Digitizing the Legal System: The Process Intervention

by

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ABSTRACT

Singapore is well known to have successfully deployed information and communication technologies since the early 1980s. Its success was much based on its leadership in strategizing, planning and implementing the many facets of the various public and government sectors. This paper analyzes the nation's effort to implement its legal systems. We proposed a framework to demonstrate that the successful implementation of the electronic litigation system through the concerted and coordinated efforts of the leaders operating at different levels. We also highlight the important influence of shared leadership in converting potential value to realized value. The research adopts a qualitative approach where data were collected and analyzed from interviews as well as questionnaires. Based on the empirical analysis, we find that such shared leadership occurs in layers - at different phases - progressively impacts the business value of ICT.

Keywords:

Business value of IT, IT leadership, electronic government, digital court system.

1. INTRODUCTION

Since the late 1980s, the Singapore government has been building capabilities in e-Services starting with the launch of the National IT Plan to leverage on networking technologies like EDI and ISDN (Tan, 1999; Tan & Yong, 2003). In particular, government agencies have initiated and facilitated much business-to-business (B2B) and government-to-business (G2B) projects which have helped to improve the efficiency and productivity of various industries (Teo et al., 1997). Examples include EDIMAN, EDITRANS and TradeNet – the latter was the world's first nationwide IT-based trade documentation system that allows the trading community to perform electronic submission of permit applications to government agencies, and receive the requisite approvals expeditiously (Gwee & Tan, 2002).

Against this backdrop, an initiative that has received worldwide attention is the implementation of the electronic litigation system in Singapore (Accenture, 2003). The city state has a driving ambition to become a financial centre and the availability of high quality legal services is one of the most important pre-requisites (ILSAC, 1998). Work in law firms involves high information and knowledge intensity – and to support the needs of clients - the use of IT is needed to provide a structure for knowledge management as well as to streamline administrative activities. However, the implementation of the electronic litigation system in Singapore has not been totally smooth. For example, even though the Electronic Filing System (EFS) component of the project has been credited with paving the way for the world's first nationwide paperless court system, there was initial strong resistance from the legal profession after the implementation of its first phase (ST, 2003a). Considering the scale of the project, it is clear that much leadership and coordination are required of the various government agencies involved in the implementation. For instance, even though top leadership have the vision that IT could be used effectively, however, this had to be endorsed by concerted and coordinated action on the ground in bringing the vision to fruition. Therein lies the motivation for this study – exploring the influence of leadership in visioning the potential value of IT and its effort in working to realize the value in the legal sector. Over the years, the legal sector has seen the implementation of various technological systems to help increase its effectiveness and operational efficiencies, to improve its accessibility to the public, to reduce costs and to enhance the nation's competitiveness. These government-initiated efforts started with the LawNet project (knowledge repository focus) in the early 1990s and have since evolved into an ambitious vision of implementing a "total and integrated electronic litigation system".

2. LITERATURE REVIEW

2.1. Business Value of IT: Potential vs. Realized

Davern and Kauffman (2000) suggested two types of business value in deploying IT: potential value and realized value. Potential value is the maximum value that can be gained if IT is implemented strategically and realized value is the measurable value that is achieved after the successful implementation. Realizing the potential value is dependent on effective IT planning and strategizing to overcome "conversion contingencies" – in other words, the extent to which the potential value is realized depends on how well the implementation is carried out in practice. Often, the realized value is much less than the potential value since

problems are likely to occur during the implementation and unexpected deviations from the plan may then become necessary. However, the discussion on the value of IT suggests that effective leadership is critical in major IT implementations. Indeed, leaders involved in such projects can have a direct influence on how well the potential value is realized based on their timely and appropriate actions and responses to contingencies as they arise at three different levels: strategic, tactical and operational.

2.2. Change Leadership

When a major technology is introduced in an organization, controversy can result as the accompanying changes can often be politically sensitive, emotionally charged and publicly visible, thus, requiring leadership to help coordinate and take into account the needs of various parties or factions in the organisation (Klenke, 1993). Although there are several leadership theories, Klenke identified key leadership roles as decision makers, motivators, change agents and strategic leaders while Bass (1985) discussed the different characteristics of transactional versus transformational leadership. However, in technology-driven change, strategic leadership is required to get the organization to fully understand the underlying value proposition, that is, clear recognition of the system's potential value.

At the tactical level, an effective organization would have to be adaptive to make changes to its plans when the circumstances arise. Tushman and O'Reilly III (1996) discussed this importance of ambidexterity in the organization, when managing evolutionary and revolutionary change. Alignment between the strategy, structure, personnel and culture of an organization allows evolutionary changes. However, the success of evolutionary changes can later lead to structural inertia, as organizations develop structures that are resistant to large changes. Such revolutionary changes often require a major shift in the strategy, structure, people and/or culture of the organization. In this context, Gibson and Birkinshaw (2004) described how contextual ambidexterity arises when the leadership display a supportive context, allowing individuals to conduct exploitation-oriented (for alignment) and exploration-oriented (for adaptability) activities to improve their performance and competitiveness in a dynamic environment. To effect IT-based change, specific forms of leadership intervention are necessary since the introduction of a new technology is often an "intrusion" into an organization. Hence, how it is implemented is important in determining its success (Markus & Benjamin, 1996).

