to outsource their IT services, as well as the impact of this decision on the performance of the organisation, are still an attractive area for the researchers [5, 8].

Interviews

In addition to the performed thorough review of the relevant research literature , a questionnaire was also prepared to be utilized in face-to-face meetings with the key staff of the selected sample hospital. Gulhane Training and Research Hospital in which FONET provides IT services, has been assigned as the sampled hospital within this study. Due to the time limitation for creating more samples in different hospitals, Gülhane Training and Research Hospital was selected since it is one of the biggest and most equipped Ministry of Health (MoH) Hospital with having a capacity to be a real model/sample for the MoH hospitals in Türkiye. Hence, as it is clear, due to the limited sample size of the study, the results can be generalized only to hospitals very similar with the sample hospital. This is, actually, the main limitation of this study,

although the sample hospital is a driver/locomotive healthcare service provider in Turkiye with almost each new system and technology are first tested in this hospital and then deployed throughout the country.

Using a semi-formal/semi-structured interview sessions, a series of interviews with 5 (Five) key staff of the hospital including the Head Physician, Deputy Head Physician responsible for IT, IT Manager, Deputy IT Manager and Operations Manager, has been conducted. In addition to these executive level staff, 5 (five) key users of the hospital IT system have also been interviewed additionally to understand the user-level experience for the utilized IT services in the hospital. Each interview sessions were scheduled for around one-hour. In order to promote openness, the privacy and anonymity of the interviewees were preserved. The data required for this study has been collected through questionnaire methods applied in the performed face-to-face interviews. The prepared questionnaire consisted of 8 (eight) questions in which the first 5 (five) of them are explanatory questions mainly concentration on the existing situation and the necessity for the outsourcing decision and, the remaining 3 (three) questions were 5-point Likert Scale type questions where “1” is “strongly agree” and “5” is “strongly disagree”. Before giving the final shape to the questionnaire, the eligible literatures have been reviewed in detail in order to have the comparative and complementary results with the previously done researches.

Results

The literature review (using the content analysis method) pointed out that in today’s global world with having more and more competition, outsourcing has become a very common approach. It is understood that there are many organizations (and it is getting more and more) which outsource part or whole of their IT functions in order to acquire some benefits like lowering investment and operational costs, increasing the competitiveness, improving the efficiency and productivity, obtaining higher quality and customer satisfaction and increasing the ability to focus on core competencies. In contrast, as expected for any strategical decisions, the opponents of outsourcing describe that, there are also many challenges and risks associated with IT outsourcing with loss of control, loss of flexibility, loss of qualified personnel, and loss of competitive advantage in information management etc. The results of the performed interviews are also very convenient what it is understood from the reviewed literatures.

Both the literatures and the results of interviews commonly indicates that the most highlighted drivers for outsourcing IT services are;

- Reducing cost. Since it minimizes the required investment for the technology, employees, expertise, and assets required to perform the IT activity, outsourcing is considered to provide increased efficiency by reducing investment and operational costs.
- Increased focus on an organization’s core competencies. With applying IT outsourcing, it is accepted that the organizations can focus on its core objectives and goals and increase managerial attention and resource allocation to its core business competencies
- Increasing the Quality of Services. With having effective IT services, it is believed that the quality of healthcare services is also improved (since it becomes possible to reach and access the accurate data at the right time – when and where necessary) which also increases both the staff and patients satisfaction.
- Access Up-to-Date Technology and Skilled Resource. Outsourcing approach allows the healthcare organization to have up-to-date technology and knowhow and access the skilled resources which also create an effective instrument for organizational learning and know-how transfer.

The following figure (Figure-2) shows the distribution of priority reasons for IT Outsourcing decisions resulting from the interviews performed within the sampled hospital which also shows the convenience of

these findings with the reviewed literatures in terms of the main reasons (or expected benefits) of IT outsourcing decisions.

Main Reasons (Expected Benefits) on IT Outsourcing Decisions	Priority #1	Priority #2	Priority #3
Reducing Cost	4	3	1
Increased focus on an organization's core competencies	1	1	2
Increasing the Quality of Services	2	2	1
Access Up-to-Date Technology and Skilled Resource.	2	2	3
Others	-	2	3

Figure-1 : Main Reasons Behind IT Outsourcing Decisions (Interview Results)

Although outsourcing has some proven advantages, it also has strong potential to come with some risks and disadvantages as understood in the reviewed literatures and also as observed through the performed interviews.

