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# IT Outsourcing in US Hospitals: Potential Benefits and Risks

CAPSTONE REPORT

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**Abstract**

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**IT Outsourcing in US Hospitals: Potential Benefits and Risks**

Faced with complex information system needs and narrow profit margins, large US hospitals are outsourcing IT support as a solution. This study examines current trends in IT outsourcing in US hospitals as reported in trade journals and vendor white papers. Research on IT outsourcing in other industries (1990 to 2004) is examined to provide a comparative context. Potential benefits and risks are presented to help hospital executives make better informed decisions regarding IT outsourcing.

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## **CHAPTER I**

### **INTRODUCTION**

#### **Brief Purpose**

In the past few years, an increasing number of hospitals have decided to outsource the responsibility for managing their information systems (Briggs, 2004a; Haugh, 2001; Lorence & Spink, 2004; Modern Healthcare, 2003; Sarudi, 2000; Smith & Wellman, 2002). The purpose of this study is to examine the growing trend towards total outsourcing (Kern & Willcocks, 2001, p. 4) of information technology (IT) services within the healthcare industry. The goal is to raise questions for CIOs and senior executives to consider as they engage in the evaluation and planning stages of a total outsourcing relationship (Kern & Willcocks, 2001&2002; McFarlan & Nolan, 1995; Willcocks & Lacity, 1998), specifically, IT outsourcing relationships within a hospital environment (Bigelow & Arndt, 2000; Briggs, 2004b; Lorence & Spink, 2004; Smith & Wellman, 2002).

The overarching design of this study is Literature Review (Leedy & Ormrod, 2001). The selected literature is collected in two phases. In phase one, literature from healthcare trade journals and vendor white papers published after 2000 is reviewed to identify resources that describe the trend towards outsourcing IT in US hospitals. In phase two, key concepts which emerge from a preliminary examination of the literature collected in phase one, are used to guide additional review and collection of literature from scholarly journals between 1992 and 2004 describing the experience of organizations that have outsourced IT.

The selected literature from each collection phase described above is subjected to content analysis (Palmquist, 2004) in order to identify key thematic elements within each set of literature. The search to identify key thematic elements is guided by a general rubric, framed around the following topics and questions:

1. What evidence exists that hospitals are adopting IT outsourcing as a strategy?
2. What IT functions are hospitals outsourcing?
3. What benefits do hospitals that outsource IT hope to attain?
4. What risks might be involved in outsourcing hospital IT?
5. What can be learned from the experience of other industries that have outsourced IT services?

The outcomes of the study are presented in the form of tables and a narrative discussion which: (a) list general categories and concepts which emerge as trends, identified from content analysis of the data collected in phase one; (b) present relevant issues related to the experience of organizations in general that have outsourced IT, identified from content analysis of the data collected in phase two; and (c) draw parallels between current trends in outsourcing hospital IT services and earlier efforts to outsource IT in other industries.

Since little research exists concerning the efficacy of IT outsourcing in a hospital environment, this research is intended to point out issues encountered in other industries that have outsourced IT. Results are discussed to help raise key questions and contribute to a more balanced and thoughtful decision-making process, as hospital senior executives and CIOs engage in evaluation and planning efforts related to total IT outsourcing.

### **Full Purpose**

The complex information systems needs of hospitals in the US are evident to most observers. Briggs (2004b) and Pesce (2003) have commented on the need for sophisticated billing and claims systems which will allow hospitals to be more proactive and effective in collecting payments. To address quality of care issues, contributors to the Everest Group Whitepaper (2002) have focused on the need for clinical decision support systems that will help reduce medication errors and improve patient care.

Although many hospitals have invested in systems they hoped would help them achieve some of their technology goals, these efforts have often failed to produce the desired results (Everest Group Whitepaper, 2002; Pesce, 2003). The failure of hospitals to achieve the same kinds of efficiencies from information systems that other industries have been able to obtain, has led some to suggest that hospitals turn over the responsibility for implementing and managing information systems to experienced third parties (CGI Whitepaper, 2002). This process, known as IT outsourcing, has been used in other industries since at least 1990 (McFarlan & Nolan, 1995).

Outsourcing is defined as the process of “turning over all or part of an organizational activity to an outside vendor” (Barthelemy, 2003, p. 87). This study focuses specifically on total IT outsourcing which has been defined as an organization placing “80% or more of the IT budget under third party management” (Kern & Willcocks, 2001, p. 4).

While some outsourcing vendors assert that the advantages of outsourcing are clear and virtually guaranteed (Corbett, 2003), studies of organizations that have tried outsourcing large portions of their IT services have painted a much more complex picture. (Advisory Council, 2003; Jennings, 2002; Kern & Willcocks, 2001). In a key study, Kern and Willcocks (2001) found that nearly 35% of total outsourcing agreements fail. Kern & Willcocks have noted three factors that often lead to failed IT outsourcing relationships: (a) Failure by senior management to carefully consider the types of services to be outsourced; (b) Poor senior management understanding of the true nature of the relationship between the outsourcer and the organization; and; (c) Failure to consider the hidden costs of total IT outsourcing.

This study uses a two phase process to examine two sets of selected literature to: (a) Identify and describe the trend towards total IT outsourcing in US hospitals; (b) Examine IT outsourcing in US hospitals through the lens of research pertaining to IT outsourcing experiences

in other industries. The results of this study are designed to help hospital executives considering IT outsourcing apply lessons learned from IT outsourcing initiatives in other industries in order to better understand the potential benefits and risks of IT outsourcing within the hospital environment.

This study is designed as a literature review (Leedy & Ormrod, 2001) of two sets of literature. Data is collected using keyword searches of the University of Oregon Janus Online Information system. Further sources are obtained by reviewing bibliographies of relevant sources. The internet search engine Google is also used to find sources, particularly, vendor white papers and trade publications. Key word searches are targeted towards two general types of materials: (a) Articles from health care trade journals and white papers from outsourcing vendors which discuss issues related to IT outsourcing in a health care environment; (b) Articles from scholarly journals and books relating to general trends in IT outsourcing since 1990, with special emphasis on case studies and surveys of organizations that have tried IT outsourcing.

Key materials relevant to the purpose of this study are then selected for analysis and subjected to conceptual analysis following steps described by Palmquist (2004). Analysis occurs in two phases. In phase one, materials from health care trade journals and vendor white papers are reviewed to identify and describe trends towards IT outsourcing in US hospitals. Specific questions to be explored at this stage are:

1. What evidence exists that hospitals are adopting IT outsourcing as a strategy?
2. What IT functions are hospitals outsourcing?
3. What benefits do hospitals that outsource IT hope to attain?
4. What risks might be involved in outsourcing hospital IT?

These questions are used to guide an interactive coding approach (Palmquist, 2004) in order to develop a set of categories and concepts which identify and describe the trend toward hospital IT outsourcing.

In phase two, scholarly literature from 1992 to 2004 is collected which pertains to IT outsourcing in other industries. Articles related to hospital IT outsourcing are not specifically excluded, however preliminary searches identified few, if any, such articles. Broad search terms are used to gather a large set of initial data in order to ensure all relevant research is identified. This large body of texts is then reviewed to identify only those materials that discuss case studies or surveys of organizations that have outsourced IT. (For further discussion of criteria used to select specific materials for analysis please see the methods chapter of this report).

The conceptual analysis of the two sets of literature described above, results in the development of key themes which are organized into two tables. Table 1 – “Hospital IT Outsourcing Trends” lists general categories and concepts which emerge as trends, identified from content analysis of the data collected in phase one; Table 2 - “Lessons from Other Industries” presents relevant issues related to the experience of organizations in general that have outsourced IT, identified from content analysis of the data collected in phase two. The concepts and categories listed in Table 1 are then discussed in relation to the concepts listed in Table 2 in order to identify key relationships between the current trends in IT outsourcing and earlier efforts to outsource IT in other industries.

The information from the tables along with a discussion of the key findings is used to provide hospital senior executives and CIOs with a context for balanced and thoughtful decision-making during the development process of efforts related to total IT outsourcing.

### **Limitations**

This study uses a qualitative approach. Creswell (2003) has discussed the qualitative approach and noted how this type of research differs from the quantitative approach often used in scientific research. While quantitative research is often focused on testing theories by conducting experiments and collecting information in a highly structured and controlled manner, qualitative approaches employ more exploratory and open ended approaches (2003). The purpose of qualitative studies is to describe or interpret particular ideas, theories, situations or other phenomenon (Leedy & Ormrod, 2001, p. 148). In keeping with the qualitative framework, this study does not attempt to support a particular hypothesis, or prescribe a course of action based on a scientific study. The goal of this study is to provide a broader context within which healthcare executives and CIOs can evaluate issues related to IT outsourcing.

This research focuses on total IT outsourcing arrangements which involve transferring the responsibility for the management of a majority of a firm's IT services to a third party (Kern & Willcocks, 2001, p. 4). Such arrangements usually involve a close relationship between the vendor and client that in many ways resembles a strategic alliance or partnership (Grover, Cheon & Teng, 1996; McFarlan & Nolan, 1995). This type of arrangement differs from other types of outsourcing in both the extent of services outsourced and the type of services outsourced (Kern & Willcocks, 2001).

Though this study frequently refers to the "trend" towards hospital IT outsourcing, it is not meant to measure the extent or rate of adoption of this trend. Trend in this case refers to the fact that healthcare trade journals and vendor white papers have identified several hospitals that have recently signed large outsourcing agreements.

This study also does not address the type of "offshore" outsourcing that is the subject of much recent national debate (Anderson, 2004; Thottam, 2004,). This research does not attempt

to contribute to the ongoing dialogue considering the benefits and disadvantages of offshore outsourcing.

This study also takes at face value the current belief on the part of client and vendor organizations that IT outsourcing has the potential to unlock increased value in organizations by streamlining business processes (CGI Whitepaper, 2002; Linder, Cole & Jacobson 2002). The assumption for purposes of this study is that, when total outsourcing agreements fail to produce improved business results, it is because the agreement was not properly executed and not that the essential premise which motivated the relationship was faulty.

Data is collected in two phases. In phase one, key words are used to search online databases and the internet for articles from trade journals and vendor white papers relating to trends towards IT outsourcing in a hospital environment. Only articles published after 2000 are selected for review and analysis. In phase two, key words are used to search online databases and the internet for articles from scholarly journals published between 1992 and 2004. The methods chapter of this report provides further detail concerning specific key words and databases used to collect data and also provides additional information regarding the rationale for the dates used to limit the articles used in the analysis.

Though this research draws on a variety of resources related to IT outsourcing in order to describe the problem and provide context for the research, very specific selection criteria are used for the materials used in the literature review and analysis. These criteria are explained in the methods chapter of this report.