Huy (2001) identified four types of change actions, namely, commanding, engineering, teaching and socializing. A commanding form of intervention is useful for changing formal structures, where the change agents use direct and coercive actions to achieve their goals. When a commander-like style is used, threats and holding people accountable are common methods used to ensure compliance. An engineering style concentrates on changing the work processes and increasing productivity through the process of analyzing, understanding, and redesigning. This form of intervention usually takes time and due diligence, as the change agents need to be engaged with the employees in analyzing and redesigning work processes. The success of such an intervention depends on whether employees will make use of the new work processes on a sustained basis. In a teaching type of intervention, a learning approach is adopted and the agents facilitate the reeducation of the targets to bring about changes in their beliefs through sense making. Here, the idea is that a change in beliefs will bring about a change in behavior. These leaders are also sympathetic in nature so as to generate trust and many are trained as both process consultants and psychoanalysts. A socializing style focuses on improving the social relationships within the organization. It is also felt that a change in behavioral interactions will bring about a change in beliefs and organizational culture. The underlying premise here is that by making the social bonds strong, stability will be achieved, which will be useful when major changes are being made in the organization. In summary, it appears that in order to lead and effect planned change, various stakeholders may have to exercise appropriate leadership in order to jointly bring about the full realization of the potential business value of IT implementations.

2.3. Shared Leadership

Pearce and Conger (2003) suggested that models of shared leadership may better fit the real-world situations in which different individuals are often called upon to provide specific leadership, each making a unique contribution to the process of change in the organization. Building on the notion of shared leadership, we propose a framework to describe how leadership from key stakeholders can facilitate the realization of the value of IT, that is, bring about the transformation from potential value to realized value in a major IT project. We contend that the ideal leadership should be shared (vertically) among the different levels (strategic, tactical and operational), and with each level playing its part in jointly bringing about the IT implementation. Also, this leadership may be further shared (horizontally) among the various groups of people at each level. Overall, this creates a layered impact on

the value that is progressively derived from the implementation as illustrated using a conceptual framework shown in Figure 1.

2.4.

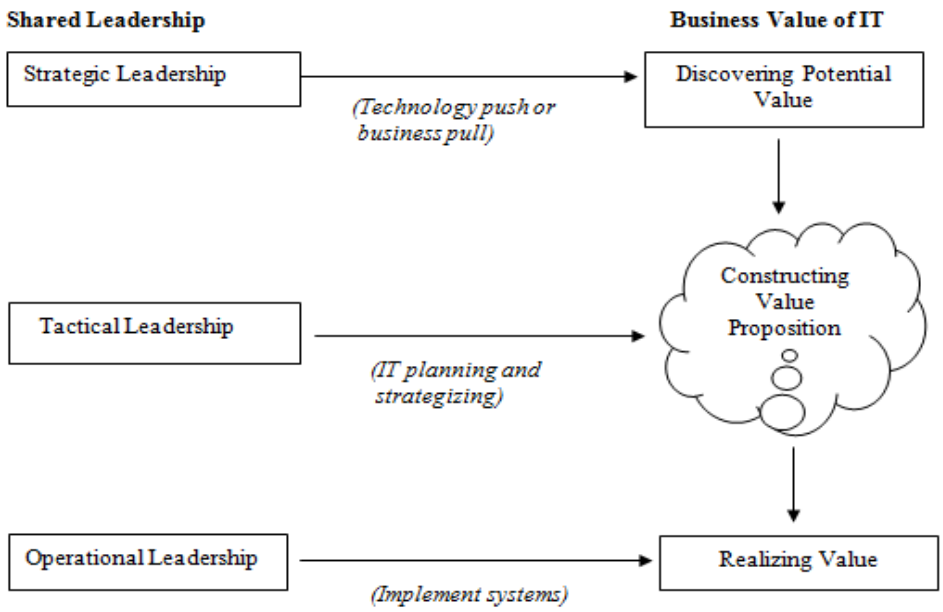

Figure 1: Preliminary Conceptual Framework

2.5. Conceptual Framework

The framework begins with the strategic process of "discovering potential value" on the part of top leadership - either through a technology push or through a business pull. The former occurs when "a technology solution is discovered that can address a previously undiscovered business problem or opportunity" while the latter occurs when "a business problem or opportunity is the first thing to be identified, and only then is the impetus provided for the development of a technology-based solution" (Davern & Kauffman, 2000).

Pursuant to this value discovery, a "constructing value proposition" process is posited to be set in motion. Generally, it involves careful IT planning and strategizing by the leaders to obtain buy-in through advancing a value proposition that the benefits of the project would greatly outweigh the costs involved. Specifically, it involves a process at the tactical level during which the leadership attempts to secure the participation of the stakeholders through persuasion, incentives, seeking mutual understanding, appeals to authority, and obtaining feedback to fine-tune the proposed implementation.

