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INTERNATIONAL MEANING OF WORKING: LEVEL & OCCUPATIONAL DIFFERENCES

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ABSTRACT

The international meaning of work in people's lives differs throughout the world. In this research paper we examine the role that work plays in different people's lives in industrialized societies. We focus on traditional working environments, careers, and compensation around the world. We examine the differences in the meaning of work among levels among three levels in an organization consisting of employees, supervisors, and managers among healthcare workers and general workers using Carraher's new International Meaning of Working data set.

INTRODUCTION/CONCLUSIONS

Future research is suggested based upon prior research (Carraher and associates, 1992-present; Carland and associates 1984-present).

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ENHANCING DRUGS ACCESS IN NORMAL AND CRITICAL CIRCUMSTANCES

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ABSTRACT

The drug supply and delivery play a very important role in developing a quality health care system. In spite of recent improvement in supply process, drug stores still face a difficulty in providing effective drug delivery and flexible access methods to patients during critical times. Access to drugs during such periods is usually plagued by several constraints which demand more preventive and real-time delivery systems. This research project investigates methods and constraints of drug supply and delivery in the greater New Orleans area. The analysis of collected data collected from sixty-seven drug stores provide significant information on how these drug stores operate and respond to disaster and critical times. The result used to design a demand driven enhanced and adaptive drug supply and delivery system operating on a real-time basis.

IT'S ALL IN THE BLOOD: THE BATTLE BETWEEN DAVID & GOLIATH IN THE BLOOD TESTING MARKET

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ABSTRACT

In the current paper we examine the state of the art in blood testing for medical tests paying special attention to the battle between Abaxis and IDEXX Laboratories. As the technology developed by NASA and marketed by Abaxis continues to develop far more tests shall be performed in physician's and vet's offices with fewer and fewer being sent to external medical testing labs. Just as President Obama has two Abaxis machines in the White House and the Pope has one in the Vatican more and more individuals shall own their own blood testing equipment allowing them to more closely monitor blood chemistry and increasing long term health.

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HOW TO MANAGE AND FLOURISH INNOVATION IN HOSPITALS BY CLINICAL IT?

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ABSTRACT

The rapid pace of technological change has caused many competitive challenges for hospitals. The emergence of sophisticated technologies in the health care industry determines the important need for continuous and quick changes in organizational activities. New Health Information Technology (HIT) is supposed to improve the quality of health care delivery as an innovation. But it is fully naive if any new technology simply considered as an innovation. New technologies flourish as an innovation if the process of introduction and implementation is managed successfully. Also, if a new technology can change the process of health care delivery, it can emerge as an innovation and provides a competitive advantage for hospitals. Otherwise all the effort and investment are doomed to failure. This research as a conceptual study highlights how new HIT systems can contribute to organizational performance in hospitals.

INTRODUCTION

Managers, policy makers, and researchers have paid much attention to the important role of new technologies and innovations for competitiveness and growth. Yet, all new technologies and innovations don't result in success. Firms can potentially choose technological opportunities and various types of innovations, but it is important to know which innovative activities and technologies are most clearly related to improved competitiveness and growth. Even more desirable is to understand the factors affecting the success of new technologies and innovative activities (Koellinger, 2008). The aim of this article is to shed some new insights regarding this issue.

Keeping pace with new technological changes in market and subsequent firm innovation are crucial for the survival and growth of organizations (Bello, Lohtia, & Sangtani, 2004; Damanpour & Gopalakrishnan, 2001; Hurley & Hult, 1998). Porter (1990) has suggested that by the late twentieth century, firms had moved to an ''innovation-driven'' stage to compete on how to develop innovation profitably. In this context, it's critical to identify factors make the successful development of firm innovations. Although improved organizational performance is a function of firm innovation, many firms do not or cannot properly develop it (Aragon-Correa et al., 2007). Therefore, researchers are seeking for factors which make it possible for firms to develop innovation (Zollo & Winter, 2002). For example, many authors have been analyzing whether investment and adoption of new technology affect the generation of innovation in organizations, while others have searched the role of organizational factors such as organizational learning. In this study, we want to highlight the simultaneous influence of both factors.

The effects of organizational influences on innovation are significant. Several studies are paying growing attention to the possibility of determining innovation by the collective capability of organizational learning (Senge, 1990; Senge, Roberts, Ross, Smith, & Kleiner, 1994; Tushman & Nadler, 1986). Organizational learning corresponds to collective capability based on experiential and cognitive processes as well as knowledge acquisition, knowledge sharing, and knowledge utilization (DiBella, Nevis, & Gould, 1996; Zollo & Winter, 2002).

We propose that both collective factor (organizational learning) and issues related to new technology affect firms to develop and implement organizational innovation. Regardless of significant contribution of previous studies, it is still not fully clear how the efficacy of innovation might be affected by both direct and indirect influences of different organizational factors (Van de Ven, 1993). Identification of those influences will complement and provide better understanding of the general mechanism that firms should innovate.

Additionally, the ultimate purpose of firm innovation is creating new knowledge and new applications, especially those lead to organizational improvements (Calantone, Cavusgil, & Zhao, 2002; Celuch, Kasouf, & Peruvemba, 2002). Many researchers have proposed that organizational learning is positively related to performance. We seek to reinforce this work by contributing to the analysis of the influence of innovation on performance. Further, we try to find how the effect of organizational learning and technology on performance is supported by the generation of innovation.

This study also targets at analyzing the influence of information technology (IT) on organizational learning (OL) through the process of knowledge creation. We also examine how IT and OL contribute to business performance. The necessary need of organizational learning (OL) is emphasized as it responds to the arising challenges in a constantly changing business environment and can help companies to deal with their long-term survival challenges (Real et al., 2006). IT plays the role of an enabler in the OL process and contributes to the development of competitive advantage, which facilitates the achievement of an improved business performance.

The most important issue is that companies are not only supposed to accumulate knowledge (static focus), but they should be able to learn continuously through creating new knowledge which they transfer and use (dynamic focus) (Real et al., 2006). The innovation process is usually described by the concepts of learning and knowledge creation (Nonaka & Takeuchi, 1995). In this study, OL is as a dynamic process of knowledge creation generated in a hospital via its healthcare professionals and occupational groups that leads to the generation and development of distinctive competencies which enable the hospital to improve its performance.

Moreover, according to the Resource-Based View (RBV) approach and its extension, the Knowledge- Based View approach, competitive advantage can be achieved from the company's capabilities and skills in continuous learning as a fundamental strategic aspect (Real et al., 2006). Therefore, these complementary resources, such as OL and information technology (IT) can be converted into a competitive advantage for the company through innovation (Real et al., 2006). As a result, organisations should develop a continuous changing environment in order to achieve and maintain competitive advantage and sustained organizational performance, (Yamin et al., 1997).

In the era of knowledge economy, nowadays if companies desire to obtain sustainable competitive advantages, they can implement strategies to develop innovation (Daghfous, 2004; Prajogo & Ahmed, 2006). For example, to improve innovation capabilities, companies are motivated to be involved in learning activities under the context of technological changes and intense global competition (Chen et al., 2009).

In this study, a conceptual framework is proposed that assists in analyzing the relationship between technology, OL, innovation, and firm performance. It is argued that the performance implications of new technologies are mediated by innovative activities that result from the investments in and adoption of these technologies.

DEVELOPMENT OF A THEORETICAL FRAMEWORK

In this article, our focus is primarily on research questions that concern innovation and hospital performance. We first examine the nature and strength of introduction and implementation of technology and organizational learning as antecedents of innovation in hospitals. We then investigate whether hospital innovation, affect financial performance through a competitive advantage. And finally, based on the research variables, we develop a conceptual model of direct and indirect influences to guide future research in this arena and offer managerial implications.