### **Problem/Significance**

Outsourcing as a management technique has been the subject of much recent debate and discussion (Anderson, 2004). Much of the public discourse has focused on US companies hiring contractors in cheap labor markets like China and India to perform increasingly sophisticated

tasks that used to be performed by highly paid American workers (Anderson, 2004; Thottam, 2004). This perceived threat to American jobs has made outsourcing more well-known to the general public but outsourcing is nothing new. At its core, outsourcing is nothing more than a response to the make-or-buy decision that businesses have struggled with for a very long time (De Loof, 1995). Corporations have always had to ask themselves what services they can provide most economically internally and which services are more cheaply obtained from some source outside the company (Quinn & Hilmer, 1994).

Outsourcing is really nothing more than a company deciding that some particular set of products or services that are not core components of the business can be more efficiently provided by a third party (Quinn & Hilmer, 1994). So, for instance, Nike is the largest supplier of athletic shoes in the world but it doesn't directly manufacture a single pair of shoes. Nike has determined that its strengths are design and marketing, so it concentrates on developing these skills while hiring third party contractors in cheap labor markets to actually manufacture the shoes it designs and sells (1994).

It is perhaps not surprising that a large number of firms do not consider IT services to be a core competency and this has led organizations to outsource various IT functions since at least the 1970s (Pearlson, 2001). Beginning in the early 1990s however, the degree of IT outsourcing began to change, with some companies deciding to outsource their entire IT operations (Saunders, Gebelt & Hu, 1997). Most observers point to Kodak's decision in 1989 to outsource all IT functions as a high profile event that caused a large number of organizations to reevaluate their approach to IT management (McFarlan & Nolan, 1995; Willcocks & Lacity, 1998).

A key component of most early decisions to outsource was initially the extent to which an organization viewed IT as a commodity which could easily be separated from the core functions of the business (McFarlan & Nolan, 1995). If the IT needs of an organization were fairly

minimal and peripheral to the functions of the business, then it was relatively easy to form contractual relationships with third party vendors to deliver a specified level of service for a specified amount of money (Kern & Willcocks, 2001). If the IT needs of the organization were more complex, however, and more intricately woven into the fabric of the organization, the limitations of a purely contractual relationship quickly became apparent (McFarlan & Nolan, 1995).

As the larger role IT came to play in most organizations through the 1990s continued into the present, outsourcing agreements correspondingly moved away from simple contractually defined agreements to more complex agreements that have been compared to partnerships (Grover, Cheon & Teng, 1996) and strategic alliances (McFarlan & Nolan, 1995). There has been a growing perception among both vendors and client organizations that much of the real potential value in outsourcing relationships lies not in providing IT services in a more cost efficient manner but in using cutting edge IT to transform the business performance of the organization (Linder, Cole & Jacobson, 2002). Although it is beyond the scope of this report to determine whether this viewpoint is valid, it is clear that it is a view that is accepted by many clients (Joch, 2003; Smith & Wellman, 2002,) and one that is earnestly touted by vendors as being true (CGI Whitepaper, 2002).

While many other industries have been experimenting with total IT outsourcing for over a decade, health care organizations have lagged behind in adopting this technique as a strategy (CGI Whitepaper, 2003). Recently however there have been signs that this is beginning to change (Haugh, 2001). Though the number of hospitals using total outsourcing to manage their information systems is still fairly small, the numbers are increasing rapidly. According to a 2003 survey conducted by Modern Healthcare magazine, the number of hospitals outsourcing IT grew 14.1% between 2001 and 2002 (Modern Healthcare, 2003).

Several factors have prompted health care executives to consider IT outsourcing. An AHA Whitepaper published in 2002 painted a bleak picture of the many challenges hospitals in the US currently face. The report listed difficulty recruiting qualified staff, the need to upgrade facilities, increased regulatory requirements, pressure to provide the latest medical technology, increasing costs for pharmaceuticals and medical malpractice insurance and inadequate reimbursements from the government as just some of the management challenges and financial pressures impacting today's hospitals. The AHA report also noted that due to these multiple financial pressures, many hospitals are finding it very difficult to access the capital necessary to upgrade aging facilities and update outdated information systems.

This combination of factors has placed many hospitals in an increasingly untenable position. While technology might help address at least some of the challenges outlined in the AHA report, many hospitals simply do not have the capital to devote to implementing state of the art information technology systems (Pesce, 2003). Seeing an opportunity, IT outsourcing firms have increasingly begun to market their services to hospitals as a way for hospitals to get the information technology they need for a lower cost and promises of greater efficiency (CGI Whitepaper, 2002; Corbett, 2003; Everest Group Whitepaper, 2002).

Total outsourcing of hospital information systems is a trend that offers both tremendous opportunity and tremendous risks (Kern & Willcocks, 2002; Smith & Wellman, 2002). Some hospitals that have successfully outsourced IT have experienced decreased costs and increased quality (Smith & Wellman, 2002). However, if the outsourcing relationship is not successful, it can be very difficult to reverse course and regain control over the organization's IT services (Kern & Willcocks, 2002).

Unfortunately, there is a notable lack of research related to total IT outsourcing in the hospital environment. Healthcare trade journals and white papers discuss the theoretical benefits

and reasons for hospital IT outsourcing (Corbett, 2003; Everest Group Whitepaper, 2002; Joch, 2003; Sucher, 2003) and there have been a few case studies presented by recent participants in hospital IT outsourcing agreements (Ragan, 2002; Smith & Wellman, 2002) but there is virtually no research that presents the results of hospital-vendor outsourcing agreements, particularly long term results. Therefore, hospital executives who are considering outsourcing have very little concrete evidence that IT outsourcing can help them achieve their goals relating to information technology.

Though there is little data for hospital executives to examine from peer organizations that have outsourced IT, the length of time that has passed since outsourcing IT became more common in other industries has provided the distance necessary to begin to assess the results of some of the early attempts at IT outsourcing (1998). A review of the literature examining these earlier efforts can help identify key questions hospital executives should ask as they consider the strategy of total IT outsourcing.

Many hospital executives are hoping that information technology can help them achieve cost savings, higher reimbursement, and greater patient satisfaction (Joch, 2003; Lorence & Spink, 2004; Morissey, 2003). Achieving these goals will be critical to the success of hospitals in the future (AHA Whitepaper, 2002; Ciotti & Honan, 2000). Outsourcing vendors argue that they can help hospitals achieve these goals more quickly and cost effectively than hospitals could on their own. This study will provide hospital executives with a better idea of how IT outsourcing has worked in other industries and help them to approach the IT outsourcing decision in a more balanced way.

Although special emphasis will be placed on evaluation and planning of IT outsourcing relationships within a hospital environment (Bigelow & Arndt, 2000; Briggs, 2004b; Smith &

Wellman, 2002) the concepts identified in this research may have implications for other outsourcing relationships as well.

## CHAPTER II

### REVIEW OF REFERENCES

The following review of references provides an annotated bibliography of the key sources used in developing this study. References are sorted into three general categories. The first category contains references that help identify and describe the trend towards hospital IT outsourcing. The second category contains references that describe IT outsourcing as experienced in other industries. The third category contains references used to help formulate and support the research methods used in the planning, development and execution of this study.

The annotation for each resource summarizes and describes the content to highlight how it relates to the purpose of this study, what specific parts of the study it is used to support and what criteria were used to select it.

#### ***Resources Describing Hospital IT Outsourcing Trends***

##### **CGI Whitepaper (2002). IT outsourcing for healthcare: It's time to seriously consider. CGI Group.**

CGI describes itself as "a leading provider of business and technology solutions for hospitals, health systems and other provider organizations" (CGI, 2003, p.13). Although, as a vendor for IT outsourcing services, it could not be expected to provide an objective look at IT outsourcing, it does take a fairly low key approach to making the case for outsourcing. Much of the paper focuses on current challenges facing the healthcare industry such as increasing regulatory requirements and the need to implement complex technologies to enhance reimbursement, reduce costs and improve quality. The information this paper provides concerning challenges faced by healthcare organizations and its suggestion that outsourcing IT might be a solution, is used to provide context for the purpose, problem and significance portions of this study.

The CGI paper is also used as part of the phase one data analysis in order to identify key trends related to healthcare IT outsourcing. The white paper describes many benefits which hospitals could potentially achieve by outsourcing and also states (without supporting documentation) that an increasing number of healthcare facilities are considering IT outsourcing. Despite the biased nature of this resource, it fulfills the purpose for which it is used which is to identify how hospital IT trends are being discussed by vendors and trade journals.

**Corbett, M. F. (2003). A market-driven approach to healthcare information technology: Tackling healthcare's IT challenges through outsourcing. Eclipsys Technologies Corporation. Retrieved April 24, 2004 from <http://www.corbettassociates.com/firmbuilder/articles/19/48/840/Default.asp?>**

This is a vendor white paper issued by Eclipsys Corporation which is a supplier of IT outsourcing services. This vendor white paper is selected in order to support the goals of the first phase of data analysis described in the methods chapter of this report. The white paper provides background on challenges faced by health care organizations related to IT services. The author asserts that commercial organizations have achieved tremendous success in using outsourcing as a strategic management tool and that health care organizations need to emulate the behavior of commercial organizations in regards to IT outsourcing. This comparison of hospitals with commercial organizations provides context for the purpose section of this study which aims to examine the trend towards hospital IT outsourcing through the lens of research conducted on previous outsourcing attempts in other industries.

This white paper is used in the first phase of data analysis to determine what benefits hospitals might hope to achieve by outsourcing IT services. Obviously since this is written by a vendor there is tremendous emphasis on benefits, however the goal of the first phase of data analysis is simply to determine what claims are being made regarding potential benefits of IT outsourcing. Since it is reasonable to assume that hospital executives considering IT outsourcing

might read this paper, it is important to document the claims it makes within the vendor context as it attempts to frame the discussion surrounding IT outsourcing.

This paper also indirectly helps to provide evidence for the trend towards IT outsourcing by discussing three hospitals that have hired Eclipsys to manage various IT functions.

Corbett includes a list of three general questions CIOs and healthcare executives should ask as they are considering what services might be appropriate for outsourcing. In addition, this paper helps to identify key systems that hospitals might want to outsource and suggests categorizing such systems according to whether they are transformational or operational in nature.

Though the author of this paper clearly has a vested interest in making outsourcing as appealing as possible, he does note some potential risk factors when considering IT outsourcing, particularly in terms of how various levels of management within the organization might respond to the decision.

