CHANGE FACTORS AFFECTING THE TRANSITION TO AN EMR SYSTEM IN A PRIVATE PHYSICIANS’ PRACTICE: AN EXPLORATORY STUDY

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ABSTRACT

This study examines key variables associated with enacting a significant organizational change and hypothesizes how these variables affect employee acceptance, or buy-in, to the change initiative. More specifically, this study focuses on the office staff of a private medical practice transitioning from paper medical records to an electronic medical records (EMR) system. Data were collected from the non-physician office staff through three questionnaires administered during different points in the implementation process. The resulting data were analyzed to test the hypotheses and to learn more about the relationships between employee buy-in and the following variables: organizational communication, participation in the change process, procedural justice, self-interests, job security, tolerance for change, understanding of the change implications.

A small sample limited statistical testing. The results, therefore, are interesting in pointing to patterns that should be tested in future research but do not provide statistical evidence. This study found limited support for all the above independent variables as predictors of buy-in at some point in the implementation process. However, some variables, such as understanding of the organizational-level change implications, did not become predictors until the final round of surveying. Others, like communication and both justice variables, were predictors throughout the study.

INTRODUCTION

In recent years, many healthcare organizations have undertaken the transition from a traditional paper system to an electronic medical records (EMR) system. Research in this field has shown that EMR systems can, over time, improve the quality of care provided, accuracy of patient information, and overall safety of patients through reduced medical mistakes. However, such a transition represents a significant change in business process for most organizations. This version of the study has been significantly reduced for inclusion in the conference proceedings.

THE IMPETUS FOR CHANGE IN HEALTHCARE

EMR systems represent a departure from traditional paper records keeping in that they include patient demographics, medical histories, and all records of patient treatment stored in a computerized format. When coupled with networked systems and the Internet, the EMR platform
offers increased versatility in terms of transferability of information, greater communication among doctors, and improvements in quality of care, just to name a few advantages.

**Quality Improvements**

In terms of quality, the advent of EMR promises reductions in medical mistakes, thereby improving patient safety. This technology will also assist physicians in better disease prevention and more efficient management of chronic diseases. The aforementioned improvements will also lead to an overall reduction in health care costs and just as important, more effective and efficient use of health care dollars, which could potentially drive down the cost of health care.

**Cost Savings**

The quality improvements made possible through EMR systems will ultimately translate into cost savings. Fewer medical mistakes and improved patient safety will lead to cost savings. Better preventative care for all patients and improved maintenance of chronic conditions also translates into savings by way of fewer hospitalizations and the avoidance of more costly, “reactive” treatment. A statistical model predicting the potential savings and business efficiencies if 90% of U.S. health providers eventually adopted a nationwide EMR network yielded a conservative estimate of $81 billion in savings per year (Swartz, 2005).

**HYPOTHESES**

The management this practice desired to decrease employee uncertainty about the change effort by providing frequent communication throughout the implementation process. By increasing the level of information employees receive about the proposed changes, management desired to ultimately increase employee commitment, or buy-in, to the change. This leads to this study’s first hypothesis:

*H1: Higher levels of communication regarding the change will be positively related to employee buy-in to the change initiative (EMR implementation)*

A second indicator over which organizations have control is the level of employee participation. Wanberg and Banas (2000) suggest that the enlistment of employee participation and input in the change process increases performance and commitment and reduces resistance to change. The preceding supports the argument that employee participation is a central component in the buy-in process for a change initiative. The second hypothesis is:

*H2: Management-solicited employee participation will be positively related to employee buy-in to the change initiative.*

The change to an EMR system will require frequent interaction between management and employees. This direct interaction will be used by employees as the basis for their perceptions about
interactional justice. Therefore, management should pay careful attention not only to crafting fair procedures and policies, but also to the fairness with which direct employee interactions are conducted. The discussion leads to the third and fourth hypotheses in which the components of procedural justice are tested:

\[ H3: \text{Fair use of formal procedures will be positively related to employee buy-in to the change initiative.} \]

\[ H4: \text{High levels of interactional justice will be positively related to employee buy-in to the change initiative.} \]