Once implementation begins, the process of "realizing value" is posited to be triggered into motion. Generally, it involves converting potential value into realized value by

leveraging opportunities and overcoming contingencies as they arise during the implementation (Chircu & Kauffman 2000; Davern & Kauffman 2000). The ideal set of eventual outcomes is characterized by the extent to which the system is used in a comprehensive and integrated manner to support work processes, and the degree of interfacing and integration with other applications.

3. RESEARCH METHOD

We view the process from discovering to realizing value as a sequence of events that describes how things change over time (Van De Ven, 1992). Thus, this study is concerned with the analysis of the sequence of events, actions and activities unfolding over time in context (Pettigrew, 1997). In this way, the analysis of the process would allow for investigation of the ways in which people at different levels of the organizations create patterns of interaction. Such analysis would assist in providing a (theoretical) understanding of the trajectory course of the phenomenon under study as it evolves over time and the actions/interactions contributing to its evolution (Garrety & Badham, 2000).

The qualitative research method was deployed to collect data using face-to-face in-depth interviews and onsite observations of work procedures. Data was collected over a period of 18 months and the interviews involved 34 key informants as listed in Table 1. During the data collection phase, relevant documents were accumulated on an ongoing basis and periodic on-site visits were made to observe the systems being supported and/or used. Onsite observation was critical as it helped the researchers understand the integration of the internal and external systems as well as the day-to-day routines of staff using the systems. Further, it provided the researchers the opportunity to interact with the staff of various organizations so as to have a better understanding of the work processes and how technology has affected the employees.

Open-ended semi-structured interview questionnaires were developed so that the data collection efforts became more focused. Appendix A shows the examples of key questions asked and how they largely revolve around the themes. The interviews were useful as the researchers were able to understand employees' attitudes and perceptions towards IT as they elaborated on the benefits and problems faced by them. Interviews were first transcribed on paper, and then analyzed for emerging themes. Certain keywords frequently repeated in the interviews and other documents/notes were coded to generate and construct the main themes, which in turn provided the premise for the eventual findings.

Table 1: List of Key Informants

Singapore Academy of Law (SAL)	Assistant Director Business Development Manager
Supreme Courts	Senior Assistant Registrar
Subordinate Courts	Registrar
Attorney General's Chambers	Deputy Senior State Counsel
Infocomm Development Authority	IS Manager
BiziLaw (software vendor)	Directors (2)
CrimsonLogic (software vendor)	Administrator
Law Firms	Lawyers (13) Secretary BizNet clerk EFS Court clerks (2) EFS Administrators (2) IS Manager Systems Analyst Litigation Support managers (2) Library Manager Knowledge Management Dept employee

Secondary data collection was collected through examination of newsletters, minutes of meetings, strategy documents, internal memos, professional reports, books and newspaper articles. To deal with the huge amount of data collected, analytic strategies were used which included reviewing regularly and developing ideas as the research progressed. Indeed, the observation and verification became iterative processes – "one observes, follows themes and trails, identifies patterns, have those patterns disconfirmed or verified by further data, and the process moves on" (Pettigrew, 1990). Finally, the interim papers (building up to the eventual final report) were given to two persons (the Assistant Director and the Business Development Manager of the Singapore Academy of Law) for their review and comments. Factual inaccuracies were corrected based on the feedback received.

4. RESEARCH FINDINGS

4.1. Case Background

This Singapore judiciary has been credited as being one of the most advanced users of technology (Accenture, 2003) even though it is noted that its state of affairs is less than satisfactory. It was because there were thousands of cases which had clogged up the court system in addition to various inefficiencies within the judiciary itself. One problem was the access to case-related information - such information was not comprehensive or available in a systematic way. As such, lawyers or members of the public had to go to the court personally to find the relevant information, which was time-consuming and tedious. For example, a

search on the status of a company in a winding-up petition could, for instance, would take a few days or even weeks (Thian, 2004).

When Chief Justice Yong Pung How was appointed the head of the Judiciary in 1990, significant efforts were initiated to reorganize the inefficiency of the Judiciary system so much so that in the process of implementing IT, the legal landscape was decidedly transformed (Magnus, 1999). Initially, the most pressing concern was the massive backlog of cases which had accumulated, some from the early 1980s. However, an impediment to the effective tracking of the thousands of cases at that time was the lack of key management information on cases and caseload. Case information was recorded in paper form; indeed, this provided the impetus for an overhaul of how the court system should record, keep and archive information to make it easily accessible. It was the urgent need to develop a case management system that precipitated the use of IT in the Judiciary (Thian, 2004).

It is important to note that the objective of LawNet in 1990 was to provide a single window into all the various laws and legal information so that law firms would no longer need to maintain multiple subscriptions for various electronic legal services. This was accomplished by computerizing a national legal information database – a one-stop centre for various information repositories to provide the legal community electronic access to legal information. The aim is that carrying out legal research would then become more convenient, time-saving and effective, as lawyers would no longer have to spend long hours in the physical library laboriously searching for precedents and authorities.