**Everest Group Whitepaper (2002). Holistic Business Results: A forecast of healthcare industry outsourcing in 2002. The Everest Group. Retrieved 04/15/2004 from <http://www.outsourcing-center.com>.**

Everest Group is a consulting company which focuses on "assisting healthcare providers and payers with business solutions" (Everest Group, 2002). The Everest Group owns and maintains the OutsourcingCenter Web site where this white paper was found. This Web site is part of the publishing and research division of Everest Group. <http://www.outsourcing-center.com/about-us.html>. Much of the material provided on the Web site seems to be similar to the white paper selected for review for this report in that it gathers together marketing materials and "pseudo" research documents prepared by consultants and vendors. Nevertheless, the Web site is prominently displayed in web search results for information on IT outsourcing and the

white paper reviewed here serves the purpose of analyzing how the trend towards IT outsourcing is being discussed by vendors.

This article reviews trends towards IT outsourcing in healthcare and describes some of the reasons why outsourcing has been slower to be adopted in healthcare than other industries. The article has separate sections for the provider, payer and pharmaceutical markets. Because of the purpose of this report to focus on IT outsourcing in hospitals, review of this material is limited to the section discussing providers and to the introduction and conclusion which focus on more general issues related to the entire healthcare industry.

The paper was useful in providing some anecdotal evidence for the increasing trend towards IT outsourcing in healthcare and for identifying some of the types of systems that healthcare organizations need to implement. This article also helped provide information regarding the possible use of outsourcing to provide strategic benefits to healthcare organizations as they try to improve business processes.

**Goedert, J. (2004, March). Outsourcing: Before and after the contract is signed. Health Data Management. Retrieved March 15, 2004, from <http://www.healthdatamanagement.com>.**

This article discusses hospital IT outsourcing from the perspective of several health care organizations that have outsourced IT. The main focus of the article is to try to offer practical lessons regarding IT outsourcing based on real world experience of other organizations. Since this is a trade journal article it does not go into much detail considering how the organizations were surveyed. Rather than using a scholarly approach, this article presents anecdotal observations from people involved in the various outsourcing relationships. Despite the informal nature of the information presented, the article is useful for supporting the notion that more hospitals are using outsourcing as a way to cope with IT issues and the article meets the criteria

outlined in the methods chapter of this report concerning materials selected for phase one of data collection and analysis.

This article was particularly useful in highlighting risks that organizations should consider when outsourcing IT and for identifying benefits of IT outsourcing and types of information systems outsourced.

**Haugh, R. (2001). Sharing the IT pain. Hospitals & Health Networks, 75, (8), 34-38.**

This article takes a rather cautious approach to IT outsourcing by noting that it shouldn't be seen as a way for executives to escape from the complexities of managing IT. Haugh argues that very large organizations might easily have the resources and staff to implement the kinds of solutions offered by outsourcers, if they can effectively manage what they have. Nevertheless he points to several large outsourcing deals between outsourcing vendors and large hospital systems. In this way the article offers some support for the idea that outsourcing is increasingly seen as an attractive option by hospitals that are looking for ways to improve IT performance. Discussion of specific cases such as the contract between Catholic Healthcare West and Perot Systems also highlights the benefits hospitals hope to attain and the types of systems and functions hospitals typically outsource.

This article was published in Hospital & Health Networks magazine which is a respected healthcare trade journal. It helps support the phase one analysis of this report by identifying hospital IT trends, and discussing benefits, risks and types of systems outsourced by hospitals.

**Joch, A. (2003). Outsourcing info tech systems. Hospitals & Health Networks, Most Wired Magazine, (Summer), 34-38.**

This article describes the experience of three hospitals that chose to outsource their information systems. Joch highlights the benefits that each hospital hoped for and actually

achieved by outsourcing. Joch notes that as hospitals are faced with very complex information systems needs and are often struggling financially, outsourcing is becoming a more common method used to achieve information systems goals at a reasonable cost.

This article is used in the first phase of data analysis to establish the trend towards IT outsourcing, to identify some of the benefits of outsourcing from the hospital perspective and to highlight the types of systems hospitals most commonly outsource. There is also some discussion about risks that those considering outsourcing might want to consider.

This article appears in *Hospitals & Health Networks*, *Most Wired Magazine*, and meets the criteria established in the methods section of this report concerning data collection in phase one.

This publication describes itself as the official magazine of the College of Healthcare Information Management Executives (CHIME)

<http://www.hospitalconnect.com/DesktopServlet>. It appears to be a well established trade journal which "uses case studies to identify how actual information technology practices help solve strategic problems." (HospitalConnect.com)

**Ragan, D. (2002, January 29). Total outsourcing two years later. Paper Presented at the 2002 HIMSS Conference. Retrieved March 27, 2004 from <http://www.himss.org/content/files/proceedings/2002/sessions/ses097.pdf>.**

This paper was originally presented at the 2002 HIMSS conference. Ragan is the CIO of Detroit Medical Center (DMC) and he discusses a very large total outsourcing deal between DMC and CareTech Solutions. The contract was for one billion dollars over a 10 year period.

Ragan describes some of the factors that led DMC to the decision to outsource, including anticipated cost savings and the need to quickly upgrade its IT systems and infrastructure in preparation for Y2K.

Ragan discusses key elements of the deal including staffing issues and general contract terms. Ragan discusses both the anticipated benefits and, two years, into the deal what benefits have actually materialized.

Ragan also discusses those aspects of the contract that did not work as anticipated and some of the strategies DMC used to overcome the shortcomings of the original contract.

Ragan concludes with a very brief and general set of recommendations concerning important things to consider when outsourcing with separate recommendations for small, medium & large institutions.

This article provides another example of a total outsourcing relationship and though it is not a scholarly case study, it offers some interesting observations from someone who was intimately involved in the process. Because the article is written at an early stage in a long term contract it cannot be used to draw conclusions about factors that make an outsourcing relationship ultimately successful or unsuccessful but it offers information used in the phase one analysis concerning what leads hospitals to try IT outsourcing and discusses some of the benefits they hope to achieve. With his discussion of things that didn't work in the initial contract, Ragan also offers some insight as to the types of risks hospitals might encounter with outsourcing IT.

**Smith, S.R. & Wellman, W. (2002, January 29). Risks and Rewards of outsourcing: A practical model. Paper Presented at the 2002 HIMSS Conference. Retrieved March 27, 2004 from <http://www.himss.org/content/files/proceedings/2002/sessions/ses083.pdf>.**

This is a paper originally presented by Smith & Wellman at the 2002 HIMSS conference. The paper describes the details of an outsourcing agreement between the University of Pennsylvania Health System (UPHS) and First Consulting Group. The authors are employed by UPHS so the arrangement is described from the client perspective.

Though this paper does not follow established research methodology for presenting a case study, it is a reasonably complete account of the details of the arrangement and provides advice

for other organizations considering outsourcing. One caveat is that the authors are presenting their experience in the second year of a five year contract so the final outcome remains to be seen.

Despite these caveats this paper provides useful data for the first phase of analysis by discussing the types of services UPHS decided to outsource, what benefits they hoped to attain (and have so far actually experienced) and also discusses some of the risks and things to keep in mind when outsourcing.

**Sucher, R. (2003). Springhill Medical Center finds IT outsourcing formula. Journal of Healthcare Information Management, 17, (2), 42-46.**

Sucher is the chief operating officer of Southern Medical Health Systems which owns Springhill Medical Center. Sucher describes the decision to outsource IT at Springhill Medical Center to Eclipsys Corp. and provides a positive assessment of the experience two years after implementation.

Sucher discusses some of the key drivers which led Springhill to outsource IT services as well as some of the specific benefits Springhill hoped to achieve.

According to Sucher some of the most important benefits were improved access to skilled staff, improved IT services, a more predictable IT budget and access to cutting edge technology.

Sucher describes the general terms of the outsourcing contract which involved Springhill paying Eclipsys a fixed price to provide comprehensive IT services.

This article was published in the Journal of Information Management which is the official magazine of HIMSS. Its mission is " to provide authoritative, useful, informative articles for information technology professionals who play key roles in implementing IT in healthcare settings." [http://www.medscape.com/viewpublication/904\\_about](http://www.medscape.com/viewpublication/904_about).

The article provides useful information about the perception of an outsourcing relationship from the client perspective. It is used in the first phase of the data analysis portion of this report in order to provide support for the trend towards hospital IT outsourcing and to provide information about the anticipated benefits and types of services outsourced by hospitals. There is very little discussion of risk as this is an overwhelmingly positive article. Despite the positive tone, the fact that the article is written after only two years experience with the outsourcing arrangement makes it impossible to make any determination as to the ultimate success or failure of the agreement.

### ***Resources Describing IT Outsourcing in Other Industries***

**Barthelemy, J. (2001). The hidden costs of IT outsourcing. Sloan Management Review, 42, (3), 60-69.**

Barthelemy examines fifty IT outsourcing efforts in order to identify hidden costs of IT outsourcing. Barthelemy identifies four specific types of hidden cost and provides recommendations for ways to measure and, if possible, reduce the cost.

While the recommendations for reducing the costs are useful, the primary intent of Barthelemy's work seems to be to make organizations aware of the costs in order to be able to include them in a cost-benefit analysis of the IT outsourcing decision. Barthelemy's work is particularly helpful in helping identify risks involved with IT outsourcing that might otherwise be overlooked. This makes it useful for the phase two data analysis of this study and provides data useful to the final discussion of lessons that can be applied to hospital IT outsourcing decisions based on the experience of other industries that have outsourced IT.

**Barthelemy, J. (2003). The seven deadly sins of outsourcing. Academy of Management Executive, 17, (2), 87-100.**

Barthelemy presents results derived from his survey of about one hundred outsourcing agreements. His primary goal for the study was to identify common themes which seem to contribute to failed outsourcing efforts. Barthelemy discusses what he refers to as “seven deadly sins” which seem to most often contribute, either individually or in combination, to failed IT outsourcing agreements.

This article is quite relevant to the purpose of this study because it attempts to draw lessons from previous outsourcing efforts which might be helpful for firms considering IT outsourcing. Presumably, these lessons would be applicable to hospital IT outsourcing decisions. This article is particularly useful for the second phase of data analysis because it provides information on potential risks of IT outsourcing in addition to summarizing some of the benefits that organizations often hope to achieve.

**DeLoof, L.A. (1995). Information systems outsourcing decision making: A framework, organizational theories and case studies. Journal of Information Technology, 10, (4), 281-297.**

DeLoof examines twenty three outsourcing arrangements in order to develop a “descriptive framework” which can be used to describe characteristics of IT outsourcing relationships (p. 282). DeLoof also applies this framework to several case studies in order to test its validity. DeLoof’s framework consists of specific attributes related to: (a) types of IS services outsourced; (b) vendor characteristics; (c) relationships between client and vendor; (d) Relative levels of ownership and control of people and resources.