Trader-Leigh (2002) argued that self interest/buy-in is comprised of several variables, one of the most prominent being “beneficial,” “rewards,” “goal agreement,” and “capacity for additional work.” Employees wanted to see at least some of their self interests being met by the change in order to buy-in to the change initiative. This self-interest factor is central to the fifth hypothesis:

\[ H5: \text{The degree to which employees’ self-interests are met will be positively related to their buy-in to the change initiative.} \]

Job insecurity is an almost reflexive fear that arises when the topic of organizational change is brought up. In fact, Greenhalgh and Rosenblatt’s research (1984) found that the greatest threat to employees’ sense of control over their jobs is large-scale organizational change. Chawla and Kelloway’s (2004) study on openness and commitment to change found that job security was one of the direct positive predictors of overall openness and ultimate commitment to a change initiative. This research on the significance of job security results in the sixth hypothesis:

\[ H6: \text{Higher levels of employees’ perceived job security will be positively related to their level of buy-in to the change initiative.} \]

Not understanding the implications of a change effort can also explain individual resistance to a proposed change. Trader-Leigh (2002) identified a significant components of resistance to change as “low tolerance for change” and “limited understanding of the change implications”. Hypotheses seven and eight arise due to these human characteristics:

\[ H7: \text{Employees’ understanding of the change implications will be positively related to their buy-in to the change initiative.} \]

\[ H8: \text{Employees with higher tolerance for change will also exhibit higher levels of buy-in to the change initiative.} \]

For this particular study, the intended positive implications of the EMR implementation for the organization include improved accuracy of patient records keeping, improved patient safety through more complete and better-coordinated records keeping, and overall improved quality of
patient care. Therefore, three additional hypotheses specific to the organizational-level change implications of this particular change effort are:

H9: Employees’ positive perceptions about the ability of the EMR system to improve patient safety will be positively related to their buy-in to the change initiative.

H10: Employees’ positive perceptions about the ability of the EMR system to improve the accuracy of records keeping will be positively related to their buy-in to the change initiative.

H11: Employees’ positive perceptions about the ability of the EMR system to improve the overall quality of patient care provided will be positively related to their buy-in to the change initiative.

METHODOLOGY

A privately-owned surgical clinic in a small Midwestern city was chosen as the research subject for this study. To gather primary data related to the change process, the non-physician staff of the clinic participated by completing questionnaires.

RESULTS

Only 22 usable questionnaires were completed in the first round; 16 were gathered in the second round; and 18 were submitted in the third round. With such a small sample size, no strongly supported conclusions can be drawn about the study’s hypotheses. However data analysis was conducted to discover trends and patterns.

Hypothesis 1 claims that higher levels of communication will be positively related to employee buy-in. This hypothesis was supported by all three questionnaires. Hypothesis 2, Employee Participation, was not significant for questionnaire 1 but was a significant positive factor in analysis of questionnaires 2 and 3.

Hypotheses 3 and 4 are related to the formal procedures and interactional justice dimensions of procedural justice (Bies & Moag, 1986), and both had significant positive relationships to buy-in for all three rounds of questionnaires.

Hypothesis 5 pertains to satisfying employees’ self interests. This independent variable was significant and positively related to buy-in during all three rounds of questionnaires. Job security, the variable tested in Hypothesis 6, was also found to have a significant positive relationship to buy-in during all three rounds of questionnaires.

Employees’ understanding of the job-specific change implications of the change initiative, Hypothesis 7, was not significantly related to buy-in during questionnaire 1. This variable was significant in questionnaires 2 and 3.

Hypothesis 8 states that employees with higher tolerances for change will also exhibit higher levels of buy-in. This hypothesis was supported in data analysis of all three questionnaires.
Hypotheses 9, 10, and 11 pertain to the organization-level implications that implementation of the EMR system was designed to bring about (increased safety, quality, and accuracy).

CONCLUSION

While EMR technology has been around for several years, the majority of hospitals and private clinics have still yet to adopt such systems. Those who have navigated this transition have begun to experience some of the benefits this technology promises. This study examined a few key variables associated with the EMR implementation process and tested for relationships to employees’ decision to buy-in to the change.

REFERENCES