Beyond the initial repository focus, an integrated electronic litigation system (ELS) comprising various state-of-the-art technologies has been gradually taking shape. The system consists of the Electronic Filing System (EFS) (for electronic filing of court documents, obtaining electronic extracts, electronic service of documents - on other law firms - and access to electronic information services), Electronic Hearings, Technology Courts, Practicing Certificates e-Filing Service, LawNet Litigation Module, Internet Videophone Service, Mobile Information Service, Wireless Internet Hotspot and JusticeOnLine. JusticeOnLine (based on broadband Internet and videoconferencing technologies) was implemented as a multiparty communication platform connecting the courts, law firms and other government agencies involved in the administration of justice (Magnus, 2004).

Among the various legal systems, perhaps the most noteworthy is the EFS which is the world's first nationwide paperless court implementation. Its benefits include time savings and

reductions in the number of physical trips being made to file court documents, the ability to submit cases twenty-four hours a day and the resolution of the difficulties of paper handling that is faced by the judiciary. A good case in point is the antitrust case against Microsoft that was filed in the San Francisco Superior Court some years ago. The judge concerned ordered electronic filing of all documents so that the physical courtroom would not be overwhelmed by case papers and to better manage the huge volume of filings resulting from the complex lawsuit (Holmes, 2001). Over time, enhancements (such as adding Web-based and other capabilities) have been made to the EFS, with all affected public and private organizations jointly involved in the implementation efforts.

However, it should be noted that the relentless search for greater efficiencies was not without cost – between 1999 and 2001, 624 young lawyers left the legal practice citing long working hours and work stress as reasons for their departure (Ho, 2004). Nevertheless, Singapore's effort at reforming its legal sector was being recognized. The Swiss-based IMD World Competitiveness Yearbook ranked Singapore 1st (for legal framework) and 6th (for justice) in 2003, while the Political and Economic Risks Consultancy (PERC) group gave Singapore the top position in Asia for overall integrity and quality of the legal system that same year. In fact, Singapore's score surpassed the score for the United States and Australia, thus signifying the confidence of the high standards of the Singapore's judiciary.

4.2. Discovering Potential Value of IT

Computerization of the judiciary actually began in the late 1980s but it picked up speed only after Chief Justice Yong was appointed in 1990:

> *"When I was first appointed Chief Justice, it would take roughly five years for a suit begun by writ to be heard, and a further two years before it went before the Court of Appeal… This was unacceptable… I realized that judges would have to become managers of cases, setting the pace and monitoring the timelines. They would have to be administrators as well, learning how to run an efficient judicial system. And because they would require technology to maximize their ability to administer and manage the judicial system, they would have to become technopreneurs as well. The legal profession would have to adapt to the changes in the judicial system by working harder, faster and more efficiently. They too would have to become knowledge workers and technopreneurs…"*
>
> *Chief Justice Yong Pung How's comments in Subordinates Court Annual Report 2000*

In 1991, a high-level Law National Council was formed to oversee the LawNet project and it comprises the Chief Justice, Attorney-General, Dean of the Law Faculty, Minister of Law and President of the Law Society. LawNet was given a further boost as part of the government's initiative to modernize the legal profession (BT, 1992a). Particularly noteworthy was Chief Justice personally officiating at many launches of LawNet

enhancements over the years (e.g., BT 1992a; BT 1992b; ST 1998) while his speeches at the opening of each new legal year would inevitably touch on the importance of IT to the legal profession (e.g., ST 1995b; ST 1999):

> "*When I was a young practicing lawyer half a century ago, I remember trying to make sense of a mountain of cases, statutes and books which I had located for particularly arduous cases. The only way to view everything in context, to see the relationship between them, was for me to take over a large section of the firm's floor space, lie down on the floor with law reports and text books opened out, in an attempt to achieve what I believe the computer whiz kids of today would call 'hyperlinking'. Thankfully, technology has come to the rescue and today's lawyers will not have to resort to territorial expansionism to carry out legal research that I used to have to do."*

In response to the massive backlog of cases, a mainframe-based case management system known as the Civil System was developed and by the mid-1990s, the backlog of cases in the court docket was cleared. This success which the courts had in improving the judiciary reinforced that technology, harnessed with purpose and innovation could be instrumental in building up a first-rate Judiciary beyond LawNet's initial objective of being just a knowledge repository. In other words, it became clear that an efficient and responsive justice system can be facilitated by the strategic deployment of a holistic IT system to help in judicial decision-making, to expedite case handling and to enhance public access to justice (Magnus 2004):

> *"The Honourable Chief Justice Yong Pung How had a vision of a world class court system. He wanted technology as a tool to leverage that vision – but with the basic tenet that it should never be more than a tool. Litigation is about people."*
>
> *Deputy Registrar of the Supreme Court (Inter Se 2002)*

> *"Clearing the backlog of cases was only the first step. After the backlog was cleared, the new focus was on the higher goal of how to make our judiciary a world-class organization. What makes for a world-class court? It not only has to dispense justice swiftly and fairly, but it also has to be able to adapt and respond to the changes in its environment…"*
>
> *Chief Justice Yong Pung How's comments in Subordinate Courts Annual Report 2000*

Further, the judiciary moved rapidly from tackling operational issues towards envisioning the courts of the future – with IT as a key component of the strategy (Magnus, 1999). Thus, the vision of a paperless courtroom system was born. It was envisioned that such a system would require the computerization of every single court process, from the filing of court documents and preparation of cases to the actual trial before the judge. These various initiatives gradually folded under the umbrella of implementing a "total and integrated Electronic Litigation System" revolving around the EFS.

