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Research Article

Success Factors for Justice Delivery System Through E-Court Management

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Abstract. Courts of law have embraced technology at a variant pace, from a minimal adoption of word processing to the extreme end of 100% electronic and web-based without a single paper production. Electronic filing system, case management system, hearing scheduling system, hearing recording system and electronic shorthand system used in courts become important tools that allow cases to be dispensed with in an efficient and timely manner. It enables legal practitioners to work anywhere and anytime. These digital technologies also become enablers for legal information to be accessed online by stakeholders. This paper presents five success factors for successful courtroom technology implementation based on a case study conducted in Malaysia. Data was acquired through collected through qualitative field study consisting of site visits, system demonstrations, interviews, series of observation and documents review. The result shows that the five most important success factors are leadership, change management, financial capital, training and piloting.

Keywords. Justice delivery system; Courtroom technology; Court management; E-court; Electronic Record

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1. Introduction

As legal practice has become more technologically advanced, pressure mounts on the courts to join the flow of technological progress. One aspect of this impetus for technological growth is increased interest in the implementation of electronic filing and a more paperless court process. In Malaysia, e-court initiative is spurred in part by the adoption of e-government agenda by the Federal government. In addition, emphasis on government transparency, coupled with the focus of courts on building public trust and confidence in judicial institutions, have created greater demand for access to court information [1]. Even absent other factors motivating change, a court's existing systems may simply be outdated, or even obsolete, from the perspective of functionality and continuing sustainability.

'E-justice' is defined as the use of Information and Communication Technology in the judicial system to improve the services rendered to the users [2]. The use of technology in federal, state and international courtrooms has been rapidly growing over the past decades [3–6]. Most lawyers, judges, legal administrators and support personnel long ago adopted word processing, electronic legal research, time and billing programs as well as varying forms of case management software. The following systems are widely employed in courts: video conferencing, digital documents, photographs and recordings, computer animation and simulations, and videotaped evidence through the most sophisticated integrated case management systems, audio video court hearing recordings, automated transcribing systems, queuing systems and online case registration and filing systems [7]. The evidence has overwhelmingly shown that employing immersive virtual environment and interactive reality adds significant value as a simulation of experience to enhance courtroom practice [8].

2. Electronic Court Records Management

An e-court is a suite of services that entails the minimum use of paper from the moment a case is filed until its disposal. With e-courts, information is captured and passed on digitally, data exchange is not fragmented and case histories are complete and ready on demand, case management is automated, correspondence is exchanged electronically, fee payments are dealt with through dedicated websites and forms that simplify and streamline court proceedings are available to court users online [9].

A reliable and accurate case file system are fundamental to the effectiveness of day-to-day court operations and fairness of judicial decisions. The maintenance of case records directly affects the timeliness and integrity of case processing [10]. It is undeniable that information and communication technology (ICT) per se cannot solve all current challenges; however, it can offer solutions to the many problems that confront the judiciary [2]. At the same time as having technology in court administration, it is paramount to having written policies and standards which govern the use of those technologies, to ensure uniformity of systems used in all courts of the same jurisdictions. This standardization will ensure the smooth running work process of courts.

The Michigan Supreme Court established and consistently updated the Michigan Trial Court Case File Management Standards that encompass all types of records, including records

in electronic media [11]. This standard covers the development as well as layout and design of Michigan court case file management. In addition to the courts, lawyers have used technological equipment to present their cases before courts for more than thirty years to present evidence in their cases, including overhead projectors, television sets and VCRs [12]. Today, more sophisticated evidence presentation systems are in use including evidence cameras, laptop computers with presentation software (such as Trial Pro and Microsoft Powerpoint), electronic whiteboards, digital monitors, digital projectors and projection screens, annotation equipment and integrated control system [12,16]. Computer-generated exhibits are able to present evidence in static, animation, simulation and computer model modes that can illustrate the testimony of witnesses, thus adding significant value to enhanced court practice. These technologies produce simulated interactive reality that is an ideal technique for rhetorical persuasion and argument [8].