In his introduction, DeLoof provides background information related to theories of IT outsourcing which is useful for framing the problem and significance statements of this study. DeLoof’s presentation of the results of his attempt to apply his framework to particular outsourcing case studies is particularly relevant to the phase two analysis portion of this study since he uses the framework to describe characteristics of IT outsourcing relationships. The

conclusions he draws from his analysis are also relevant in terms of identifying lessons to be learned from other organizations that have outsourced IT services.

**Kern, T. & Willcocks, L. (2001). The Relationship Advantage: Information Technologies Sourcing and Management. New York: Oxford University Press.**

Kern and Willcocks make an important contribution to the outsourcing literature with this book. The authors examine a large number of case histories and surveys of organizations that have outsourced IT between 1990 and 2001. After identifying some general principles and frameworks common to outsourcing relationships, Kern and Willcocks use their frameworks as a guide to conducting longitudinal case study analysis on five large organizations that have outsourced IT. The authors' aim is to test the ability of the frameworks they have developed to adequately explain the characteristics of outsourcing relationships.

The introduction to this book provides an excellent overview of the history of IT outsourcing since 1990 and is useful in providing material for shaping the purpose, problem and significance portions of this study. The definition the authors provide for IT outsourcing is also used throughout this study. Since the introduction is where Kern and Willcocks describe many elements of the framework they have developed from their initial review of case histories and surveys, it also provides data that is subjected to content analysis in the second phase of data analysis in this study.

Chapter two continues to discuss the frameworks Kern and Willcocks have developed with special emphasis on risks they have identified as commonly occurring in IT outsourcing relationships. This provides further data for the second phase of data analysis in this study.

Chapter nine presents the results of the authors' efforts to apply their frameworks to the case study data collected from the five organizations studied for this book. These reflections provide further data to support the second phase of data analysis in this study.

Thomas Kern and Leslie Willcocks are both internationally recognized for their work on information systems outsourcing and have published numerous books, conference papers and journal articles related to IT outsourcing. They are frequently cited alone, together and in collaboration with other scholars in research related to IT outsourcing and several of the articles collected for this study were written by one or both of them.

**Kern, T. & Willcocks, L. (2002). Exploring relationships in information technology outsourcing: The interaction approach. European Journal of Information Systems, 11, 3-19.**

Kern and Willcocks use interaction approach theory as a structured way of viewing the outsourcing experience of 12 organizations. Kern and Willcocks are interested in testing the validity of the interaction approach as a way to understand IT outsourcing relationships. While this examination of a particular theoretical model is not central to the purpose of this study, the information by Kern and Willcocks is still useful in providing content to the purpose and problem areas due to a well written introduction which provides a good summary of many of the important trends and theories related to IT outsourcing.

The work by Kern and Willcocks also provides useful data relevant to the phase two data analysis section of this paper because in the course of examining outsourcing relationships through the framework of the interaction approach theory, they also provide insights into characteristics of IT outsourcing relationships including types of services outsourced as well as anticipated benefits and risks. The discussion and conclusion of this article also provide key findings which might be useful to executives considering outsourcing IT services.

**Kim, S. & Young-Soo, C. (2003). Critical success factors for IS outsourcing implementation from an interorganizational relationship perspective. Journal of Computer Information Systems, 43, (4), 81-91.**

Kim and Young-Soo survey 207 IT outsourcing relationships in order to identify key success factors for IT outsourcing relationships. Kim and Young-Soo use theories of interorganizational relationships to describe the characteristics of IT outsourcing agreements. Kim and Young-Soo's work is especially helpful in identifying perceived benefits of IT outsourcing relationships from the client's perspective. Kim and Young-Soo identify three general types of benefits: (a) strategic; (b) economic; (c) technological. The authors' work is used to develop the definitions used in this study for types of benefits related to IT outsourcing.

**Lacity, M.C. & Willcocks, L.P. (1998). An empirical investigation of information technology sourcing practices: Lessons from experience. MIS Quarterly, 22, (3), 363-409.**

This is an important study which examines case studies of 40 organizations that chose to outsource IT services in the period between 1991 and 1995. Using "expected cost savings achieved" (p. 363) as an indicator of success, Lacity and Willcocks attempt to identify key lessons learned by organizations that have outsourced IT which might be applicable to other organizations contemplating the outsourcing of IT services. Lacity and Willcocks examine seven factors to determine their impact on the success or failure of an outsourcing contract. The factors they consider are:

1. Decision scope
2. Decision sponsorship
3. Evaluation process
4. Contract duration
5. Contract type
6. Contract date
7. Size of IT function.

Using these seven common criteria Willcocks and Lacity conduct a qualitative analysis of the case study materials for each of the organizations selected for review and present findings which identify what specific attributes within each of the seven categories are more or less likely to result in successful outsourcing relationships.

As one of the most comprehensive collections of outsourcing cases studies identified for use in this study, the work by Willcocks and Lacity plays a key role in providing data which describes the experience of other organizations that have outsourced IT services. It is subjected to content analysis as described in the method chapter of this study in order to identify general concepts related to IT outsourcing in industries other than healthcare.

This particular article has been cited ten times according to the Business Source Premier electronic database and these authors both together and individually are well respected and prolific authors on the subject of IT outsourcing. Leslie Willcocks is a member of the faculty of Oxford University's Templeton College and has written or co-authored ten books and numerous journal articles related to IT outsourcing. Mary Lacity is an assistant professor of MIS at the University of Missouri-St. Louis and has written or co-authored two books and numerous journal articles related to IT outsourcing. (Willcocks & Lacity, 1998) Both authors have been instrumental in subjecting IT outsourcing to rigorous scholarly research in order to begin to identify universal patterns and theories which might be used to improve the outcomes of IT outsourcing decisions.

**Lorence, D.P. & Spink, A. (2004). Healthcare information systems outsourcing. International Journal of Information Management, 24, (2), 131-145.**

Lorence and Spink report on findings from a survey of 16,000 healthcare information managers in the United States. This is one of a very few scholarly studies that have attempted to identify and describe the trend towards IT outsourcing in healthcare. The research does not

focus specifically on hospital IT outsourcing but is nevertheless useful in helping to identify issues such as HIPAA and other regulations that are widely applicable to all healthcare providers and might be acting as drivers towards IT outsourcing. This content of this article is used to provide content to the problem and significance sections of this study.

**Saunders, C., Gebelt, M. & Hu, Q. (1997). Achieving success in information systems outsourcing. California Management Review, 39, (2), 63-80.**

Saunders, Gebelt and Hu surveyed thirty four managers of companies that had outsourced IT services prior to 1995. The survey was used to obtain descriptive information about each of the outsourcing relationships including how the contract was structured, what benefits were derived from the relationship and the respondents' overall perceptions of the relationship.

The ultimate aim of the research is to align characteristics of specific types of outsourcing relationships with perceptions of success and types of benefits achieved through the outsourcing relationship. The data collected by Saunders, Gebelt and Hu is useful in supporting the phase two analysis portion of this study. It is particularly useful in identifying the types of benefits other organizations have either achieved or hoped to achieve by outsourcing IT services and its attempt to draw conclusions regarding successful strategies for IT outsourcing is also useful in supporting one of the goals of this study which is to identify lessons learned in other industries which might be useful to hospital executives considering IT outsourcing.

### ***Resources Related to Research Methodology***

**Krippendorff, K. (2004). Content analysis: An introduction to its methodology. (2<sup>nd</sup> ed.). Thousand Oaks, CA: Sage Publications, Inc.**

Krippendorff provides a comprehensive description of content analysis including history, methods and theory. This work was reviewed to increase familiarity with content analysis

methods and was particularly useful for developing the relevance sampling strategy used to construct criteria for selecting materials to be used in the content analysis.

**Leedy, P.D. & Ormrod, J.E. (2001). Practical research planning and design (7<sup>th</sup> ed.). Upper Saddle River, NJ: Prentice-Hall, Inc.**

This work by Leedy and Ormrod was first published in 1989 and is currently in its seventh edition. It is a thorough and practical handbook for researchers engaged in research writing projects. Leedy and Ormrod provide detailed descriptions of the distinguishing characteristics of qualitative and quantitative research and how each approach might be applied to different types of research problems. Leedy and Ormrod's description of qualitative research was used to support the decision to use a qualitative approach in this study. Their work was also used to provide a brief description of characteristics of qualitative research in the methods section of this study.

Leedy and Ormrod also provide useful advice regarding strategies for collecting research materials and many of their suggestions were incorporated into the description of data collection methods described in the methods section of this study.

**Palmquist, M. (2004). Content Analysis, Accessed April 14, 2004, from Colorado State University, Writing Center Web Site:  
<http://writing.colostate.edu/references/research/content/>**

This Web site is maintained by the writing center at Colorado State University and provides a useful overview of content analysis. Palmquist discusses the history of content analysis and how it might be used and provides examples and step-by-step instructions for conducting either a conceptual or relational content analysis. The steps recommended by Palmquist for conducting a conceptual analysis are used in the method chapter of this study as guidelines for a description of how the literature selected for review is analyzed.

## **CHAPTER III**

### **METHOD**

This research uses a qualitative approach (Creswell, 2003) to explore issues related to outsourcing IT in a hospital environment. According to Leedy & Ormrod (2001), one purpose qualitative research can serve is to “enable a researcher to ... gain insights about the nature of a particular phenomenon” (p. 148). Since this research does not aim to determine cause and effect relationships or to prescribe a particular course of action, but seeks instead to understand IT outsourcing as it applies to the hospital environment, it is well suited to the exploratory methods utilized in qualitative research.

The overarching method used in this study is literature review. The purpose of the literature review is to “describe theoretical perspectives and previous research findings related to the problem at hand” (Leedy & Ormrod, 2001, p. 70). In the case of this particular research, the literature review helps to provide a context within which to raise questions for hospital executives as they engage in planning IT outsourcing arrangements.

#### **Data Collection**

Articles for this study are collected by searching online databases using the University of Oregon Library’s Janus Online Information system and the internet using the search engine Google. The bibliographies of relevant articles are also reviewed. Janus provides access to a large number of online databases which in turn provide access to scholarly journal articles, newspapers, magazines and abstracts in a wide range of subject areas. In many cases full text articles are available. Potentially relevant articles are either downloaded directly if available or ordered through the University of Oregon’s interlibrary loan service and usually delivered via email within five days.

The specific databases searched in this study using Janus are:

- Academic Search Premier
- Business Source Premier
- Article First
- ECO
- Magazines Full Text
- Masterfile Premier
- Medline
- Proquest

Whenever the option is available, Adobe PDF versions of full text articles are obtained in order to make page references consistent with the page numbers as found in the print version of the article.