THE INFLUENCE OF HIT ON HOSPITAL INNOVATION

Many organisations confront competitive challenges owing to the rapid pace of technological change in the turbulent business environment (Yamin et al. 1997). Industries with a strong need for highly sophisticated technologies in a competing global environment are particularly supposed to have continuous and rapid alterations in organizational activities (Teece, 1987; Waterman, 1987). These conditions encourage management theorists and practitioners to demand more creativity and innovation in products (services), management practices, and processes (Blauw, and During, 1990; Wheelwright,1987). Having a tight fit between constant effort to change as well as investment (such as in technology) and the dynamic environment is required to maintain keeping pace with the environment (Hall,1991).

A review of literature (David, 1990; Drazin, 1990; Ettlie, 1990) has indicated that improved technology reduces organizational cost and therefore improves performance and results. These findings reveal that organisational performance is related to organisational innovation. Yet, the relationship between different forms of organisational innovation and competitive strategy is little analyzed in the literature (Chen et al., 2009).

Introduction and a successful implementation of a new technology can leave its marks on organizational performance when the company can make use of new technology to improve operation process or once new instruments or equipments are purchased to enhance productivity (Cordero, 1990; Govindarajan & Kopalle, 2006; Utterback & Abernathy, 1975). IT also plays a role in the process of converting capabilities into a competitive advantage, when the capabilities have the attributes of strategic assets of being rare, valuable, difficult to imitate and imperfectly substitutable (Real et al., 2006).

The issue of technology productivity paradox emerges (Lucas, 1999), according to the fact that there is no guarantee for IT to be transformed automatically into improved results for the companies using it (Real et al., 2006). Powell and Dent-Micallef (1997) have stated that new IT itself is not a strategic resource, but it becomes a source of competitive advantage through complementary resources. Therefore, it is shown that IT will not necessarily result in competitive advantage. To achieve a sustainable competitive advantage, organizations should develop IT management skills because sustainability dose not reside in the technology itself (Mata et al., 1995).

The adoption of new technology, as an indicator of technology management, can be considered as an enabler of process innovations if the implementation process succeeds, the traditional work routines are changed, and the new system is actually applied. Newly adopted technology can also contribute to product or service innovations if it is successfully used to offer a new service or to deliver new products to customers. For example, a hospital that adopts and implements new clinical IT usually changes the routine of organization and updating patients' records (Waltter and Lopez, 2008). This is a process innovation. Taking the adoption of new technologies into consideration as an enabler of innovation has a significant advantage in a way that it directs us to identify the mechanisms leading to different results for firms invested in the same technologies (Koellinger, 2008). Based on Koellinger (2008), the relationship between technology and firm performance is mediated by innovative activity.

In healthcare sector, investments in and the adoption of a particular technology, such as HIT, can make innovations possible, either by improving processes or by helping the hospital offer new healthcare services to its patients. Technology investments without resulting in innovations are viewed as sunk costs that will not enhance hospital performance. The ability of hospitals to transfer technology investments into innovation is most likely to be affected by hospital-specific resources such as managerial skills, experience, the presence of technical experts, and prior technological investments.

Most of previous studies studies examined how much hospitals invested in IT instead of focusing on how these IT investments qualitatively change healthcare delivery. Therefore, literature still argues the mediating role of innovation between the effects of technology investments on performance. Logically, the simple purchase of or investment in new technology that will not deliver any subsequent qualitative change in production processes or product cannot be viewed as a source of improved performance (Koellinger, 2008).

As the share of health care in GDP is highly increasing, the health care industry is trying to utilize IT to enhance health care services. As the cost of health care keeps on increasing, the health care industry concentrates on the application of IT more than before. The target of this action is to utilize IT as a prevalent means of reconstructing health care for the 21st century (Flower,2004).

As mentioned by Mathieson, (1991) and chang et al (2007), although a technology carries potentially technical merits, if it remains unused, it cannot be effective for organizations. However, despite a number of studies in health sector, healthcare professionals have not fully adopted the clinical IT (Tung et al., 2008; Yi et al, 2006; Chismar & Wiley-Patton, 2003; Dearne, 2003; Murray, 2002; Wenn et al., 2002, Western 2001). According to Lowenhaupt (2004), physicians are very slow in terms of accepting clinical information systems. Based on a body of literature, healthcare professionals are not willing to integrate new IT with their day-to-day work activities if they perceive new IT as interfering with their traditional work routine (Anderson, 1997; Anderson and Aydin, 1997). However, according to Walter and Lopez (2008), only with greater acceptance of healthcare professionals, new technology can play a fundamental role in advancing health care delivery.

Based on a body of literature, the key issue in the successful adoption of a new IT has been identified by researchers as user acceptance (Davis, 1989 & 1993; Davis and Bagozzi, 1989; Kottemann and Davis; 1991; Igbaria, 1993; Igbaria, Guimaraes, and Davis, 1995). A variety of IT adoption models have been developed with the aim of explaining and predicting user acceptance of a new IT. (Davis, 1989 & 1993; Davis and Bagozzi, 1989; Igbaria, 1993; Kottemann and Davis; 1991; lee, Lee, and Kim, 1995).

As the users accept the new IT, they become more willing to making changes in their existing work routines. Also they are more likely to take on and incorporate a new IT into the flow of their everyday work practices (Walter and Lopez, 2008). Therefore, if a new HIT system is adopted appropriately it can result in innovation.

HIT is an umbrella term that includes a set of IT systems (such as telemedicine, clinical IT and …) in the medical practice. In this study more focus has been placed on clinical IT which is one of the most challenging sub-group of HIT in terms of adoption. With reference to a rich body of medical literature, there are two main types of in the medical care industry as follows:

(1). The first one is Electronic Medical Records (EMR) systems which are computer systems that provide a health professionals with making, storage, and recovery of patient charts on a computer. So, these systems help the rapid retrieval of information regarding patients' problem lists, allergies, and medications. In brief, EMR is one of the HIT products that enhances health care practice through the improved quality and efficiency of results (Burt and Hing, 2005; Shortliffe, 1999; Thompson and Brailer, 2004; Tierney, 1997).
(2). The second one is Clinical Decision Support (CDS) systems which refer to computer systems that give professional advice. These systems are knowledge-based systems that are given patient data as an input and by the use of series of reasoning techniques can generate diagnostic and treatment options as well as care planning (Walter and Lopez, 2008). Pain et al. (2003) defined CDS as a system that assists physicians in treatment of patients by offering some medical options with correct dosage and minimum possible side effects. Another feature attributed to CDS is that it makes more knowledge available for health professionals to decide the best cure options.

HIT has a great potential to improve the quality of healthcare delivery, hospital effectiveness and efficiency, and also to facilitate specialized tasks. But, it is naive to believe that only investments in and adoption of HIT will lead to innovation. If hospitals invest in and adopt new HIT properly and transform the benefits and potentials of HIT into organizational changes, it results in organizational innovation.

THE INFLUENCE OF HIT ON ORGANIZATIONAL LEARNING

According to the literature, organizational learning is related to a collective capability in the light of knowledge acquisition, knowledge sharing, and knowledge utilization (DiBella, Nevis, & Gould, 1996; Zollo & Winter, 2002). The most important issue is that organizations shouldn't stop effort up to accumulating knowledge (static focus), but they are supposed to learn continuously by creating new knowledge (dynamic focus) (Real et al.,2006). OL is viewed as an organizational process occurring at individual, group and organizational levels (Crossan, Lane, & White, 1999).

HIT can facilitate knowledge codification in organizations and assist organizational members in getting access to the specialized knowledge previously resided in the mind of healthcare professionals. Based on the existing literature on knowledge management, knowledge codification refers to converting tacit knowledge to explicit knowledge in a way that it can be usable by all the organizational members (Zack, 1999b). Therefore, knowledge codification will lead to more knowledge distribution and contributes to knowledge sharing in the organizations.

