Chapter VI

Automating Surgical Patients’ Admission: Proactive Leadership on a Shoestring

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The rationale for using a single case study approach is set out and put into context of current case research literature and thinking. The validity of the approach and its implications for being able to generalise from its findings are discussed.

The key point in the case is the determination of a private hospital in Auckland, New Zealand, to re-engineer its processes with information technology. Persisting in the face of apathy and even resistance by its main business partners, they achieved a viable pilot system on a minimum budget, using common, off-the-shelf software and technologies.

Starting from a modest electronic presence, the hospital’s aim is to become the centrepiece of an electronic community, offering a rich set of communications and other media for the medical practitioners who use the hospital facilities. The case in this chapter is the history of the first service project, an electronic interface for surgeons to book operating facilities and to automate admission procedures. The process changes and improvements are described, as are the resolution of environmental issues such as security and patient privacy. The architecture of the system, which centres on the basic structure of an intranet, is outlined. A number of points of general import for interactive surgeon-hospital systems are developed from the case in conclusion. Pointers for further and/or follow-up research are given.

INTRODUCTION

Information technology (IT) is a difficult business function to manage in the typical New Zealand enterprise, i.e., usually a small organisation with fewer resources but usually with a broader scope then comparable enterprises in a larger economy. The difficulty often increases when information technology moves to the more critical areas of the enterprise’s operation (Jackson et al., 1994). The health industry in New Zealand is undergoing a phase of accelerated change at present. A strong focus of the current change is the area of
productivity improvements. Health enterprises have thus begun to embrace information technology to much greater extent than before. The relative inexperience with information technology within the industry, coupled with the new application areas the technology is used for, makes for exciting times.

Another significant factor shaping the development of information technology in the New Zealand health industry is the fact that most information technology management theories and their respective ‘how-to’ guides are based on a North American — and to a lesser extent, European — environment. These are characterised by larger enterprises, often with comparatively narrow scopes, operating in large markets with a wide variety of supply for technology and advice. In contrast, the small New Zealand enterprises usually rely on limited, often unstable supply and advice in a tiny market.

Therefore, the objective of this study is to take an in-depth look at how a small private hospital in Auckland, New Zealand, copes with applying information technology in the health sector, using Web-enabled technologies. The project in question is part of a larger plan. The strategic intent behind the project was one of establishing an electronic presence for most of the Hospital’s dealing with its community and stakeholders (trustees, patients, medical providers and internal staff). The very first step along this route was the establishment of a ‘homepage’. Apart from fulfilling a general marketing objective, it was also designed to become the focal point for an ‘electronic community’ of all people who use the hospital facilities. The case under analysis is the history of the first ‘electronic service’ project, an electronic interface for surgeons to automate admission procedures.

The chapter is structured as follows:

• A brief overview of relevant literature is outlined and justification for using a case method is given in the next section.
• A critical assessment of the original manual admission procedure is the start of the case ‘story.’
• The re-engineered process is introduced and the development of its architecture together with an evaluation of the technology options is presented.
• The experiences with the implementation are relayed.
• Finally, conclusions are drawn and lessons are outlined.

RESEARCH METHODOLOGY AND APPROACH

Most of the literature on information technology in use in the health sector is still contained in the medical literature, mainly in the sectors of community medicine or health management. A brief survey of the literature which has the development and implementation of Web-based information systems as its focus shows that a common use of web technology is in the first instance internal to health institutions. In their simplest form, such systems are predominantly used for the transmission of information (such as x-rays) over an intranet, for which Evans (1997) provides a good example. However, more sophisticated information systems strategies (such as reported by Hoyt, 1998) focus firmly on operations within the institution, too. Reports of lacklustre success with Web-centric information systems such as InfoWorld (1997) seem symptomatic for the prevailing opinion that the time for using Web technologies for external linkages has not yet come to the health sector. The objective in the project reported in this paper thus seems to be from a minority of cases, where an external link was attempted — and furthermore attempted with a minimal budget.
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