The internet search engine Google is also used to find relevant materials. The internet is specifically utilized to find very current information related to vendor marketing efforts, especially whitepapers and healthcare related trade publications. According to the web site, Search Engine Showdown (2004), Google indexed over 4 billion web pages as of February 2004, and its main strengths are its size, scope and the relevance of its results.

Leedy and Ormrod (2001) have noted the importance of using the reference lists of important articles in order to find additional resources related to one's research. Leedy and Ormrod further advise the researcher to obtain any references seen to be cited by three or more authors (p. 76). This strategy of using previously developed reference lists is utilized to the extent possible in order to find additional articles related to the purpose of this study. Articles found using this method are carefully examined to note any keywords not previously used in the search strategy. New terms are added to keywords used for searching the internet and electronic databases in order to improve the breadth, accuracy and relevance of the items retrieved.

Data is selected for inclusion in this study based on a multistage sampling process (Krippendorff, 2004). In the first phase of sampling, broad key words are used to begin to assess

the available data and locate relevant texts. Appropriate Library of Congress subject terms are used initially and then, as relevant articles are found, the key words associated with those articles are added to the search terms. The following key words are used in various combinations to search the databases listed above and for internet searches using Google:

- Contracting Out
- Outsourcing
- Strategic Alliance
- Partnership
- 3<sup>rd</sup> Party IT
- Healthcare IT Services
- Information Technology
- Hospitals
- Institutional Theory

The key words above are used as part of a relevance sampling (Krippendorff, 2004).

According to Krippendorff, relevance sampling is a “multistage process” (p. 119) in which the researcher begins with a general idea of what search terms might produce relevant search results and then progressively narrows the search terms until a manageable number of documents has been identified. At this point “analysts proceed by actually examining the texts to be analyzed.” (p. 119).

Following the advice of Leedy and Ormond (2001), as articles are found, the bibliographies are reviewed to identify frequently referenced works related to the purpose of this study. Every effort is made to obtain relevant texts “cited by three or more other researchers” (Leedy & Ormond, 2001, p. 76). Many electronic databases are helpful in this regard because they allow the user to easily click a hyperlink which lists all the articles referenced in a particular work and sometimes even include a hyperlink to articles that cite the current article.

Articles pertaining to the purpose of this study are collected in a two phase process. In phase one, articles are collected which describe trends towards hospital IT outsourcing. In phase

two, articles are collected which discuss the history and practice of IT outsourcing as it has been applied in various industries since 1990.

The process used in each of the two phases of data collection are described below:

***Data Collection – Phase One***

In order to identify and describe the growing trend towards total outsourcing in the hospital IT environment, a set of articles from trade journals and white papers published after 2000 is examined. The criteria used to select white papers are that they must have been written within the defined time range and they must discuss IT outsourcing within the US health care industry. Trade journal articles must meet the same criteria but also must be more than two pages in length. This additional criterion is used to exclude articles that only discuss IT outsourcing in a very superficial manner.

Literature describing trends related to hospital IT outsourcing is limited to articles published after 2000. This time period is chosen because 2000 marked a shift in the attention of many hospitals from issues surrounding Y2K to looking forward to new requirements imposed by the Health Insurance Accountability and Portability Act (HIPAA) and quality initiatives sponsored by groups such as Leapfrog (Joch, 2003).

Since the purpose of this study is to help hospital executives currently in the planning stages of entering an IT outsourcing agreement, more weight is given to the most current articles from trade journals and vendor white papers. More recent materials will presumably be more likely to describe the most recent trends impacting the nature of hospital IT outsourcing. Only articles discussing IT outsourcing in US hospitals are examined. Articles discussing other types of outsourcing or IT outsourcing in hospitals outside the US are excluded.

The collection techniques and selection criteria described above identified three whitepapers and eight journal articles for review. The materials are listed below:

## Whitepapers

CGI Whitepaper (2002). IT outsourcing for healthcare: It's time to seriously consider. CGI Group.

Corbett, M. F. (2003). A market-driven approach to healthcare information technology: Tackling healthcare's IT challenges through outsourcing. Eclipsys Technologies Corporation. Retrieved April 24, 2004 from <http://www.corbettassociates.com/firmbuilder/articles/19/48/840/Default.asp?>

Everest Group Whitepaper (2002). Holistic Business Results: A forecast of healthcare industry outsourcing in 2002. The Everest Group. Retrieved 04/15/2004 from <http://www.outsourcing-center.com>.

## Trade Journal Articles

Goedert, J. (2004, March). Outsourcing: Before and after the contract is signed. *Health Data Management*. Retrieved March 15, 2004, from <http://www.healthdatamanagement.com>.

Haugh, R. (2001). Sharing the IT pain. *Hospitals & Health Networks*, 75, (8), 34-38.

Ciotti, V.G. & Honan, T.M. (2000). Information Technology: Doing more, spending less. *Healthcare Financial Management*, 54, (5) 44-48.

Joch, A. (2003). Outsourcing info tech systems. *Hospitals & Health Networks, Most Wired Magazine*, (Summer), 34-38.

Pesce, J. (2003). Stanching Hospitals' Financial Hemorrhage with Information Technology. *Health Management Technology*, 24, (8). Retrieved March 10, 2004 from EBSCO Database.

Ragan, D. (2002, January 29). Total outsourcing two years later. Paper Presented at the 2002 HIMSS Conference. Retrieved March 27, 2004 from <http://www.himss.org/content/files/proceedings/2002/sessions/ses097.pdf>.

Smith, S.R. & Wellman, W. (2002, January 29). Risks and Rewards of outsourcing: A practical model. Paper Presented at the 2002 HIMSS Conference. Retrieved March 27, 2004 from <http://www.himss.org/content/files/proceedings/2002/sessions/ses083.pdf>.

Sucher, R. (2003). Springhill Medical Center finds IT outsourcing formula. *Journal of Healthcare Information Management*, 17, (2), 42-46.

The above white papers and articles are subjected to conceptual analysis in order to derive a set of a priori concepts (Weber, 1990) with which to examine the literature collected in phase

two. The specific analytical methods used are described in the section of this chapter titled “Data Analysis: Phase One”.

### ***Data Collection – Phase Two***

Literature discussing the history of IT outsourcing and how it has been practiced in other industries is limited to articles published in scholarly journals between 1992 and 2004. For purposes of this research a scholarly journal is defined as one in which the authors use citations and include a list of references (Northwestern, n.d.). The time period to examine is chosen because Kodak’s decision in 1989 to outsource its entire IT system sparked a wave of interest in total IT outsourcing and this in turn led to a wealth of research which examines the phenomenon of total IT outsourcing (Arnett & Jones, 1994; Grover, Cheon & Tang, 1994, 1995, 1996; Kern & Willcocks, 2001, 2002; Kim & Young-Soo, 2003; McFarlan & Nolan, 1995; Willcocks & Lacity, 1998; Yuang & Huang, 2000).

Because there has been a considerable amount of research concerning IT outsourcing since 1992, further selection criteria are used to identify relevant articles in this category. Since the purpose of this study is to compare the experience of IT outsourcing in other industries with current trends in hospital IT outsourcing, materials are only selected for analysis if they discuss case studies or surveys of organizations that have outsourced IT services.

The described collection techniques and selection criteria identified three chapters from one book and eleven articles for review. The selected literature is listed below:

### **Book (Chapters 1, 2 & 9)**

Kern, T. & Willcocks, L. (2001). The Relationship Advantage: Information Technologies Sourcing and Management. New York: Oxford University Press.

### **Articles**

Barthelemy, J. (2001). The hidden costs of IT outsourcing. Sloan Management Review, 42, (3), 60-69.

- Barthelemy, J. (2003). The seven deadly sins of outsourcing. Academy of Management Executive, 17, (2), 87-100.
- DeLoof, L.A. (1995). Information systems outsourcing decision making: A framework, organizational theories and case studies. Journal of Information Technology, 10, (4), 281-297.
- Grover, V., Cheon, M.J. & Teng, J.T. (1996). The effect of service quality and partnership on the outsourcing of information systems functions. Journal of Management Information Systems, 12, (4), 89-117.
- Hancox, M. & Hackney, R. (2000). IT outsourcing: Frameworks for conceptualizing practice and perception. Information Systems Journal, 10, 217-237.
- Kim, S. & Young-Soo, C. (2003). Critical success factors for IS outsourcing implementation from an interorganizational relationship perspective. Journal of Computer Information Systems, 43, (4), 81-91.
- Lacity, M.C. & Willcocks, L.P. (1998). An empirical investigation of information technology sourcing practices: Lessons from experience. MIS Quarterly, 22, (3), 363-409.
- Kern, T. & Willcocks, L. (2002). Exploring relationships in information technology outsourcing: The interaction approach. European Journal of Information Systems, 11, 3-19.
- Lorence, D.P. & Spink, A. (2004). Healthcare information systems outsourcing. International Journal of Information Management, 24, (2), 131-145.
- Saunders, C., Gebelt, M. & Hu, Q. (1997). Achieving success in information systems outsourcing. California Management Review, 39, (2), 63-80.
- Sobol, M.G. & Apte, U. (2001). Domestic and global outsourcing practices of America's most effective IS users. Journal of Information Technology, 10, (4), 269-280.

The literature listed above is subjected to content analysis using a priori terms (Weber, 1990) and concepts developed during the analysis of the literature collected in phase one. The specific processes used to perform the analysis of this set of literature are described in the section of this chapter titled "Data Analysis: Phase Two".

## **Data Analysis**

The data collected using the collection process described above is subjected to content analysis (Palmquist, 2004) in order to identify key themes as they relate to the purpose of this study. The specific methodology is conceptual analysis as described by Palmquist (2004). Conceptual analysis entails a systematic process of identifying texts related to a research question and then coding the texts in such a way that key categories and themes can be drawn from the selected texts in order to address the research question (2001). In keeping with the qualitative framework used in this study (Leedy & Ormrod, 2001), the conceptual analysis is not meant to support a hypothesis, but is instead meant to provide information regarding themes related to the purpose of this study.

### ***Analysis Phase One: Literature Pertaining to Hospital IT Outsourcing***

Data collected in phase one pertaining to hospital IT outsourcing is examined with a conceptual analysis process, in order to identify and describe trends related to IT outsourcing in the healthcare environment. According to Palmquist (2004) in order to perform a conceptual analysis it is necessary to identify specific research questions and then select a sample of text to be analyzed. The research questions addressed in this stage of the analysis are:

1. What evidence exists that hospitals are adopting IT outsourcing as a strategy?
2. What IT functions are hospitals outsourcing?
3. What benefits do hospitals that outsource IT hope to attain?
4. What risks might be involved in outsourcing hospital IT?