On the other hand, literature on IT adoption in hospitals indicates that the ability of knowledge codification and also knowledge sharing by HIT is an antecedent of perceived threat to physicians' professional autonomy. It means, healthcare professionals perceive that investment in new HIT results in decreasing their control over the conditions, content and procedures of their work. Due to abstract and expert body of medical knowledge possessed by healthcare professionals, they are less likely to accept and adopt those types of IT that organize,

codify and distribute their knowledge which makes them distinct from other occupational group working in a hospital. Healthcare professionals believe that HIT (like CDS) can codify their esoteric knowledge to a high extent and consequently distribute their knowledge to all non-professionals and para-professionals involved in the hospital. By doing so, healthcare professionals could no longer claim possession of abstract knowledge and they couldn't control the subordinates' performance. Therefore, if the function of a HIT are more tied to knowledge codification and sharing, healthcare professionals perceive it more as threatening to their professional autonomy (Walter and Lopez, 2008). Therefore, new HIT should be fully adopted by healthcare professionals to be effective for organizational learning. To do so, hospital managers are supposed to reduce healthcare professionals' perceived threat to professional autonomy in order to improve overall acceptance of HIT. Otherwise, new HIT will remain underutilized and its benefits regarding organizational learning cannot be reaped.

Knowledge sharing is an indicator of collaboration in organizations (Bock et al, 2005) and also knowledge sharing can help organizational learning. It means by sharing ideas, information and insights, healthcare professionals can have more collaboration to deliver high quality healthcare services. An emerging stream of research on the role of IT in the development of OL seeks to explain the application of technologies that support OL (Robey et al., 2000). IT plays an important role in the various knowledge management processes, which include knowledge creation and sharing (Alavi & Leidner, 2001; Pawlowsky, Forslin, & Reinhardt, 2001). A great deal of procedures, tools and activities may support the knowledge generation/ creation process (Nonaka, Toyama, & Byosie`re, 2001). In the health sector, the design of HIT applications can support organizational learning by knowledge codification and knowledge sharing. According to Tippins and Sohi, (2003), IT should be integrated into organizational learning for firms in order to be successful. According to Real et al. (2006), IT contributes to the sharing of knowledge and the relevant know-how to obtain distinctive competencies for the organization. Real et al. (2006) have argued that IT itself is not be able to maintain sustainable competitive advantage. Thus, hospitals (private in particular) should make a serious effort to increase their investment in HIT to influence the process of organizational knowledge creation, which allows it to flows and be accessible. They cannot expect to improve the performance only by the increased investment in HIT. According to Ruiz-Mercader et al. (2006), organizational learning can be significantly supported through investing in information technology. In the health sector, HIT also considered as the shared IT capabilities that allow the flow of knowledge in hospitals. However, organisational performance can be improved through organisational learning but not through information technology itself. Therefore, information technology contributes to obtain better outcomes indirectly via organisational learning.

THE INFLUENCE OF ORGANIZATIONAL LEARNING ON INNOVATION

The significant role of organizational learning for a company's survival and effective performance has been given much attention in the literature (Argyris & Schon, 1996; Huber, 1991; Senge, 1990; Zahay & Handfield, 2004). Dutrenit (2000) defines OL as a process by which organizations are involved in the creation of knowledge and also acquire technological competencies. As indicated by Nonaka and Takeuchi (1995), innovation is described with the use of learning and knowledge creation. A body of literature indicates that innovation is determined by the collective capability of organizational learning (Senge, 1990; Senge, Roberts, Ross, Smith, & Kleiner, 1994; Tushman & Nadler, 1986).

OL is associated with acquisition of new medical knowledge opportunities (Lipshitz and Popper, 2000). Therefore, in healthcare sector like other cases, the main goal of innovation is to create new knowledge resource and subsequently generate new applications to improve organizational performance. Further, Aragon-Correa et al. (2007) have shown how the influence of organizational learning on performance is strengthened by the generation of innovation.
Many studies in the growing literature on organizational learning have indicated that organizational learning is positively related to firm innovation (Calantone et al., 2002; Tushman & Nadler, 1986). Organizational learning enables creativity (Sanchez & Mahoney, 1996), inspires new knowledge and ideas (Damanpour, 1991; Dishman & Pearson, 2003), and supports ability to recognize and utilize them (Damanpour, 1991).

Generative learning, as the most advanced form of organizational learning, happens as an organization is likely to challenge long-held assumptions about its mission, procedures, long-standing practice patterns, customers, capabilities, and strategy and make changes in its practices, strategies, and set of values (Argyris & Schon, 1996; Senge, 1990).This kind of learning is a fundamental pillar for radical innovations in products (services) and processes (Senge et al., 1994).

According to Aragon-Correa et al. (2007), innovation does not directly emerge in all organizations at all times, but only to those kinds of firms with the appropriate internal characteristics such as the collective capability of organizational learning. OL as a means can enable competencies that are valued by customers due to difficulty of imitation, and it finally contributes to competitive advantage (Crossan & Berdrow, 2003). Helfat and Raubitscheck (2000) have proposed a conceptual model to explain how organizations can be successful by creating and using knowledge and organizational competencies via a learning system. According to Aragon-Correa (2007), organizational learning has a positive impact on performance, but this effect is mainly exerted through innovation.

By organizational learning in hospitals, insights and experience of healthcare practices can be shared among physicians and new practice patterns can be created. These new patterns can challenge the long-standing work activities and process of clinical decision-making. Organizational learning can also change and improve traditional treatment options and care planning and introduce new diagnostic options.

THE INFLUENCE OF INNOVATION ON COMPETITIVE ADVANTAGE

According to Koellinger (2008), in any case, the strategic importance of innovation has gained much emphasis and the possibility of growth for innovative firms is significantly more than non-innovative firms. Improvement of organizational performance has been given more focus for firm innovation rather than non-innovative firm (Damanpour, 1991; Zaltman et al., 1973). Yet, according to previous work, only certain characteristics of an innovation contribute to organizational performance not the innovation itself (Danneels & Kleinschmidt, 2001; Gopalakrishnan, 2000). For instance, Irwin, Hoffman, and Lamont (1998) have taken a resource-based view to illustrate the positive relationship between technological innovations and organizational performance. They have also claimed that this relationship is moderated by the innovation characteristics such as rarity, value, and inimitability. These characteristics make innovation result in competitive advantage. Competitive advantage has been defined as a company occupies an undefeatable position where the competing firms cannot imitate its successful strategy easily and the company can gain long-term benefits from this successful strategy (Barney, 1991; Coyne, 1986; Porter, 1985). As supported by Koellinger (2008), not all

new technologies and innovations lead to success for organizations. Therefore, it is vital for all organizations (such as hospitals) to find which characteristics of innovative activities and technologies are most related to improved competitiveness and growth.

Literature indicates that both types of innovations (process and product/service) have clear economic results. A product/ service innovation refers to the generation of a new production/ function or new ways of delivering services (Kamien and Schwartz, 1982), with characteristics which make them different from existing products/services (Beath et al., 1987; Shaked and Sutton, 1982; Vickers, 1986). A process innovation, can be seen as an outward shift in the production of an existing product/service which yields lower variable costs and gives rise to a productivity increase (Beath et al., 1995; Dasgupta and Stiglitz, 1980; Reinganum, 1981). Thus, beside private profits gained by the innovator from the investment in an appropriate innovation, both product and process innovations can contribute to growth of the innovator (Gotz, 1999; Hannan and McDowell, 1990; Reinganum, 1981; Sutton, 1991).