4.3. Constructing the Value Proposition

In 1996, the Singapore Academy of Law (SAL) took over the running of LawNet and started levying a subscription fee for LawNet services. Through the subscription, lawyers and others can obtain information on civil suits filed at the courts, Singapore statutes, case laws, bankruptcies and other court matters through their computers (ST, 1995a). Also, the LawNet Service Bureau was set up for lawyers who did not have the technologies to obtain electronic information from their offices (ST, 1995b). While SAL was the coordinating body, key members of the Judiciary were also instrumental in pushing the electronic litigation vision:

> *"Quite a bit of IT is judiciary driven…. We actually focus on the use of technology to better the administration of justice at all levels… the push by the judiciary helped…"*
>
> *- Senior assistant registrar*

The core technological component of the electronic litigation vision was the EFS that started as a pilot project (Phase 1.0) from 1997 to 1999 with four main services: an electronic filing service, an electronic extract service, an electronic service of documents facility and an electronic information service. On 8 March 1997, Chief Justice officiated at the launch of the pilot phase with the following exhortation to the legal community:

> *"Of course this new system is not an isolated accident, but the result of a concerted effort, since the start of the 1990s, to realize the full potential of information technology…Our past experiences have accordingly prepared us for what may be described as the judiciary's most ambitious technological project to date…"*

Prior to the launch, practitioners from over 600 law firms were invited to a series of dialogue sessions held by Supreme Court Registry officers. To gain acceptance, regular tips and information about LawNet were provided in newsletters of the Singapore Academy of Law to help the legal sector to be familiar with IT. There were also many training sessions:

> *"Well, we need to have pretty good training, it is just not the same plain vanilla training that you get, you know, at Informatics [a private IT training school] and what have you. We needed people to be trained in the specific things which we were making available to law firms. So we set up a training center and we provided specialist courses in those aspects of IT."*
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> *- Deputy Senior State Counsel*

While the reorganization of the judiciary in the 1990s has been referred to as its "golden years" (Thian 2004), this journey towards a paperless courtroom has not been without problems. First, there were early concerns about the impact on small law firms which prompted the Minister of Law to publicly state in Parliament that small law firms would be "treated no less favorably" than other small enterprises if they apply for financial assistance under the Small Enterprise Computerization Programme (BT 1991). During the EFS pilot, there were complaints from lawyers that they preferred the tried and tested method of sending their clerks to the courts with paper documents. This was because they were concerned that

pages might be transmitted only partially, or not filed on time because of some electronic glitch. There were many skeptics then:

> *"They had to force certain small firms into it; some didn't even have PCs at that time…"*
>
> *- Lawyer A*

> *"For small firms at beginning, they were scared whether this thing can carry on or not, but now mostly they know the system can work… Earlier, some see this machine and scared you know, whether they can handle it or not… All the court clerks went down to the courts with one another and assist with the filing – we used to join the queue together and start catching up – how this thing can be done or not, then some of them got scared…"*
>
> *- Court clerk at a law firm*

In fact, a few lawyers and judicial officers pointed out that even some of the judges preferred to print out documents rather than refer to the computer screen during hearings. However, the judges) were seen as trying their best to adjust to the new courtroom dynamics:

> *"In a trial in a high court, you might get papers that fill up the entire table, now to access the documents on a screen is a strain and it is slow, it is much easier to flip through pages than to go through documents on a screen…"*

> *"You know, on paper, it's easy for me to flip to a particular page I want, but in electronic format however much you try and build in those navigation, it still lags a little behind in terms of intuitive ease of use and you also need to deal with the fact that different judges have different levels of comfort with technology. So, to expect all the judges to embrace the use of electronic documents in court are a bit unrealistic…"*

> *"The judges themselves, especially the older ones were trying their best to use it, especially since many have come from a generation where IT was still absent, and there was no such thing as a School of Computing…"*

The Supreme Court Registrar argued that the resistance to change was expected and this was why the EFS system included disincentives: when implemented fully, it would cost 50 per cent more to file a court document manually:

> *"Here, we know the value and benefits … convenience of this new way of working for lawyers. We have to adopt a paternalist approach to encourage lawyers to use the system. The day will come in the not-too-distant future when lawyers say we can't do without EFS… There are over 3000 lawyers now, a large majority of which are young. Those 50 and above are a minority. Their number will dwindle as time goes by. But older ones are the senior partners. They hold the purse strings. Our message to them: You should adapt and change to the new way of working. If you are unwilling, step aside instead of resisting or acting as an obstacle to change… Let them take issue with me. We will throw them into the deep end because we know it is good for them when they haven't learnt how to swim. Eventually, they will be grateful for the rough treatment." (ST 1997a)*