In order to effectively examine these questions the selected literature is coded according to Palmquist's (2004) eight coding steps. Specific procedures utilized for each step are listed below:

**Level of Analysis** – The texts are coded for the existence of themes at the paragraph level. This level of analysis is chosen because it allows a greater amount of context to be included in the analysis than would be possible if only certain words were used, while still allowing the texts to be divided into manageable units for purposes of analysis.

**Number of Concepts to Include** – An interactive approach is used to allow a set of concepts to emerge from the selected text. The four research questions are used as an initial set of organizing concepts with which to code the selected text at the paragraph level. Once the data has been organized into these four broad categories, additional analysis is performed to identify specific concepts within each of the categories. These specific concepts are then used in the second stage of data analysis.

**Coding for Existence or Frequency** – Coding is directed primarily for existence rather than frequency, with the main criteria being how well the concepts relate to the research questions posed for this stage of the analysis.

**Level of Generalization** – Because the units chosen for analysis allow for a considerable amount of context to be included in the coding process, concepts are coded in a general way according to the meaning of the text and not only for the presence of particular words or phrases.

**Rules for Coding Texts** – Once a paragraph or other section of text has been determined to be relevant to the analysis it is either paraphrased or quoted directly and entered into an electronic database called Personal Knowbase developed by BitSmith Software. Personal Knowbase allows notes or imported text to be organized on electronic note cards that the user “tags” with keywords in order to facilitate easy retrieval.

As concepts are identified during the interactive coding process, Personal Knowbase keywords are created which are subsequently used to identify all notes and text related to specific keywords. The software also allows reports to be created which list all keywords and

related materials in order to identify instances where multiple variations of a keyword are being used to categorize similar concepts. In such instances, a standard keyword can be identified and all texts remapped to the standardized keyword in order to ensure consistent usage.

**Irrelevant Information** – The research questions used to guide the interactive coding process are used as criteria to identify and subsequently ignore irrelevant information.

**Coding the Texts** – The selected literature is reviewed to identify relevant paragraphs or other sections of text, which are then either summarized or quoted directly and entered onto electronic note cards using the Personal Knowbase software program. Each note card is given a title which identifies the author of the source and relevant page and paragraph numbers. The card is then tagged with the appropriate keywords to allow for quick and accurate retrieval for use during the analysis stage.

**Analysis** – The purpose of this stage of analysis is to produce a set of emergent concepts (Weber, 1990), which can then be used to identify and describe the trend towards hospital IT outsourcing. Personal Knowbase is used to sort the coded text into categories and identify redundant categories and to determine which categories seem to be most commonly supported by the literature. A final set of emergent terms (1990) is then presented as Table 1 – “Hospital IT Outsourcing Trends” The terms listed in Table 1 identify: (a) Indicators of a trend towards outsourcing hospital IT; (b) Hospital IT functions likely to be outsourced; (c) Anticipated benefits of hospital IT outsourcing; (d) Potential risks of hospital IT outsourcing.

The benefits identified in the first phase of data analysis are then used to guide a conceptual analysis of literature selected for review in the second phase of analysis. Since the anticipated benefits will figure prominently in the decision of whether or not to outsource hospital IT services it is important to examine the role these benefits have played in earlier outsourcing efforts.

### ***Analysis Phase Two: Literature Pertaining to General IT Outsourcing***

The benefit categories identified in phase one described above are used as a set of a priori concepts (Weber, 1990) to guide a conceptual analysis (Palmquist, 2004) of the selected literature from phase two in order to identify and describe research findings which discuss these terms as experienced by organizations that have outsourced IT. Personal Knowbase is used to capture relevant paragraphs and tagged with the appropriate a priori term. Palmquist's (2004) eight steps for conceptual analysis are followed in generally the same manner as described in the description provided in the Phase one analysis section of this chapter. The key difference is that the emergent terms from phase one are used as a pre-defined set of a priori terms with which to examine the literature in phase two.

Once all texts have been coded, Personal Knowbase is used to organize the texts according to the list of a priori terms. At this point a further level of analysis is performed to place the themes relating to hospital IT outsourcing within the larger historical context of IT outsourcing in other industries. Each of the terms is expanded upon with a summary of the key findings of past research relating to the concept and how it was experienced by other organizations that have outsourced IT.

### **Data Presentation**

The conceptual analysis of the two sets of literature described above results in a rich data set that includes key terms and concepts related to hospital IT outsourcing along with contextual information regarding the experience of other organizations that have outsourced IT. The outcomes of the analysis are presented in two tables followed by a discussion which identifies key relationships between the concepts listed in the tables.

**Table 1 – Hospital IT Outsourcing Trends:** This table lists general categories and concepts which emerge as trends, identified from content analysis of the data collected in phase one. The

presentation in the form of a table provides a succinct snapshot of the key elements which viewed together help describe the current trend towards hospital IT outsourcing. By viewing this table readers will gain a better understanding of the benefits hospitals hope to attain by outsourcing IT, what functions or services hospitals most commonly choose to outsource and what risks hospitals currently acknowledge when considering IT outsourcing.

**Table 2 — Lessons from Other Industries:** This table presents relevant issues related to the experience of organizations in general that have outsourced IT, identified from content analysis of the data collected in phase two. The concepts result from a guided search of the literature using the benefit categories identified in the phase one analysis and within the larger framework of trying to identify lessons learned by other organizations that have outsourced IT. This table seeks to provide hospital executives with a much broader view of issues related to IT outsourcing by identifying issues that might diminish anticipated benefits and what strategies might be used to make sure anticipated benefits actually materialize.

The key concepts from the two tables described above are discussed as part of the Conclusion of this paper, in order to identify relationships between the current trend towards IT outsourcing and past efforts to outsource IT in other organizations. The purpose of this study is to provide hospital executives with a broader context within which to engage in evaluation and planning efforts related to IT outsourcing. The discussion helps to achieve this purpose by comparing characteristics of hospital IT outsourcing which emerge from a content analysis of healthcare trade journals and vendor white papers with characteristics identified from a content analysis of scholarly case studies and surveys of other organizations that have outsourced IT.

Since this is qualitative research, the presentation does not attempt to assign probabilities of success or failure in hospital IT outsourcing based on the experience of the other organizations studied. The hope is that identifying key relationships will help hospital executives ask

intelligent questions and evaluate IT outsourcing in a more objective and thoughtful manner than might otherwise occur. While this is not a substitute for more rigorous research which examines IT outsourcing specifically within a hospital environment, it provides a solid conceptual foundation upon which to design such a study, and offers the necessary framework upon which to draw lessons learned by other industries in order to increase the likelihood of making good decisions related to IT outsourcing.

## CHAPTER IV

### ANALYSIS OF DATA

The resources selected for analysis are analyzed in two phases as described in the Methods chapter of this study. In phase one, three vendor white papers and eight trade journal articles are subjected to content analysis in order to identify emergent concepts which help to describe the current trend towards hospital IT outsourcing. In phase two, one book and eleven scholarly journal articles are reviewed using a priori terms developed in phase one of the analysis in order to compare the experience of other organizations that have outsourced IT with current hospital trends.

#### *Data Analysis – Phase One*

Analysis of the eleven selected resources in phase one (see listing in Data Analysis section of Methods chapter) is conducted in an iterative fashion beginning with a set of guiding questions and ending with a set of specific concepts related to each of the initial questions. In the first stage of analysis, each of the documents is scanned and coded for the existence of sections of text related to the following four guiding questions:

1. What evidence exists that hospitals are adopting IT outsourcing as a strategy?
2. What IT functions are hospitals outsourcing?
3. What benefits do hospitals that outsource IT hope to attain?
4. What risks might be involved in outsourcing hospital IT?

Once this initial phase of analysis is complete the materials are coded again to identify key concepts related to “prevalence”, “functions”, “benefits” and “risks”, within each of these four categories. The results of the analysis are presented in Table 1 below.

**Table 1 – Hospital IT Outsourcing Trends**

<p><b>Prevalence of IT Outsourcing</b></p> <p><i>Partial list of hospitals that have signed outsourcing contracts since 1999, identified in selected literature</i></p> <ul style="list-style-type: none"> <li>• Catholic Healthcare West (San Francisco)</li> <li>• Children’s Hospital of Los Angeles</li> <li>• Continuum Health Partners (New York City)</li> <li>• Detroit Medical Center</li> <li>• El Camino Hospital (Mountain View, CA)</li> <li>• HCA (Nashville)</li> <li>• Heart Center of Indiana</li> <li>• Henry Ford Health System (Detroit)</li> <li>• Memorial Health Systems (Huntington Beach, CA)</li> <li>• Mid-Coast Hospital (Brunswick, Maine)</li> <li>• North Shore-Long Island Jewish Health System</li> <li>• Saint Vincent’s Catholic Medical Center of New York</li> <li>• Springhill Memorial Hospital, (Mountain View, CA)</li> <li>• St. Joseph Medical Center (Orange, CA)</li> <li>• Tenet Healthcare</li> <li>• UCLA Medical Center (Los Angeles)</li> <li>• University of Pennsylvania (Philadelphia)</li> </ul>	<p><b>Risks Involved in IT Outsourcing</b></p> <ul style="list-style-type: none"> <li>• Potential for executives to see outsourcing as a way to abdicate IT responsibility</li> <li>• Loss of control</li> <li>• Possible negative impact on staff</li> <li>• Resistance by IT staff and other affected employees</li> <li>• Vendor may not be motivated to maintain competitive edge</li> <li>• Executives may view outsourcing as a quick fix</li> <li>• Vendors may not be able to deliver promised benefits</li> <li>• Difficult to reverse outsourcing decision</li> <li>• Difficult to set baselines for cost and performance</li> <li>• Contract terms may encourage over-utilization of IT services resulting in increased costs</li> <li>• Loss of organizational knowledge due to departure or transfer of knowledgeable staff</li> <li>• Expected cost savings may fail to materialize</li> <li>• Unforeseen costs may emerge</li> </ul>
<p><b>Hospital IT Functions Outsourced</b></p> <ul style="list-style-type: none"> <li>• Infrastructure improvement and maintenance</li> <li>• Management of legacy systems</li> <li>• Implementation and management of administrative systems</li> <li>• PC support</li> <li>• Network support</li> <li>• Help desk</li> <li>• Data center</li> <li>• Web site development</li> <li>• Applications development</li> <li>• Technical support</li> </ul>	<p><b>Anticipated Benefits</b></p> <ul style="list-style-type: none"> <li>• Access to best practices due to vendor experience</li> <li>• Access to more experienced staff</li> <li>• More predictable IT costs</li> <li>• Reduced costs</li> <li>• Increased ability to focus on strategic planning instead of operational issues</li> <li>• Increased focus on core competencies</li> <li>• Quicker, more successful implementation of complex, innovative systems</li> <li>• Increased career opportunities for existing IT staff</li> <li>• Improved business processes</li> <li>• Reduced political obstacles related to IT</li> <li>• Enhanced efficiency due to vendor’s greater economies of scale</li> <li>• Simplified management of IT</li> <li>• Improved reliability and stability</li> </ul>

### ***Data Analysis – Phase Two***

The conceptual analysis in phase one identified a number of benefits commonly used to justify why hospitals might want to outsource IT services. Because the benefits to be achieved are likely to be significant factors in making the outsourcing decision it seems reasonable to examine these benefits in more detail to ascertain the likelihood of achieving them. With this aim in mind, the benefit concepts listed in Table 1 are used to collect and analyze resources that describe IT outsourcing benefits in the context of organizations that have outsourced IT services between 1990 and 2004.