Reaction of competing firms makes the relationship between innovation and profitability more complex. The fundamental challenge arises for the innovator is to protect its novel process or product from imitation by rivals. Immediately after imitation of the improved process or new product, the innovator that first brought the innovation to the business environment will not be able to outperform its rivals (Teece, 1986, 2006). With attention to appropriability problem, the quicker an innovation is imitated by competing firms, the less time the innovator has to gain additional profit from the investment in the innovation (Geroski, 1995).

According to Yamin et al. (1997), competitive advantage can be obtained through organisational innovation. In the health sector, if investments in and adoption of new HIT leads to subsequent qualitative change in service-based offering and healthcare delivery, it gives the hospital a competitive advantage to outperform other hospitals. According to the resource-based view, there are four elements to measure the potential of firm resources to make sustainable competitive advantages. These indicators are value, rareness, imitability, and substitutability. For example, if a company obtains valuable and rare resources, it is able to develop and implement value-creating strategies that cannot be imitated by other rivals to obtain sustainable competitive advantages. Resources of companies consists of physical assets, capacities, organizational culture, patents, trademarks, information, and knowledge, etc (Daft, 1983). If companies have valuable, rare, imitable, and substitutable resources such as knowledge, they can use them to gain competitive advantages (Learned, 1969; Porter, 1981).

Innovation is viewed as a significant source of competitive advantage in the era of knowledge economy (Daghfous, 2004; Prajogo & Ahmed, 2006). By the use of new HIT as well as knowledge involved in organizational learning and following changes in quality of offerings as well as procedures, processes, and content of work, a hospital can create a unique and inimitable innovation which generates value. This value-creation innovation can be considered as a competitive advantage for the hospital to do better than other competing private and public hospitals. A long-lasting innovation can protect profit margins and allow benefits to be gained for the innovator (Lavie, 2006). Also, innovation allows companies to create and utilize their capabilities that support the long-run business performance (Teece, 2007). As supported by Gracia-Morales et al. (2007), successful innovation can make imitation more difficult and allow companies to maintain their advantages better.

According to Chen et al. (2009), innovation performance is positively related to competitive advantage. Yet, profits resulted from investment in innovation are only sustainable until the moment that the innovation is copied by the competing companies. In addition, if the

innovations are based on the new technologies, early mover advantages are limited to falling prices or rapid technological improvements over time (Beath et al., 1995; Fudenberg and Tirole, 1985; Gotz, 1999; Reinganum, 1981).

THE INFLUENCE OF COMPETITIVE ADVANTAGE ON HOSPITAL PERFORMANCE

According to Porter (1985), in the long term, the capability of firm to create an undefeatable position in an industry is determined by the success of firms to outperform its competitors. According to a literature review, organisational performance is dependent on the ability of the organisation to achieve a position of competitive advantage (Yamin et al.,1997).

A variety of variables have been used to conceptualize and measure organizational performance in strategy research (Venkatraman and Prescott, 1990). Some studies have categorized these measurements into two wide groups: objective measures (such as return on assets) and perceptual measures (comparisons of self with competitors) (5).

In this study, organizational performance is measured in terms of profitability and growth. Growth is quantified as changes in revenue. Economic theory proposes that the organizational performance outcomes depend on the type of innovation, the extent to which the competition is intensified, and the timing of the innovation whether the firm is a first mover, a follower, or a laggard in implementation of a particular innovation (Koellinger, 2008).Therefore, having a competitive advantage can help hospitals outperform other competitors and affect their performance.

PROPOSITIONS

The following propositions indicate the relationship between constructs of this paper:

Proposition1: Investment and adoption of new HIT systems positively influence hospital innovation.

Proposition2: Investment in and adoption of new HIT positively affect organizational learning in hospitals.

Proposition3. Organizational learning in hospitals positively affects innovation.

Proposition4: Innovation in hospitals is positively associated with competitive advantage.

Proposition5: Innovation mediates the relationship between technology (investment and adoption) and competitive advantage.

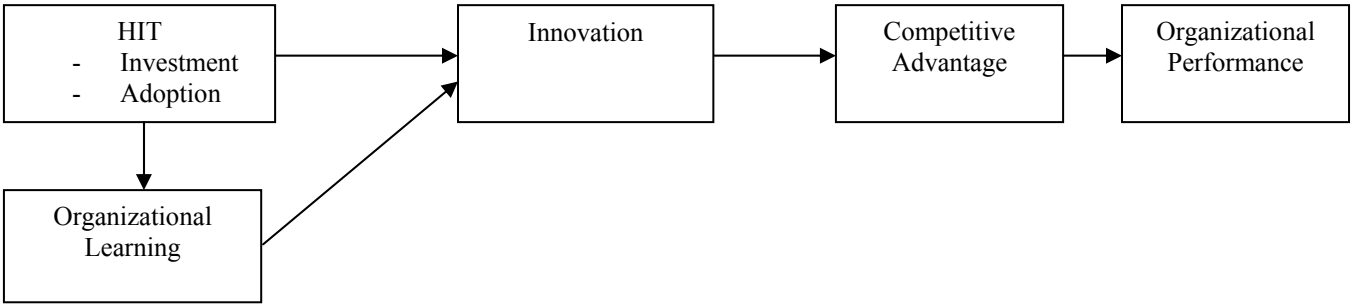
Proposition6: Innovation mediates the relationship between organizational learning and competitive advantage.

Proposition7: Competitive advantage positively affects hospital performance.

FIGURES

Based on the propositions mentioned above, the conceptual framework of this study is depicted in the following figure (figure 1):

Figure1. Conceptual framework



IMPLICATIONS OF THE STUDY

This study is of interest from both theoretical and practical perspectives. This research as a conceptual study provides some implications for both practitioners and scholars. Therefore, implications of this study are divided into two parts as follows:

THEORETICAL

Hospitals need innovation to improve their performance in changing environment. This study contributes to such performance improvement by showing that organizational innovation is based on two factors. Theoretically, we have examined using the literature on HIT, organizational learning, innovation, competitive advantage and organizational performance to propose a theoretical model in medical context.

We have verified that HIT is not in itself able to maintain competitive advantage. The theoretical model has demonstrated the importance of investments and adoption of HIT as a dynamizing element of organizational learning. So, the failures in investing and adoption of new HIT systems can result in a lack of organizational learning and improved organizational performance in turn.

In this model, the relationship between learning, innovation and performance has been discussed. We argue that innovation mediates the effect of new HIT investment and adoption on competitive advantage. Also, the influence of organizational learning on competitive advantage is mediated by innovation. It means investments in and adoption of new HIT as well as building a sound organizational learning cannot be considered as a source of improved performance if no change in the quality of health delivery results.

Therefore, the research adds to the body of knowledge and extends the understanding in the field of innovation and organizational performance in the medical context. Also the study would propose a number of implications for IT practitioners.

PRACTICAL

From a practical point of view, the functional contribution of the research is to help health care management and practitioners consider how to gain competitive advantage in hospitals. This study proposes that innovation is not directly available to all hospitals without appropriate HIT system adoption and organizational learning.

This study proposes that hospital management should keep abreast of new technological change and invest in new HIT. Only when new HIT systems are accepted and adopted by healthcare professionals, the achievable gains of the systems can be reached. Otherwise, if new HIT investment is not followed by the utilization of the system, healthcare professionals can resemble "chevaliers without sword".

This study also proposes that, beside new HIT, management should place much emphasis on organizational learning in order to manage innovation in hospitals. With a qualitative change in healthcare delivery, hospital can outperform other competing hospitals.

Finally, from a managerial standpoint, this study may contribute to propose the factors that might be encouraged by hospital management to improve organizational performance.