To garner support, stringent efforts were made to ensure that all major stakeholders in the legal fraternity were represented in the implementation, as the success of the project was dependent on the (gradual and eventual) acceptance by all the main players (Thian 2004):

> *"Government puts in place good reasons by giving, providing or being a catalyst for these services to be available to the legal profession … So the government has been trying to drag the profession kicking and screaming but eventually they will realize the value that IT can play in the law firm"*
>
> *- Deputy Senior State Counsel*

> *"I think at one time, everyone was complaining, but the push by the Judiciary helped. They have definitely egged the lawyers on to use it…"*
>
> *- Senior Assistant Registrar*

The input from (and buy-in of) these stakeholders was valuable as ultimately, they would be the key users of the system. SAL also organized an IT Law Immersion Program consisting of nine one-day seminars during the early stages of the EFS project which attracted a wide spectrum of participants from the legal profession, government bodies and corporate entities.

4.4. Realizing Value of IT

When Phase 1.2 of EFS went live, mandatory electronic filing of court documents was introduced; court documents could no longer be filed in paper form. However, law firms which were not EFS equipped could use a Service Bureau to assist them to file court documents electronically. Subsequent phases progressively involved more documents to be included within the mandatory scope of the project. Such phased enhancements gained momentum over two years, with the system in Phase 6 enhancement (covering High Court criminal cases, criminal appeals and magistrates' appeals):

> *"This is the Subordinate Courts' 10th Workplan. You have turned the corner to be a world class judiciary. Although this is an enviable position, it is not enough. We cannot rest on our laurels as the primus inter pares or the best of the best judiciaries…Over the next three years, we will lead from the future and build upon the foundation of excellence which you have achieved in the past decade.. In order to provide the best possible public service, the Subordinate Courts must continue to modernize judicial administration practices. Advanced information technology efforts should promote greater efficiency, economy and convenience to the public. These include the best case management practices and systems, voice response systems, document imaging systems, records management retrieval systems and speedy access to both local and foreign cases and legal literature…"*
>
> *- Chief Justice Yong's address to the Subordinate Courts at the 2001 Workplan Seminar*

At the opening of 2003 Legal Year, Chief Justice observed that the paperless court system, once "scoffed at as a far-fetched dream" became a reality and since 2002, all classes of civil actions in the Supreme Court had been efficiently filed via the EFS. However, to further improve the system, the Chief Justice appointed a Review Committee comprising representatives from both the Bar and Judiciary, to undertake an in-depth review of its operations. The review found that the EFS had indeed provided the judiciary with a fully electronic registry and was instrumental in encouraging the legal profession to take a big leap

in the adoption of IT. However, the resulting system usage had added a significant layer of costs for litigants while several technical issues also needed to be addressed.

> *"Even EFS, we had some problems - quite a lot of problems in the beginning but it is better now. The other systems are fine, but you might like to look at the Registry of Companies, I can tell you there is chaos in that one… they make you use their website, and it takes hours just to get in and then it hangs… There are lots of rejections [of documents submitted electronically to that website], and you are charged for the rejection [of the submissions] after you filed them. IT doesn't work for older people. It is pathetic, honestly"*
>
> *- Lawyer D*

> *"Before we had EFS, all the filing was done manually. These gentlemen here [the court clerks] attended to the filing… This means they had to go to the courts and do it manually… They had to go to the respective ministries. They had the experience to know where to go, what to file, see if the files are properly followed up. Then they will get the documents served to the defendants. All that can be done through EFS…Now all this can be done in the office…An advantage is the timing – EFS operates twenty-four hours, manually sometimes we had to rush…For EFS, as long as you file before midnight, it can meet the deadline."*
>
> *- Litigation support manager at a law firm*

Propelled by the acceptance of the successful EFS enhancements, SAL issued a white paper on "Electronic Litigation in Singapore: A Roadmap for the Implementation of Technology in the Litigation Process" for public feedback. It envisaged a new EFS version as one which should function as an effective and efficient litigation tool that lawyers will utilize, such as an integrated due diligence checks with various government departments, as a repository of case information, as an electronic data room for case documents, as a conduit for communications between law firms and the Court, as a conduit for law firms inter se, while at the same time, being customizable to suit different practices of the law firms. It also proposed that open technical standards be adopted to allow law firms to customize their internal systems to interoperate with the new EFS while also enabling IT vendors to design complementary compatible solutions. The public feedback was analyzed resulting in a revised version approved by Chief Justice for implementation.