The benefits from Table 1 are used as a priori terms to conduct a conceptual content analysis on fourteen resources selected for the phase two analysis (see listing in Data Analysis section of Methods chapter). A high level of generalization is used (Palmquist, 2004) in order to preserve as much context as possible from the coded material. The aim of this stage of analysis is to identify lessons learned from previous attempts at IT outsourcing that might be applied to hospital IT outsourcing decisions. To accomplish this goal, content referring to any of the benefits from Table 1 is identified and then further analyzed to determine what factors might diminish the anticipated benefits and what if any strategies might be used to make the attainment of the benefits more likely.

Table 2 below presents a summary of findings of how benefits are viewed and discussed in literature which analyzes previous outsourcing efforts. For each type of benefit, the table presents key findings from the literature which help distinguish the reality of IT outsourcing as experienced in other organizations from anticipated benefits hospital executives may be hoping to achieve; later these results will be discussed to derive specific lessons for hospitals considering outsourcing.

**Table 2 – Lessons from Other Industries**

<b>Anticipated Benefit</b>	<b>The Reality</b>
Reduce costs	Outsourcing does have the potential to reduce IT costs but this is not a guaranteed outcome (Kern & Willcocks, 2002). Even if some costs go down there are a number of “hidden costs” associated with negotiating the contract and ongoing management of the relationship which can cancel out any benefit (Barthelemy, 2001). Any cost reduction is most dramatic in the first year of the contract and much less in ensuing years (Saunders, Gebelt & Hu, 1997).
More predictable costs	This is almost always a guaranteed outcome of outsourcing but it may not always be a benefit. Many contracts with fixed costs are initially favorable to the client but as technology gets cheaper and better the fixed fees the client pays may no longer be a good deal (Kern & Willcocks, 2001; Lacity & Willcocks, 1998).
Greater economies of scale	There seems to be agreement that this is a true benefit of outsourcing; however, some have argued that as many technology functions become increasingly commoditized, the economies of scale achieved by an outsourcer are not significantly different than could be achieved by any medium to large size client organization (Hancox & Hackney, 2000).
Simplify management of IT	Organizations who hope for this benefit may be placing unrealistic expectations on the relationship. The research is unanimous in stressing the importance of actively managing the outsourcing relationship. This may even require adding additional staff with specific skills in managing outsourcing relationships. As Barthelemy (2003) pithily observes, "Outsourcing does not mean abdicating!" (p. 92)
Increase career opportunities for existing IT staff	This is not a widely discussed benefit in the general outsourcing literature. More research is necessary to evaluate the mid to long term career paths of staff transferred to an outsourcing vendor.
Increase ability to focus on strategic planning	If the outsourcing agreement is well executed then the organization may realize this benefit, however since IT is often such an important factor in implementing strategy, good communication with the outsourcer is necessary to make sure IT goals and business goals remain in alignment (Grover, Cheon & Teng, 1996; Kim & Young-Soo, 2003).
Focus on core competencies	This could be a benefit of outsourcing. The main issue

	<p>raised by the research is the difficulty of identifying core competencies and the part IT plays in supporting those competencies. IT is so intertwined with the processes of most businesses that it cannot be easily segmented like custodial services or food service preparation (Hancox &amp; Hackney, 2000). There is a much higher risk with outsourcing IT services that the organization will lose control over the tools it needs to maintain its core competencies (Barthelemy, 2003).</p>
Improve business processes	<p>Most researchers identify this as a difficult benefit to achieve through outsourcing. The outsourcing vendor would need to have detailed industry specific knowledge and be highly integrated into the client's organization to be able to help improve processes (Hancox &amp; Hackney, 2000).</p> <p>Achieving this goal requires a strong relationship between the vendor and client and mechanisms for measuring the result of improved processes and providing proper incentive to the vendor for helping to achieve improvements (Kern &amp; Willcocks, 2001).</p>
Access to best practices	<p>There seems to be general agreement that the fact that vendors have many clients allows them to develop standard ways of approaching common problems. Whereas a particular client may deal with a certain problem one time, an experienced vendor is likely to have faced and solved that problem a number of times.</p>
Overcome political obstacles related to IT	<p>This is mentioned briefly by a few researchers (Kim &amp; Young-Soo, 2003; Saunders, Gebelt &amp; Hu, 1997) but not widely explored or researched as a benefit. It seems to be assumed by those who identify this as a benefit that a third party may be able to rise above political issues within the client organization. More research is required to determine if this assumption is supported in practice.</p>
Quicker more successful implementation of complex, innovative systems	<p>Most researchers agree that it is much safer to outsource IT functions that are fairly routine such as telecommunications, PC maintenance and data center operations.</p> <p>Using outsourcing to implement a new technology can be risky because it is very difficult to define requirements. Unfortunately, as Kern and Willcocks (2001) have noted, "these are precisely the IT activities many senior executives wish to outsource" (p. 18)</p> <p>This benefit seems more likely to be achieved if only routine tasks are outsourced so that the remaining IT staff can focus on more complex tasks.</p>
Improve reliability and stability of systems	<p>This benefit seems to be supported by the literature and is an outcome experienced by many organizations</p>

	<p>that outsource. The use of best practices and the vendor's greater access to technology to handle fluctuations in capacity requirements allows many organizations a much higher level of reliability and stability than they experienced before outsourcing (Barthelemy, 2001).</p> <p>Also, reliability and stability are largely a function of network systems and infrastructure which are relatively well understood and not highly specific to one particular organization. This makes these functions good candidates for outsourcing (Grover, Cheon &amp; Teng, 1996, Kern &amp; Willcocks, 2001).</p>
Access to more experienced staff	<p>While an outsourcer theoretically has a larger pool of experienced IT professionals than most organizations have internally, it is not guaranteed that a client will have access to that staff without paying additional fees to the vendor (Kern &amp; Willcocks, 2001).</p> <p>In addition, many organizations lose experienced staff when an outsourcing decision is announced (Barthelemy, 2003). When staff is transferred to the outsourcer, some of the best performers may be transferred to other clients. The end result is that an organization may find itself being served by less experienced staff than before outsourcing (Kern &amp; Willcocks, 2001).</p>

### ***Discussion***

The results of the two phases of content analysis presented in Table 1 and Table 2 above provide a much more complex picture of IT outsourcing than hospital executives might get simply from reading white papers and trade journal articles. Table 1 shows that IT outsourcing is being used by many large hospitals and hospital systems in the hopes that they will be able to achieve significant benefits such as reduced costs, improved ability to focus on strategic issues and better access to both innovative technology and experienced staff. Hospitals that outsource contract-out a wide range of services from PC support to applications development. Although some articles in health care trade journals mention risks that might be involved in IT outsourcing, there seems to be a much greater emphasis overall on the potential benefits than the possible risks.

Table 2 focuses on the anticipated benefits which emerged from a content analysis of healthcare trade journals and vendor white papers in order to identify lessons learned from other industries that have outsourced IT which might cause hospital executives to analyze anticipated benefits from outsourcing more closely. The discussion presented below is meant to draw additional parallels between current trends related to IT outsourcing in hospitals and previous IT outsourcing efforts.

A careful review of both sets of literature identified: (1) reduced costs and (2) improved performance due to vendor use of best practices and (3) greater depth of IT staffing expertise as the key benefits desired by all organizations that consider outsourcing IT. Because of the central role these benefits play in outsourcing decisions they warrant further discussion, particularly in terms of the hospital context.

#### *Reduced Costs*

When discussing reduced costs as a benefit, many researchers have used transaction cost theory as a useful theoretical lens for analysis (Grover, Cheon & Teng, 1996; Hancox & Hackney, 2000; Kern & Willcocks, 2001). Application of this theory has helped to identify many hidden costs in IT outsourcing that might otherwise be overlooked (Barthelemy, 2001). The central idea of transaction cost theory is that a contractual relationship between a client and vendor involves certain transaction costs that must be considered in order to do conduct a proper cost-benefit analysis of an outsourcing agreement. Transaction costs in IT outsourcing include the cost of identifying the vendor, negotiating the contract, monitoring the agreement, renegotiating the agreement and bringing IT back in house if the agreement fails. These transaction costs are higher when the service being outsourced is highly complex and integrated with the organization. (Hancox & Hackney, 2000).

This finding has important implications for hospitals because hospitals often cite the need for computerized physician order entry (CPOE) systems as a motivation for outsourcing (Corbett, 2003; Joch, 2003). Such systems are enormously complex and only a limited number of hospitals have successfully implemented them. Hospitals that hope to use outsourcing to implement such systems may not be fully taking into account the transaction costs that outsourcing for this purpose might entail. According to Kern & Willcocks (2001) an organization should plan to spend from 4 – 8 % of the total value of the contract on managing the ongoing relationship. Costs will tend towards the higher end of the range as the activities that are outsourced become more complex or involve high levels of uncertainty.

Another key finding from the analysis of the literature in phase two is that an aggressive focus on achieving reduced costs in an outsourcing relationship can backfire if the resulting contract does not ensure a reasonable profit for the vendor (Barthelemy, 2003; Kern & Willcocks, 2001; Saunders, Gebelt & Hu, 1997). If the vendor does not feel the contract is fair it may engage in opportunistic behavior such as charging exorbitant fees for any services not included in the contract or reducing the quality of delivered services.

Barthelemy (2001) offers advice for companies that want to minimize hidden costs. His advice is consistent with recommendations provided by other researchers. To avoid hidden costs, an organization should:

- Only outsource activities that are well understood and for which accurate baseline measurements can be obtained.
- Spend time (and money) up front in choosing a vendor carefully. Hire outside help if necessary to help conduct the vendor search and interview the vendor's clients to verify whether the vendor is likely to be able to follow up on its promises.