CONCLUSION

Furthermore, the collective capability of organizational learning in hospitals can play an important role in determining innovation. New knowledge has been found as a considerable source of obtaining competitive advantage in hospitals. New knowledge will lead to new applications in medical practices and finally influence organizational performance. Therefore, different ways contributing to various types of innovations are involved in making a serious effort to create new knowledge and develop competencies.

New HIT such as Electronic Medical Records (EMR) systems serve as digital repositories to improve organization and sharing data to enhance efficiency. Another type is called Clinical Decision Support Systems (CDSS) which are considered as knowledge-based systems which improve clinical decision-making and contribute to knowledge creation and distribution. Therefore, new HIT is concerned with creating and sharing new knowledge among different occupational groups working in hospitals. Also, new HIT affects organizational factors such as the collective capability of organizational learning which plays a key role in shaping innovation through knowledge creation, sharing and utilization.

This study proposes two determinants for managing innovation in hospitals: new HIT investment and adoption as well as organizational learning. As a conclusion, the process of a successful implementation and adoption of new HIT as well as building a sound organizational learning in hospitals are conducive to an innovation. Yet innovation in hospitals is widely prescribed as a means to enhance organizational performance, many hospitals can not develop and manage it

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ROLE OF RACE IN INFLUENCING SMOKERS' ATTITUDES AND BEHAVIOR: AN EXPLORATORY STUDY FOR AFRICAN-AMERICAN AND WHITE ADOLESCENTS

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Smoking initiation age has been reducing over the last few years and the need to understand the complex phenomenon that underlies underage smoking can not be underscored enough. There is also a need to identify new variables that could potentially influence the young to smoke (e.g., Gene and Pederson 2002). One such variable is race which is generally defined as "a social rather than a biological category referring to social groups "that share cultural heritage and ancestry "that are forged by oppressive systems of race relations justified by ideology" (Phillips and Drevdahl 2003).

At present, most theoretical studies that seek to identify predictors of smoking consider race as merely a covariate (e.g., Valente, Unger and Anderson 2002). However, the widening gap in smoking prevalence and initiation across different races call for studying race as an independent predictor. Greisler and Kandler (1998), for example, report that Whites are more likely to be smokers in comparison to other ethnic groups. Furthermore, biological evidence shows that, nicotine, the core ingredient in cigarettes, breaks down differently in African-Americans as opposed to Whites could partially explain the lower consumption rate among African-Americans. This paper, in contrast, studies the direct and indirect impact of race on smoking. Specifically a direct affect of race on smoking is reported, and an weak indirect effect via the construct of difficulty in the purchase of cigarettes is also reported. That is, African-Americans and Whites adolescents reportedly respond differently to the difficulty in purchasing of cigarettes which in-turn influences the smoking initiation age, current consumption and lifetime cigarette consumption by the adolescents.

In this explorative study, demographic (excluding race), economic variables, and attitudes towards smoking, have been controlled for and then the direct impact of race on smoking initiation rates and smoking consumption rates is studied. If the affect of race on smoking prevalence rate is indirect, say via attitudes towards smoking (and therefore, attitude towards risky behavior), then how strong would the effect be for African-Americans (the group that report to have the lowest smoking consumption rate) *versus* Whites (the group that report to have the highest smoking consumption rate)? Specifically, attitudes towards the risky behavior of tobacco consumption and attitudes towards tobacco companies are two variables likely to mediate the influence of racial membership on (i) age at initiation of smoking, and (ii) smoking consumption rate, and (iii) lifetime smoking of an adolescent who smoke, after controlling for the current age, and gender of the adolescent. Further the direct impact of race on the above-mentioned dependent variables is also examined.

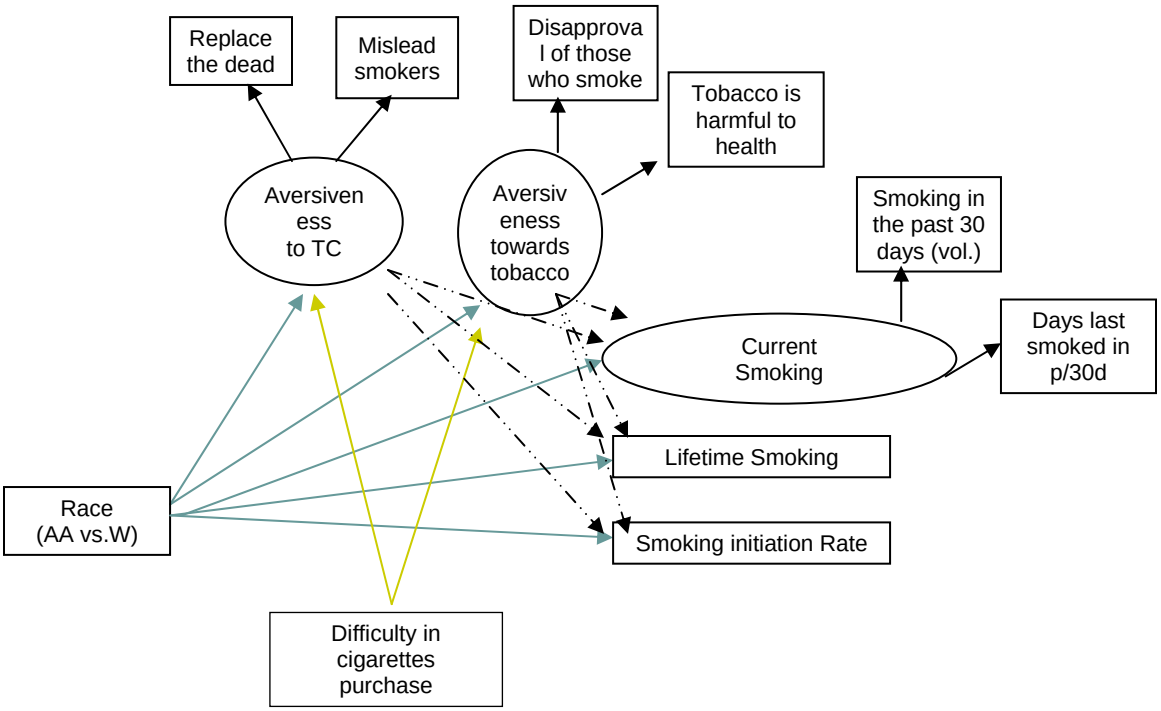
The above proposed relationships are studied using 2009 data from the National Youth Tobacco Survey (NYTS) previously under the aegis of the American Legacy Foundation. A total of 22,679 data points representing middle and high school students were initially considered. Data was then filtered based on the reported race (African-Americans and Whites were considered) before a structural equation model is run using AMOS version 4.0. The model-fitting

was carried out in two distinct phases: one, the measurement model was first evaluated independently for the identified latent constructs.

Measurement invariance tests did not reveal any differences in the constructs of aversiveness to risky behavior, and smoking consumption rate across the racial groups. Therefore, the unrestricted constructs are used for the analyses. In the second phase, the full causal model was considered with the simultaneous testing of the measurement and structural model. The goodness-of-fit were evaluated on the basis of the conventional indicators such as AGFI , and NFI. Chi-square value, known to be extremely sensitive to the sheer sample size (Byrne 2001), was not used as a guide in this analysis that comprised a total of 6,898 points after the filtering procedure noted above.

An examination of the best-fitting structural equation model where RMSEA is 0.066 which is lower than the conventional 0.08. In addition, the Hoetler's index is 310, also higher than the conventional requirement of 300. The NFI (0.9989) and the AGFI is 0.994 are also higher than the recommended level of 0.9. Thus the above proposed model is represents acceptable relationships among the above-defined variables.