Today, there are more than 700 law firms in Singapore ranging from large ones consisting of hundreds of practicing lawyers with international presence to small ones with only a handful of employees. Almost all firms use computer systems with many having networks linking to access LawNet. A senior state counsel describes the current situation as follows:

> *"I think it [LawNet, EFS, etc] has made IT indispensable. You wouldn't imagine setting up a law firm without buying a computer, without buying your Internet access. Otherwise, you would be put at a great disadvantage… and imagine the competitive advantage the other guy would have if you don't make sure you have access to the same research tools…"*

More important, there is also an emerging consensus among the legal professionals that the implementation of the electronic litigation vision does have a positive impact on the individual firm's efficiency, the industry's productivity and the nation's competitiveness:

> *"EFS is an amazing advance, it's a lot quicker than it used to be, it saves a lot of money and you don't need people to go around and serve documents to other people. Information is quicker, previously will have to write, fix calls, now it could be done with EFS…"*

> *"Things are a lot faster than they used to be. [But] technology is costing law firms - the recurrent expenditure is higher than in the past. Even [for] sole proprietorships, you need not have a secretary, but to survive, you need to have these [technology] tools."*

4.5. The Process Interventions

Clearly, the Chief Justice was instrumental in recognizing the potential value of IT to revamp the judiciary, articulating that vision and exercising his prodding influence throughout much of the process. While he was primarily responsible for instituting the change, other institutional players also played important roles in bringing this vision to fruition. For example, the strategizing, planning and fine-tuning were taken up by SAL working in concert with the Attorney-General's Chambers, the Supreme Courts, the Subordinate Courts, IDA and key industry practitioners. The collaborative and ambidextrous effort was achieved through the formation of committees, sub-committees and workgroups (with both public and private sector participation), each with oversight responsibility for specific components of the project. For instance, the high-level Law National Council formed to oversee the project includes the president of the Law Society, in addition to institutional leaders. Specifically, the EFS pilot saw the involvement of the legal profession from the start that involved many law firms (both large and small). Further, the EFS review committee included representatives from the Bar and the Judiciary while the subsequent review implementation committee consisted of industry practitioners organized into workgroups:

> *"We are quite fortunate in that we are given recognition for it, I mean the judiciary as a whole, because you know Singapore, we always work like a Singapore Inc..The Judiciary always act in one voice, you know what I mean, so even when you read a report, the report won't say, [name of a person] says this, because [we are] all part of the Judiciary…So what we do is that, actually, when we were working on Justice Online - we involved the people from Supreme Court and AG's Chambers…We started the working but in the end, it involved everybody…In the end, it was more of a tripartite thing… Supreme Court was there, was involved also, AG's Chambers and Subordinate Courts…"*
>
> *- Registrar*

To achieve the desired operational outcomes, appropriate change intervention actions were taken, as the project progressed. Huy's (2001) four intervention action types were all found in the case analysis: commanding, engineering, teaching and socializing. However,

there was an additional intervention action that was also deployed – for the purpose of this paper; we call it "affirmative intervention". To recap, commanding intervention is useful for changing formal structures, where the change agents use direct and coercive actions to achieve their goals. For example, the electronic filing of court documents was made mandatory with the launch of Phase 1.2. Subsequent phases involved more documents coming under the mandatory scope:

> *"Alright, some people might say that, but you look at it, it's a question of time before the lawyers realize the value of it… But of course, to make it mandatory, I would say it was useful in that it accelerated the whole process…"*
>
> *- Registrar*

Engineering intervention concentrates on changing work processes and increasing productivity through analyzing, understanding, and redesigning business flows. For example, the courts' business workflow changed dramatically with the implementation of EFS while even more changes are likely as stated in the recent "Electronic Litigation System" roadmap:

> *"In most sectors, the successful implementation of IT systems has typically been preceded by an exercise in re-engineering the affected work processes. This allows the work processes to be rationalized and re-designed if necessary to harness the benefits of IT more fully. The Committee is of the view that a similar exercise related to the rules governing the litigation process may be necessary in order to realize efficiencies in the litigation process…"*

In a teaching type of intervention, change agents facilitate the re-education to bring about changes in their beliefs thus bringing about changes in behaviour. For example, SAL provides seminars, training and scholarships for lawyers. They also organized exhibitions and IT law immersion programs to increase IT awareness and usage. The set up of the LawNet Service Bureau to allow small firms (without IT capability) to use the bureau's services for filing and accessing the electronic information was important to the overall success.

Socializing intervention focuses on improving the social relationships between organizations which included conversations, interpersonal communications and through the agents behaving as role models. Many of the socializing activities took place during the meetings of committees, sub-committees and workgroups. In addition, the judges were clearly trying their best to adjust to the electronic courtroom proceedings, so as to be a role model to the legal profession.

Finally, affirmative intervention has been argued to be needed to address the possibility of widening information inequality in society at large, and it involves proactive and purposeful government efforts to give priority to the information have-nots (Garson 2000). Such intervention was also evident in the context of our study - small law firms could obtain financial assistance under the Small Enterprise Computerization Programme while service

bureaus were also set up in the Supreme and Subordinate Courts to enable small non-computerized firms to do electronic filing for a reasonable assistance fee.

5. CONCLUSION

In many countries, when incorporating IT in the judiciaries, the process has been fragmented and often restricted to a single department with minimal communication between different organizations (Oskamp et al. 2004). In Singapore, however, the integrated and shared leadership at the various levels, the strong executive involvement of the government agencies and the practitioners' inputs and insights throughout the process have helped Singapore to avoid the problems faced by other judiciaries.