- Prepare detailed and thorough contracts with specific clauses to allow for changes in technology and business conditions and for reversing the contract upon termination.

According to Barthelemy “When a firm has outsourced activities that should not be outsourced, selected the wrong vendor, and written a poor contract, the likelihood of success is close to zero.” (p. 95)

### *Improved Performance*

Many of the healthcare trade journals and vendor white papers analyzed in phase one, noted that while cost savings were important, the real value in outsourcing resides in its ability to quickly improve performance. The theory is that by providing access to experienced staff and state of the art technologies, outsourcing vendors can help implement sophisticated systems that hospitals need to comply with new regulations and increased demands from patients and insurers (CGI Whitepaper, 2003; Corbett, 2003; Joch, 2003).

The idea that a third party will be able to come in and solve a hospital’s information problems is no doubt attractive to harried hospital executives, but the literature from earlier outsourcing experiences makes clear that this may be an unrealistic expectation. As Kern & Willcocks (2001) have noted, “never outsource a problem” (p.36).

Based on the experience of organizations that have outsourced, there seems to be a strong tendency to place the burden for improving processes on an outsourcing vendor. This might not necessarily be a problem, if not for the fact that too many organizations do this without negotiating a contract that properly defines this role. The research is generally critical of outsourcing relationships that are described as “partnerships” or “strategic alliances” because in many cases these seem to be the words used to describe a poorly defined relationship (Lacity & Willcocks, 1998). Organizations that leave the contract vague in the hopes that their outsourcing

“partner” will live up to the intent of the agreement are often disappointed. If a partnership is truly what is desired then the contract needs to provide incentives that will allow the vendor to share in any profits (or other benefits) that result from the organization’s improved performance.

*Strong Relationship Key to Success*

Perhaps most importantly, for organizations that want to use outsourcing to improve performance, management of the ongoing relationship appears crucial to success. Analysis of the literature from phase two reveals a strong consensus that to effectively manage an outsourcing relationship, it is necessary to have dedicated internal staff that can monitor vendor performance and act as liaisons between the vendor and the client. Also, management at all levels in both the client and vendor organizations must continually work to develop trust and effective mechanisms for communication. This becomes increasingly important if the activities being outsourced are complex.

## **CHAPTER V**

### **CONCLUSIONS**

This study was conducted in two stages. In the first stage, articles from health care trade journals and vendor white papers were collected and analyzed to identify and describe the trend towards hospital IT outsourcing. The aim of this analysis was to gain an understanding of the prevalence of hospital IT outsourcing and also to identify the types of functions being outsourced, the benefits hospitals hoped to achieve and any risks that might be involved in outsourcing. The analysis revealed that a number of hospitals and health systems have outsourced IT services and some of these such as Tenet Healthcare and HCA are among the largest in the United States (Haugh, 2001). The analysis also showed that a wide range of services are being outsourced and that there are many anticipated benefits from outsourcing IT. Although the literature did describe some of the risks involved with outsourcing, the literature appeared heavily weighted towards discussing the potential benefits.

The analysis also revealed that hospital IT outsourcing is a relatively new phenomenon and there is little empirical research which analyzes the long-term impact of outsourcing in a hospital environment.

In order to provide a more balanced context within which to view hospital IT outsourcing, in phase two of this study the researcher collected and analyzed research conducted on organizations that have outsourced IT services since 1990. This phase of analysis focused on the anticipated benefits identified in phase one in order to see if those benefits were reportedly achieved by other organizations. A second goal was to synthesize key findings from the research which might be useful to hospital executives as they consider IT outsourcing.

Based on the available literature, the benefits identified in phase one (See Table 1 above) which are most likely to result from IT outsourcing are: a) Access to best practices; b) Improved

reliability and stability of systems. Most researchers seem to agree that the fact that most outsourcers have many clients allows them to standardize processes and learn from experience and then apply this knowledge to help their clients. Most of the other benefits identified in phase one however, seem far from guaranteed. While many examples of successful outsourcing relationships exist (Kern & Willcocks, 2001), there are even more examples of failed relationships (Kern & Willcocks, 2001).

Outsourcing almost always involves a number of hidden costs and if organizations do not carefully consider these costs and seek ways to minimize them, these costs can wipe out any anticipated cost savings (Barthelemy, 2001). Hospitals may be especially vulnerable to incurring hidden costs because they are already operating on slim profit margins (AHA Whitepaper, 2002) and cannot afford to incur large unexpected costs. There is also some indication that the types of systems hospitals wish to outsource are so complex and poorly understood that using an outsourcing vendor to implement them could increase the transaction costs involved with managing the relationship.

This study is not meant to prove that outsourcing IT services is the right – or the wrong - thing for hospitals to do. The intention is to show that other organizations have tried to achieve the same types of benefits hospitals wish to achieve by outsourcing and have not always been successful. The organizations that have been successful seem to share some common characteristics including:

- Only outsourcing functions that they understand and for which they can set clear requirements.
- Negotiating detailed contracts which provide flexibility for changes in technology or business environment.
- Carefully choosing a vendor that will be able to deliver the promised services.

Most importantly, the research shows that outsourcing should not be viewed as a way to get rid of a problem. Outsourcing may free up executive staff from having to manage the day to day operations of IT, but new management responsibilities related to the outsourcing relationship cannot be neglected or else the hoped for benefits will be less likely to materialize.

In other words, as research from other organizations has shown, outsourcing is a tool. If used wisely it can be a powerful way to reduce costs and improve performance. And, if not, then hidden costs and declining service quality could add to the many problems that hospitals already face. Outsourcing is not a decision to be made lightly; this study should give hospital executives the perspective they need to fully consider their options in regards to IT outsourcing.

## APPENDIX A

### DEFINITIONS

**A Priori Coding**– A method used in content analysis which involves using an established theory or preliminary literature review to identify a list of concept categories which are then used to guide an analysis of a set of documents (Weber, 1990).

**Client** - In a client-provider relationship model the client is the party which receives services, results and resources in return for payment to the provider. The client manages the relationship with the vendor through a series of process interactions and the services received are determined according to a contractual agreement (Gartner, 2003). This study may also refer to the client as the organization or the company.

**Content Analysis** – Content Analysis is a method used in research for breaking down documents into manageable chunks of information in order to identify the presence of specific terms or concepts (Palmquist, 2004).

**Conceptual Analysis** – Conceptual analysis is a type of content analysis which involves focusing on the existence or frequency of certain concepts or terms (Palmquist, 2004).

**Core Competency** – A component of an organization’s business that differentiates it in the market-place and helps it to achieve competitive advantage (Pearlson, 2001).

**Economic Benefits** – Economic benefits related to IT outsourcing refers to the ability of an organization to provide IT services at a lower cost and with greater efficiency by engaging in an outsourcing agreement (Kim & Young-Soo, 2003).

**Information Technology (IT)** – The term Information Technology (IT) is used interchangeably with the term Information Systems (IS). According to the definition provided at the WhatIs.com website “IT (information technology) is a term that encompasses all forms of technology used to create, store, exchange, and use information in its various forms (business data, voice conversations, still images, motion pictures, multimedia presentations, and other forms, including those not yet conceived)”. For purposes of this research Information Technology also includes the management functions and personnel needed to implement and maintain the technology.

**Interorganizational Relationships** – Barringer & Harrison (2000) have reviewed the literature on organizational relationships and consolidated their findings into a list of six common types of interorganizational relationships as well as advantages and disadvantages. According to Barringer & Harrison, interorganizational relationships are agreements between two or more firms which “help firms create value by combining resources, sharing knowledge, increasing speed to market and gaining access to foreign markets” (p. 367) While not every relationship will confer all of these advantages these are the primary motivators for forming such a relationship.

**IT Outsourcing** – “A process whereby an organization decides to contract-out or sell the firm’s IT assets, people and/or activities to a third party supplier, who in exchange provides services and manages these assets and services for an agreed fee over an agreed time period” (Kern & Willcocks, 2002, p. 3). Though this definition implies that IT outsourcing is nothing more than a general outsourcing agreement specified to include IT services, in fact there are some key differences between IT outsourcing and other types. Agreements for IT outsourcing are more complex and impact more parts of the organization, IT functions are not easily separated from other organizational activities and the speed with which technology changes makes it difficult to

predict future costs and benefits of the relationship (Kern & Willcocks, 2002, Willcocks & Lacity, 1998).

**Outsourcing** – “Turning over all or part of an organizational activity to an outside vendor” (Barthelemy, 2003, p. 87).

**Qualitative Research** – Creswell (2003) defines qualitative research as an iterative process in which the researcher uses various methods such as interviews, open-ended observations, and examination of documents, in order to develop a theory or broader understanding of a particular phenomenon. The iterative quality of qualitative research makes it different from quantitative research in that it is not meant to support a particular theory or hypothesis. Instead, understanding emerges by analyzing materials in order to identify themes or categories and then drawing conclusions or developing a theory based on what has been learned in the course of the analysis (pp. 181-182).

**Scholarly Journal** – According to the Northwestern State University Library web site, scholarly journals: Include citations; are written by a scholar or someone who has done research in the area; use language appropriate to the field in which the research is situated; include an abstract or summary; and, conform to established formats for scholarly articles.

[http://www.nsula.edu/watson\\_library/ScholarlyJournals.html](http://www.nsula.edu/watson_library/ScholarlyJournals.html).

**Strategic Benefits** – In the context of this study, strategic benefits are specific results attributable to an outsourcing relationship which increase an organization’s ability to obtain or maintain a strong competitive position in the marketplace (Kim & Young-Soo, 2003).

**Technological Benefits** – The degree to which a firm increases access to leading edge technology and experienced staff due to the outsourcing relationship (Kim & Young-Soo, 2003).

**Total Outsourcing** – An agreement with a single provider to provide services covering a majority of an organization’s IT functions. Total outsourcing contracts are usually signed for a 5 – 10 year time period (Gartner, 2003, p.14).

**Trend** – Ask.com defines trend as “a general direction in which something tends to move”. The lack of specificity implied in this definition is consistent with the way trend is used in this study. This study does not intend to quantitatively prove or disprove the existence of a trend towards IT outsourcing in US hospitals. Healthcare trade journals and vendor white papers have identified several hospitals that have recently signed outsourcing agreements and in this sense it appears that IT outsourcing is an option that might be increasingly considered by hospitals but this study does not explore the full extent or rate of adoption of this phenomenon.

**Vendor** – In a client-provider relationship model the vendor fulfills the provider role of providing services, results and resources in return for payment from the client. The vendor provides services through a defined set of process interactions and the services provided are determined according to a contractual agreement (Gartner, 2003). This study may also refer to the vendor as the provider or the outsourcer.

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