***Figure 1*: Direct and Indirect Influence of Race on Smoking : Structural Model**



Gender differences among adolescents in the structural equation model were not found to be significant in influencing the smoking attitudes and behavior across the racial groups. The best-fitting model indicates that African-Americans have reported to have a lower smoking consumption rate when compared to the White adolescents. However, the direction of the effects is in line with the empirical reports on smoking initiation rate and consumption rate by race, with the exception of directional results for lifetime smoking (measured as the total number of cigarettes smoked in the entire life of the smoker). The model reports a positive, although very weak, influence of race on higher current smoking (0.021), inconsistent to empirical findings. However, the weak effect may be considered to be insignificant. Further, the model results are largely in line with empirical findings: (i) Being an African-American, one is more likely to have lower lifetime smoking (-0.208), and (ii) Being an African-American, one is likely to have a lower initiation rate (-0.050).

It was predicted that the harder it was for the adolescent to purchase cigarettes the stronger would be the aversiveness towards tobacco and tobacco companies. The results of the analysis indicate, contrary to the expectations, that the harder it is to purchase a cigarette the less aversive an African-American adolescent is towards smoking (-0.178). The impact of difficulty on the purchase of cigarettes for African-American adolescents could consequently be expected to be reflected in their higher lifetime smoking (0.271) and current smoking (0.349). This effect may be explained in terms of Brehm's reactance theory (Brehm 1996) i.e., the more one is restricted from doing a particular task, the more likely one is to do it. Such reactance forces could be stronger in African-Americans than in Whites because the historical influence of racism and discrimination encourage them to revolt against restrictions that are put on them.

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KSA FROM HEALTHCARE MANAGERS' PERSPECTIVES

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ABSTRACT

An essential determinant of healthcare organizational performance is managerial competence. From the research, it appears that many fulfilling those managerial roles do not appear to possess proper management qualifications or managerial experience in healthcare. This study focuses on expanding previous research to another segment of the healthcare delivery systems that of managers, supervisors and directors within a broader scope of healthcare organizations. The study asked healthcare managers, supervisors and directors to rate the importance of 50 knowledge, skills, and ability (KSA) concepts perceived as being necessary for successfully managing their current type of healthcare organization. It also examines the role of gender, age, education, years in health care and years of experience in healthcare management as factors that could influence the necessary skills needed for effective management. Of the 175 respondents, the majority were females at 78.9.2% while Caucasians represented 88.1% of the sample. This study further clarified and expanded the KSAs across a wider spectrum of supervisors, managers and executives. Additionally, the identification of seven interpretable factors have evolved which explained 61.5% of the variance in this study. These factors further define those KSA clusters that supervisors, managers, and executives identify as being most important for their success.

CHANGE AND INNOVATION IN HEALTH SERVICES DELIVERY

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ABSTRACT

The Health Care and Education Affordability Reconciliation Act was signed into law by the President on March 30, 2010. This legislation will have a significant impact on the U.S. health care delivery system. Specifically, the legislation will challenge the current operating models of health care organizations that have relied on fee-for-service revenue structures to prosper.

This changing environment will produce tremendous opportunities for those health care institutions that are prepared to positively respond to the demands of the health care consumer. Two factors will gain additional traction going forward: 1) The focus will continue to shift toward prevention and wellness and away from health restoration. 2) The focus will move toward performance outcomes in health care delivery and away from the number and type of activities being performed. Consumer education is critical to this transition. Using concepts from disruptive innovation research, this paper explores ways to develop and deliver effective health education programs to the public, particularly in the area of chronic diseases and their complications.

INTRODUCTION

The medical costs for individuals with chronic diseases account for seventy-five percent of the total health care costs in the country. In order to contain the cost of health care going forward, as well as address the access problems of many Americans, dealing with chronic diseases is critical. Health education programs designed to prevent high-risk health behaviors in individuals and communities is one way to address this daunting challenge. The answer to preventing these high-risk health behaviors lies in behavioral interventions, the focus of behavioral medicine. This type of medicine involves preventing or changing high-risk health behaviors so that chronic diseases do not develop.

Why don't these programs exist already? The current health care business model is built around restoring people to health and not preventing illness. Health care providers are paid well for restorative activities and little for preventative ones. In order to drive change in the U.S. health care system, potent forces must be used to disrupt current behavior. Research in 'disruptive innovation' conducted in other industries suggests that these concepts can be used in developing and expanding health education programs.

DISRUPTIVE INNOVATION IN HEALTH CARE DELIVERY

Clayton M Christensen, author of the Innovator's Dilemma, has studied innovation and management for decades. Christensen (2009) argues that the disruptive innovation theory can

work in the exploitation of change in health services delivery. The three key elements of this innovation include: a technology enabler, a business model innovation and the development of a value network. Health education programs must consider each of these elements in order to have the greatest likelihood of impacting medical care.

Technology as an enabler is central to innovation in the field already, but has not resulted in the cost declines needed for a healthy and sustainable health care system. However, in education, considerable variation as to offerings is more evident and gaining wider acceptance. Adapting this delivery capability into the health care system seems plausible and necessary. Digitizing health records and telemedicine provide evidence of technology's role in extending access and potential cost containment.

The second element of the innovation 'triad' relates to the business model of the health care system of the future. The emphasis on wellness and prevention, and performance outcomes, will call for new ways of thinking as to how organizations are paid. The current fee-for-service model rewards the wrong behaviors, both from the health care provider and the consumer. When it is broke, then you fix it. While the argument for prevention has been in the health care conversation a long time, the money has yet to follow.

Increasing patient knowledge of disease, especially chronic diseases, can go a long way in changing behaviors. In order to prevent the long term complications from these diseases, the patient must understand the serious complications resulting from their practice of high-risk behaviors. They must assume a more active role in the long-term prevention and treatment process, and then they will begin to influence the value networks used to meet those needs.

This third innovation element, developing a value network that is sustainable, will likely require a catalyst from outside the current networks. One source that seems intriguing is the engaging of the public health apparatus to lead the way in the reform of our current health delivery system.

Public health departments are well-experienced in population-based community education and intervention efforts. They also have a culture that is more consistent with a wellness-prevention value proposition. Finally, there is an existing organizational structure that generally has a positive standing within the communities they operate. This investment in health education and testing will likely need to be mandatory for any reform of our health care system to be successful and could be made part of the participation requirement of a program.

Unleashing these transformational forces has worked well at lowering cost and increasing the availability of a product or service in the business world (Christensen, Grossman, & Hwang, 2009). The catalyst for this type of disruption in health care could very well be public health and the preventive strategies they have developed. In order to respond to the opportunities presented by the disruption, leadership and empowered workers in public health departments are needed, as well as resources. The underlying logic is rather simple: if disease does not occur there is no need to allocate large sums of money to treatment.

Disruptive innovation allows the combining of resources in the production process in new and innovative ways that usually allows greater value to be produced by the process. This is exactly what is required for our health care system to survive and deliver better quality services at a lower price. The health care system and public health are both faced with limited resources and increasing demands from everyone for improved value of health care services. Public health departments and our medical care system have had tremendous successes in improving the health and life expectancy of most Americans. The country faces its greatest health challenge in the expanding epidemic of chronic diseases.

THE USE OF TECHNOLOGY TO PREVENT DISEASE

As introduced earlier, technology can help in the battle against the growing epidemic of chronic diseases. Technology is available to improve the communication of the prevention of risky behaviors to large portions of our population. Public health departments have the information that can help individuals prevent chronic diseases from developing. The challenge has been that the money received for public health departments has never been sufficient to develop, implement and evaluate the massive dissemination of chronic disease information to the entire population. This is not to say that there have not been chronic disease education efforts by health departments. There have been many successful programs developed and implemented in schools, workplaces and the community designed to prevent chronic diseases and their complications. These educational efforts need to be expanded to larger and more diverse population segments.