- Dependency. Depending on external resources which is not directly on organization's control could create more risks for the organizations. Hence as a result, the IT outsourcing can cause an organization to become locked-in to its vendors. Lack of loyalty is another fact resulting from this dependency. This is more critical for the organizations like hospitals, where there is no option for any failure.
- Privacy and Security. Medical data is very critical but on the other hand very vulnerable data and hence the privacy of these data should be preserved and protected. IT outsourcing approach create an environment to make strategic assets of the hospital be controlled or accessed by 3rd party suppliers which might create a risk for information leakage.
- Inadequate Solutions/Systems. Hospitals are living organizations and hence each hospital has their own unique requirements and priorities. IT Outsourcing approach results in utilizing IT systems designed and developed in general use rather than tailored for the needs of the corresponding hospital.
- Sustainability: IT outsourcing creates a contract based relationship and as a result the systems (vendors) are subjected to be changed at the end of the contract period which might also result in never ending adaptation stages (user adaptation, system adaptation etc) and also might create a risk for data loss during the transition stage from previous system to the new system.

The following figure (Figure-3) shows the distribution of potential risk items (with priority levels) for IT Outsourcing services resulting from the interviews performed within the sampled hospital which actually seems to be very convenient with the results of the reviewed literatures.

Potential Risks of IT Outsourcing	Priority #1	Priority #2	Priority #3
Dependency	5	3	2
Privacy and Security	2	1	1
Inadequate Solution/Systems	2	2	4
Sustainability	1	2	2
Others	-	2	1

Figure-2 : Potential Risks of Having IT Outsourced Services (Interview Results)

It is clearly understood from the literature analysis and the sampled hospital survey that outsourcing already became a strategic tool used by healthcare institutions mainly to control the costs and to increase the quality of healthcare services. Hospitals are widely utilizing the outsourcing approach for their supportive and back-office functions (mainly for non-medical services) such as information technology, security, catering, cleaning, staff transportation, logistics, Imaging, maintenance, help desk etc. As the healthcare is a multi-services discipline with having universally accepted common standards, methodologies, needs and priorities, the results obtained in our limited sample (but having potential to be utilized as a model hospital) seems to be very consistent with the results of the previously performed researches (detailed in the reviewed literatures) in terms of the main reasons and potential impacts of outsourcing approaches.

Outsourcing is very important managerial strategy with having proven benefits, but on the other hand coming with some associated risks as well. Therefore the outsourcing decision, especially in healthcare where the trial and error might be too costly, is a complex and multi-criteria action and hence need to be examined in a very detailed manner mainly for the impacts on the effectiveness and performance of the healthcare organizations.

References

- [1]. Resource Dependence Theory: A Review; Amy J. Hillman, Michael C. Withers, Brian J. Collins; *Journal of Management*, 35(6), 2009
- [2]. Information systems outsourcing: A survey and analysis of the literature ; J. Dibbern, R. Hirschheim; *Data Base for Advances in Information Systems* · September 2004
- [3]. Evaluation Of The Effect Of The Outsourcing On Resource Dependency And Transaction Cost Approach; A. Yilmaz, A Bedük; *Social and Behavioural Sciences* 109 (2014) 737 – 752, 2014
- [4]. Safeguarding Investments in Asymmetric Interorganizational Relationships: Theory and Evidence; M. R. Subramani, N. Venkatraman; *The Academy of Management Journal*, February 2003
- [5]. Linking outsourcing to business strategy; R.C. Insigna, M.J Werle; *Academy of Management* 14,4, 2000
- [6]. Managing Strategic Outsourcing in the Healthcare Industry; Roberts Velma; *Journal of Healthcare Management* July-August, 2001
- [7]. Knowledge of the Healthcare Environment; Andrew N. Garman, Lac Tran ; *Journal of Healthcare Management*, 2006
- [8]. Outsourcing to Emerging Markets: Theoretical perspectives and policy implications ; Javalgi, R.R.G., Dixit, A. and Scherer, R.F. ; *Journal of International Management* 15(2): 156–168, 2009
- [9]. FONET HIMS Scope of Work in Gulhane Training and Research Hospital