Indeed, the study found that the successful implementation of the electronic litigation vision was due to both institutional and industry stakeholders exercising shared leadership. It is also an example of how a major IT initiative has been carried out by a group of players at various levels, making an integrated effort to bring about the necessary changes while percolating down the different implementation levels: strategic, tactical and operational. Extrapolating the results of this study, layers of leadership can usually be identified within organizations - this means that it may be important that such leaders at the different levels be given the necessary power and facility to exercise their different roles for IT implementations. Indeed, the process is likely to occur such that initially a leader at the strategic level takes the initiative and promotes the visionary change, then leaders at the tactical level work ambidextrously to advance the vision and bring about change, which then continues to the operational level where the system gets implemented and gradually evolves into the desired product (through a portfolio of complementary change intervention actions).

We suggest that practitioners give due cognizance to network externalities during the implementation processes. Positive externalities are based on the fact that as the number of users increase, the value to other users increases. However, practitioners need to be mindful of the effects of negative externalities. In our study, the initial strong resistance and the adverse publicity generated during the early stages was converted into gradual acceptance due to effective follow up by the different layers of leaders working in concert with each other. Small law firms have many pragmatic considerations regarding affordability and the usefulness of the system. While financial considerations are important, perceived benefits of the system appear to be critical. In this regard, affirmative intervention (in addition to other change intervention actions) may be important to address the issue of network externalities

that may arise in similar industry-wide implementations. The study also found that commanding intervention appears to be important in galvanizing the industry into joint competitive action. However, there are limits to commanding intervention. For example, while commanding intervention can force compliance to intermediate deadlines, it cannot ensure the long-term success of the system. Instead, ongoing success is more dependent on slower, empathetic approaches such as engineering, teaching and socializing interventions.

Overall, the net result is a layered impact on the business value of IT, as the potential value is progressively and inexorably converted into realized value. We therefore propose the revised framework in Figure 2.

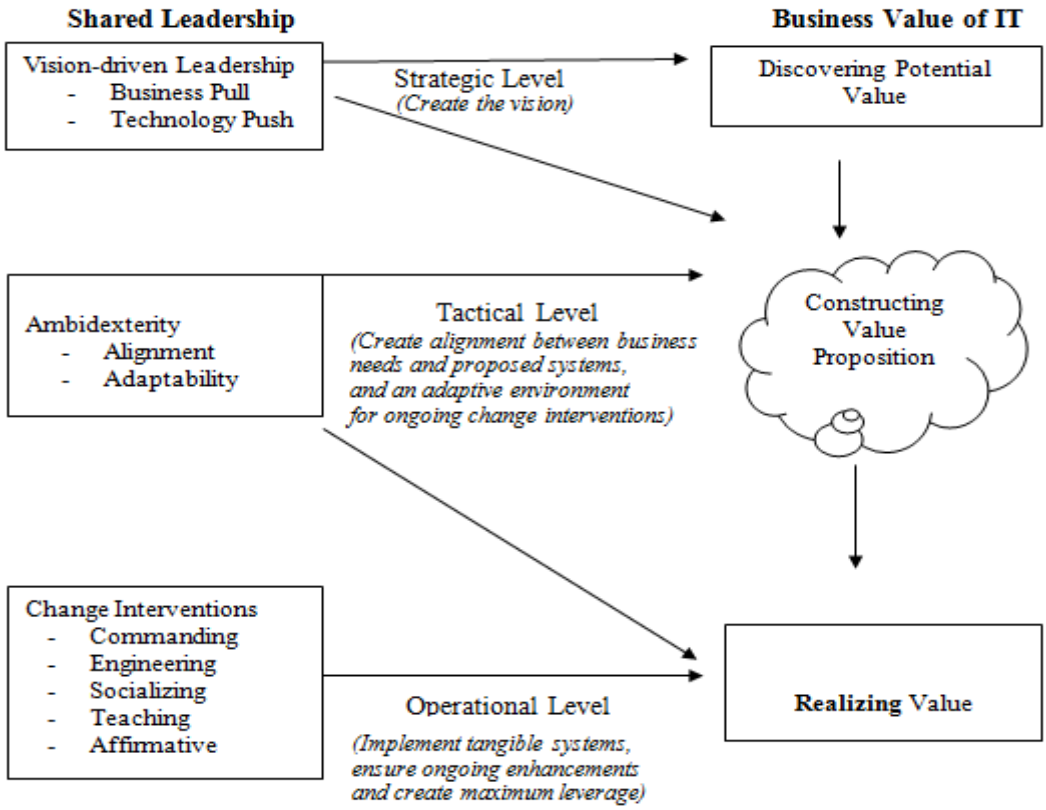

Figure 2: Revised Conceptual Framework

A limitation of this study is that we were unable to study the interactive course of events in a full longitudinal manner from the initial implementation of LawNet in the early 1990s to the advanced usage of the electronic litigation system of today. Another limitation is that the layered impact framework provided may not be applicable to other countries. The reason is that in a small country like Singapore, the government is able to exercise better control as well as providing better support to bring about such initiatives. However, interested researchers may thus wish to explore these same concepts in other contexts and settings.

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