According to Turnock (2009) computers and electronic communications have improved the ability to gather, analyze and disseminate health information. This technology has to be expanded to deal with the chronic disease epidemic through the provision of a continuous stream of information about these diseases to the entire population. There are already examples of success stories concerning the innovative use of technology by public health departments and the Centers for Disease Control and Prevention (CDC) that includes Epi-X and ECards. On a local level, low cost activities such as voice-narrated power point slides to educate large numbers of people about colorectal cancer and H1N1 influenza have been used successfully.

One of the best examples of a public health surveillance and information systems is Epi-X. This system offers web-based communications for public health professionals. State and local health departments and poison control centers to access and share preliminary health surveillance information with large numbers of health care professionals. This system supports postings of up-to-date medical information and discussions about disease outbreaks and other public health events that involve many parts of the nation and the world.

The CDC currently has available over 100 free Health-e-Cards (electronic greeting cards). These cards contain a colorful greeting that encourages healthy living, promotes safety and can even celebrate a health and safety-related event. This concept could also be expanded to include chronic diseases along with ways of preventing the complications that can develop later in life as a result of practicing the unhealthy behaviors that lead to chronic diseases.

EXAMPLE OF AN INNOVATIVE PREVENTION PROGRAM

Last year, a colorectal cancer task force in Luzerne County, Pennsylvania developed a colorectal education program. The program utilized a marketing approach to increase the awareness of the need for screening for colorectal cancer in the county. Two businesses were chosen to participate in this program which began in May 2009. The program was made available to all employees of these businesses.

This educational program was developed on a SharePoint software site at a local College. It consisted of a pre-test, a colorectal cancer educational program and a post-test of knowledge gained from the education program. The educational program consisted of a series of voice-narrated power point slides about the risk factors for developing colorectal cancer, the various tests available for this disease and recommendations for those at high-risk for developing this disease.

The results from this program offer support for this approach. A significantly higher percentage of participants stated they were more likely to ask their doctor to be screened for colorectal cancer on the post-test than on the pre-test. All participants indicated that they were likely to share what they learned from the program with friends and family members. And as a side note, this program resulted in the discovery of colorectal cancer at an early stage in two participants resulting in life saving surgery for both individuals.

This colorectal education program is an excellent example of the use of disruptive innovation in order to develop a health education effort designed to reduce the incidence of colorectal cancer in a large population. This program was very inexpensive to develop and implement on a community basis. It is now being duplicated in other counties in Pennsylvania. The health care delivery system in the United States is consumed with the cure of illness and disease as the only way to deliver medical services to patients.

DISCUSSION

The concept of preventing medical problems before they occur has never been an accepted practice of modern medicine. Since the benefits of prevention and public health departments are found in the future, there has never been any real interest in providing adequate funding to public health departments. This is no little challenge.

Therefore, health education programs need to be looked at as a long-term investment that is capable of producing large payoffs in terms of improved health for the population over time. Although these educational innovations will require resources and costs in the present, they offer the best solution for containing health care costs tomorrow.

The need for creativity and innovation in the delivery of health care services has never been greater. Consumers are expecting more emphasis on prevention of illness and disease. These changes offer opportunities for the medical care system and public health agencies to form partnerships in the prevention and treatment of chronic diseases. Public health departments must find ways to share the science of prevention with larger segments of the population in order to reduce the chronic diseases epidemic impacting the health care system. The concept of disruptive innovation outlines the ingredients for a successful transformation.

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COST BEHAVIOR—A SIGNIFICANT FACTOR IN PREDICTING THE QUALITY AND SUCCESS OF HOSPITALS…A LITERATURE REVIEW

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ABSTRACT

This literature review focuses on the relationship between cost behavior and quality of care. Healthcare reforms focus on both cost control and quality of care. We propose a study to determine if there is a relationship between cost behaviors and quality of care. If a relationship exists, hospital management could use this information to better evaluate cost cutting measures while considering quality of care.

INTRODUCTION

Healthcare Payment Reform is underway (HFMA, 2009), but then healthcare has been in the "reform" stage for many years. Whenever changes are made that determine how hospitals will be paid for their services, they must adapt to the changes or cease to exist. For example, from 1965 to 1983, hospitals were paid by Medicare based on hospital costs, but in 1984, Medicare reimbursement changed so that payments were no longer based on total costs of the facility, but on a flat fee for the patient diagnosis per episode, known as DRGs (diagnosis related groups). This type of reimbursement would benefit those hospitals with a relatively higher level of variable costs (cost behavior is discussed in detail later in the paper). According to a study of 59 hospitals in the state of Washington from 1977-1994 (Kallapur and Eldenburg, 2005), the ratio of variable to total costs increased after 1983. In particular, the hospitals with higher percentages of Medicare patients experienced an even greater increase of variable to total cost ratios. Although it is too early to tell, as the 2010 healthcare reimbursement changes unfold, it will be interesting to see if cost behavior plays a part in hospitals' strategies to again gain advantages in the area of Medicare reimbursement.

Amid the focus on hospital costs in national healthcare reform, it is important to keep a more comprehensive vision of the issues. Specifically, the vision includes the topic of quality of care for patients. Acute care quality data of the Hospital Quality Alliance (HQA), which was first published in 2003, have been used to evaluate process of care measures. Although participation is voluntary, the Centers for Medicare and Medicaid Services (CMS) offer favorable reimbursement updates to participants. This incentive is based solely on participation and not the achievement of a particular score, but this may change as a result of the national healthcare reform legislation (HFMA, 2009).

Data Advantage LLC, first published its Hospital Value Index (HVI) in 2009 (Business Wire, Nov. 2, 2009). This new measure was developed in anticipation of the CMS Value-Based Purchasing initiative of 2010. On Nov. 2, 2009, Data Advantage announced that 75 hospitals, of the more than 4500 U.S. hospitals analyzed, were being recognized as "Best In Value: Superior

Quality Merit Award" winners. One of the measurements used to determine membership in this select group is financial efficiency.

The purpose of this literature review is to consider the theoretical plausibility of linking hospital cost behavior to quality of care and propose an empirical study to confirm the relationship. More specifically, using information regarding the level of variable costs and fixed costs to total cost, does either percentage of total cost relate directly to quality of care?

HOSPITAL COST MANAGEMENT

Before costs can be managed, one must have an understanding of how and why costs are being incurred. Total costs (TC) may be broken down into different groupings of costs such as variable and fixed costs = TC, patient-related and non-patient-related costs = TC, operating expenses and product costs = TC, but in all cases, regardless of how the costs are separated for analysis, in the end they each sum to the same total costs.

COST BEHAVIOR: VARIABLE VS. FIXED

Variable costs (VC) are defined as those costs that, in total, vary directly with an activity measurement. For example, medications dispensed from the Pharmacy are variable costs items since the more often the medication is dispensed to the patient, the higher the total medication cost, and the fewer times it is dispensed, the lower the total cost. In this case, the cost is driven by the prescription of the medication for the patient, which leads to dispensing the medicine and incurring the cost. If medication is not prescribed, the total cost would be zero—none would be purchased, none would be used. This logic applies to all costs incurred by hospitals in which an activity, often referred to as a cost driver, triggers a cost. Examples include, but are certainly not limited to, laundry and linen costs per patient day; meals served by food services per patient day; employee wages to wash the laundry and prepare the meals; utilities per square foot to heat and cool the facility; cost per standard X-ray; and so on. It is essential for hospitals to identify the cost drivers for the VC in their facility so that costs may then be analyzed and, ultimately, controlled.

Fixed Costs (FC) are those costs that remain constant in total throughout a range of activity. The salary of the Director of the Pharmacy is a fixed cost, at least over the short run, because that person is paid the same salary regardless of how many, or how few, prescriptions are dispensed. If the Director of the Pharmacy has a two-year contract with the hospital, the relevant period of time, or range, that cost is fixed is two years. Another example deals with leased facilities. If land is leased and used as a parking lot for the hospital, the lease cost is fixed over the lease period. So regardless of the number of patients or visitors who park in that lot, the cost is fixed for the lease period.

Some costs have both variable and fixed cost elements. These costs are referred to as Mixed Costs (MC). Mixed Costs must be separated into VC and FC in order to derive the most benefit from analyzing cost behavior. An example of a MC is the hospital's electric bill. If a building does not consume a single kilowatt hour of electricity, the power company will bill the hospital a base bill which reflects the fact that the building has power connected to it, and the electricity is available to be consumed. Once consumption of electricity begins, the total electric bill increases due to kilowatt-hours being consumed, but the base bill stays the same. So the electric bill (MC) = the base bill (FC) + (# kilowatt hours X the rate per kilowatt hour) or (VC).

By identifying MC, then separating them into VC and FC components, all costs can be expressed as either VC or FC.

Roberts, et. al., (1999) separated all of the 1993 costs of a large urban, public, teaching hospital into FC and VC components in an effort to understand more about what was causing the costs to be incurred so that the total costs could be better managed. The findings are that approximately 84% of the costs were FC, while only about 16% were VC. While the VC included such things as medications, and supplies for patients as well as employees, the FC included high cost items such as capital expenditures for buildings and equipment, salaries and benefits, and maintenance for the capital items.

Revenues must exceed the total of both FC and VC before an organization is profitable. When attempting to improve profitability by decreasing or controlling costs, cost behavior is particularly important. If activities are limited or decreased to lower VC without consideration of FC, profits may actually decrease. The total VC will decrease, but the total FC will remain the same, and the FC per unit of activity will increase. In an environment with high FC, it is essential that there be a high volume of activity that generates revenue to cover the FC. This is clearly the point of Robert A. Maier, president and CEO of Regents Health Resources LLC in 2000, when he recommends that radiology departments hire their own marketing professional to increase their volume and thus, their revenues. Due to the high FC associated with radiology—whether the services are for in-patients, out-patients, or both in a freestanding facility—once the FC are covered, everything beyond that point is highly profitable (Egger, 2000). Another suggestion to reduce FC in the long run is to outsource selected activities (Rauh, et. al., 2010). Hospitals may find FC savings by outsourcing their Food Service operation or the Child Daycare function use by their employees.

HOSPITAL QUALITY AND HOW IT IS MEASURED

Data Advantage, LLC, was founded in 1992 (Data Advantage—Company Overview, May 26, 2010) and is lead by Hal Andrews, CEO; David Potash, M.D., MBA, Chief Medical Officer; and Araby Thornewill, President. The company provides web-based healthcare information to its clients who join Data Advantage because of the company's commitment to quality products and customer service. According to their website, Data Advantage defines a hospital's quality, and thus membership in the HVI, by each hospital's success in the areas of (Data Advantage—Hospital Value Index, May 26, 2010):

- Quality of its care, including core processes and patient safety;
- Efficiency of its care and affordability, including the prices it charges;
- Experience encountered by its patients as measured by patient satisfaction; and
- Comprehensive reputation of a hospital as measured by local public perception.

The quality category is analyzed using data from the CMS Core Measures, AHRQ (Agency for Healthcare Research and Quality) Patient Safety Indicators, CMS 30-day mortality scores, and CMS reported hospital readmission rates. The hospitals are first ranked as Best in Value, or the top 25% of hospitals in the study. Then, the top 10% of the Best in Value group are recognized as recipients of Superior Quality Merit (SQM) Awards. The resulting 75 hospitals were recognized on a list published in the Business Wire (Business Wire, Nov. 2, 2009).

PROPOSED STUDY

The study will focus on the second set of variables, "Efficiency of its care and affordability, including prices it charges," and using VC percentages and FC percentages of TC, attempt to predict membership in the group of Superior Quality Merit Award recipients. To accomplish this, two samples of hospitals will be used—the first sample (#1) are members of the 75 SQM Award recipients, and the second (#2) sample are randomly selected from data available to the authors of 2299 hospitals that are not SQM Award recipients. The comparison of two samples is used to determine whether the use of cost behavior percentages is any more effective in predicting inclusion as a SQM than a simple random choice.

DISCUSSION

The Government Performance and Results Act of 1993 **(**U.S. Congress, 1993) signaled the government's expansion in focus to include quality of care measures in additional to cost control. The evaluation of quality of care and cost cutting measures continues in the recent healthcare reform Acts. As a result, hospitals must manage based on both criteria.

Financial distress has been increasing in hospitals. When a hospital becomes insolvent, it files for municipal bankruptcy, called Chapter 9 in the federal bankruptcy law. There were 579 filings between 1938 and 2007, with the greatest number of filings, 321, between 1938 and 1949. The Great Depression, World War II, and postwar economic changes may have contributed to this high number of filings. Between 1950 and 1989 there were only 89 filings; however, from 1990 to 2007, approximately 179 cases were filed nationally (U.S. Bankruptcy Court, 2008).

Hospital management and the Board of Directors should be considered with regards to hospital financial problems. Board members frequently have little or no training or experience in overseeing an operation (Sherman and Mankovetskiy, 2008), and even less in dealing with the state and clinical regulations to which hospitals are subject. Prior research indicates that the leaders of financially distressed hospitals do not act on the information they receive that could help thwart the bankruptcy or closing of their facility and set it on a tract towards financial recovery (HFMA, 2006). The Board and senior management need to be proactive in making changes to secure the financial health of their hospital. This could mean eliminating services that are loosing money, negotiating cost-cuts for rapidly increasing expenses such as insurance (Mehadevan, 2008), or conducting internal audits as needed and acting on the results. Additionally, poor financial performance may be a sign that there is unneeded capacity (Bazzoli and Andes, 1995; Petris Report, 2001). Consideration of cost behaviors is critical for many of these decisions.

Hospitals must track report quality of care measures, and many of these measures are made available to the public. Monitoring organizations and patients use these measures to evaluate hospital care. Further, Medicare and Medicaid reimbursements are effected by quality of care measures. Is it possible to control costs and at the same time, maintain or improve quality of care? This seems to be exactly what regulators are demanding of hospitals.

CONCLUSIONS

If cost behavior is found to relate to hospital quality of care, hospital administrators could use cost behavior to improve hospital management. Hospital Boards might use cost behavior as an indicator the hospital is edging toward financial difficulty.

Future research in to the relationship between cost behavior and quality of care may help hospitals bridge the gap between the two seemingly diverse measures.

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AN HR PERSPECTIVE OF THE HEALTH CARE REFORM ACT

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ABSTRACT

Since the Clinton era, deliberations over health care reform finally resulted in a landmark piece of legislation in March of this year. The health care reform bill (and modified by a reconciliation measure a few days later) will impact how all business provide and administer health care benefits to their employees. This presentation will highlight many of these implications for employers from a HR perspective. For example, companies with 50 or more employees that do not offer health care coverage to their workers will be subject to a tax penalty of $2,000 for every full-time worker. This aspect of the law will not affect small businesses (under 50 employees). In addition, it will most likely not impact large organizations (companies with over 500 employees), because they usually provide employee health coverage. However, the medium size employer will be the target of this penalty. HR departments for these companies need to be prepared for this provision. Another aspect of this law is that it requires employers to provide financial help to their low- and middle-income workers who opt out off the company's health insurance plan (under certain circumstances) and want to buy health insurance on their own. So it's possible that an employer is providing employee health insurance, but the employer will still be subject to additional health insurance costs for a particular segment of the company's workforce. Is the HR staff prepared to educate employees on this option? This proposal will present these and other issues with this new health care reform act.