For a court registry, the lack of experts who know both registry office and information management standards becomes the first hurdle in implementing change. A number of issues identified by legal and judicial record case studies with respect to people aspect are (1) the need for consistent and authoritative instructions on the preservation or destruction of court case records (both paper and electronic); (2) the importance of having a high level 'champion' within the courts to promote good practice in records and information management; (3) the need for professionally trained records managers within judiciaries; (4) the need for formal training and training materials in judicial records and information management and (5) the importance of having expert advice and guidance available to those with responsibility for records and information management in the courts. Academic institutions of higher learning have played a significant role in delivering educational and training programs on Electronic Records management (ERM) in developed countries, such as Australia, Canada, Europe, UK and USA [10]. Records managers have the skills and methodologies to manage the lifecycle of records of all kinds, but they have to rely on information technology (IT) colleagues and vendors to provide the tools with which to do it. The task of the records manager, in collaboration with their IT colleagues, is to define the record-keeping and technical requirements and to make the right purchase. However, that task is complicated by the fact that technologies are still rapidly evolving [7, 15].

Korea's pioneering use of electronic features to streamline court processes, with the launching of electronic case management in the mid-1980s, and an electronic case filing system in 2010 for electronic filing. E-court solutions in Korea mainly encompass features to help judges, and facilitate the filing of cases for litigants and inform the public about case outcomes.

It can be said that most courts having their own web services. A web service is a piece of software that enables two systems to interact and readily share information. Many courts now make case information available via web services. When court and legal aid websites were first created, they mostly contained static information about their services, electronic versions of paper flyers and brochures, and links to resources. Over the last decade, as these sites have grown to include thousands of pages of increasingly interactive material, legal aid organizations have developed a number of tools for dealing with the increase in content [13].

[7] posit that Court Recording and Transcribing (CRT is a smart system to record the whole process of hearing before judges in the open court so that the whole court proceeding can be stored in audio video format for reference and long-term preservation. This application also allows for automated transcription be made easily. Besides, video conferencing also one of the technologies used in court. The implementation of video conferencing can be seen in the Singapore case of Las Vegas Corporation v Sunny Khoo Teng Hock which was decided in 1997. This case involved receiving testimony concerning the law of Nevada in the US. Other facilities available at the courts include an audiovisual system that allows evidence on video cassette, digital video disc, and video compact disc to be viewed in court and recorded to form part of the court record, a video maker system, and an analog color video printer. The presence of sophisticated electronic equipment will provide a better way to reduce voluminous documentation and to conduct paperless litigation [14].

The use of technologies in courts gives tremendous benefit to all parties involved. This will surely cost and space saving as all the files can be stored in cloud computing which requires less space physically. Computerized court systems also make archives more secure. Risks such as document loss, files being stolen and archive destruction can be significantly reduced or eliminated. E-courts can also enhance transparency. Publishing the cases rendered in a jurisdiction allows attorneys and court users to better understand case law and increases legal predictability. Making decisions available to the public online also helps make judges more accountable because anyone can comment on and assess the quality of decisions. E-court services significantly extend the availability of justice, as with a 24/7 system for filing, registration, and auctions. Moreover, providing remote access to judges makes the system convenient and efficient [17]. Most systems employ extensive security to mitigate tampering with the integrity of files [9].

3. Research Methodology

This research employs qualitative research methodology, using an exploratory case study to find the success factors for e-court implementation. Two cases studies were conducted within Malaysia, one of which representing West Malaysia and the other represents East Malaysia. Case A and Case B has a similar track record of a dramatic increase in case of disposal since the use of ICTs in court case management. Data were collected through qualitative field study consisting of site visits, system demonstrations, interviews, series of observation and documents review conducted in both cases.

4. Findings and Discussions: Success Factors for e-Court Implementation

E-Court project in Malaysia was established with the aims to: (1) allow on-line case filing to achieve a paperless office, (2) save storage space and human resource, (3) allow immediate access to documents during the trial, and (4) avoid document counterfeit. The four applications in the civil court electronic systems are (1) Electronic Filing System (EFS), (2) Case Management System (CMS), (3) Queue Management System (QMS), and (4) Court Recording

and Transcribing (CRT). Recently, e-bidding and e-court portal were also introduced. The following illustration explains the overall view of how the systems interact with each other within the case management process:

From the interview sessions with the key players in the technology implementation it is concluded that the following factors contribute to the successful electronic court management:

(a) Strong leadership

Adopting the top-down approach, both Case A and Case B e-court projects were initiated by the top management of the court, the Chief Justice of Malaya and the Chief Judge of Sabah and Sarawak. This means that leadership has become the major factor of technology implementation. In the Civil Court, it was the Chief Justice and Chief Judge of Sabah and Sarawak who were motivated and committed to the technology adoption idea. In Case A, the coercive pressure from the Chief Justice was the main factor for successful implementation of courtroom technology. He had a clear idea of what technology is capable of doing to the speed of justice delivery. Thus, he supported strategic planning for technology adoption in Malaysian courts. This strategic perspective, also referred to as organizational imperative, follows a top-down approach, and generally represents activities such as the formulation of an information policy aligned with business strategy, followed by the information architecture that is designed to cater for business and process needs. In this instance, the Chief Justice on his own initiative presented a proper plan and working paper to the Malaysian Cabinet with the result that, despite the financial crisis era in 2009, a special budget was approved by the Malaysian Cabinet for the E-Court project. This was followed by series of meetings and workshops for policy making, project initiation, the appointment of system developers, testing and full implementation of the EFS, CMS, QMS and CRT systems.

In Case B in East Malaysia (Borneo), the Chief Judge of Sabah and Sarawak was the champion of the whole system implementation. He took up the policing task to make sure all judges use the systems at the maximum level. No one judge or court staff is allowed to manage court case using a single piece of paper because the system caters every process in case lifecycle management. With this effort, it was proven that no more incident of missing file of the file movement related problem surfaced. The complicated task of file searcher is eliminated and workflow becomes simpler. In a nutshell, strong leadership is one of the main enablers of courtroom technology institutionalization.

(b) Change Management and Human Governance

The case studies show that a top-down approach is effectively workable. This realization can only be achieved when certain conditions exist: careful long-term planning, clear implementation work path, excellent infrastructure, strong leadership, determination and motivation, enough training, continuous support, sufficient resources and perseverance.

Adopting a new technology platform requires not only a careful implementation plan, but also strong leadership alignment and involvement, and consistent, meaningful communication that address the implementation process. It takes a dynamic and resilient leader to make a massive change in a complex organization like the court. Court staff has been working in

their old working environment for a long period and they are reluctant to change. Leaders need to be bold in introducing changes across the court, from developing vision and strategy to implementation through change management, to actual technology implementation. Strategies and plans must be executable and reliable.

(c) Financial Capital

Adopting technology is costly, as it includes capital expenditure and costs associated with the accumulation of organization-specific knowledge. Even after implementation, users still need to learn how to apply the new technology. As a result, the organization is faced with additional costs for training. Further, when any upgrade is involved, it requires a new contract which involves money. In Case A, the Court has not been allocated a specific amount of money by the Government for ICT, but a special budget was approved by the Government upon a special request from the Chief Justice for the Court ICT project. This was confirmed by the Chief Registrar:

> *At first, we did not have any budget for this, but the Chief Justice asked for a special budget which was approved by the cabinet. The current project is managed by a third party, Formis, on a year-by-year contract. After one year of implementation it showed a success.*

The year-to-year contract continued until the time data was collected. Along the way, the systems were improvised from time to time based on the user's response. Upon any upgrading and system improvement, the third party developer would require additional charges. This problem could have been overcome if the court had been given full autonomy to manage itself, consistent with the concept of separation of power. A seasoned judge interviewee said:

> *The court should be left alone to manage itself financially, to choose and to recruit its own staff, and to provide training and promotion systems accordingly. The system itself is a failure. Money collected by the court should be used for court advancement.*

Thus, a court should be given more authority to manage its own affairs rather than being positioned under the Prime Minister's Department, where any financial allocation needs to be fought for and then presented to the Cabinet by either the Attorney-General's Department or the Legal Affairs Unit of the PM's Department.

In Case B, financial allocation for Court B was apportioned by the state government, for the full development of the e-Court system, was sufficient to cover everything related to the technology including training, system development, storage etc. Furthermore, the information technology budget should take into account costs of data preservation and system maintenance.

(d) Training and upskilling – Unlearn and relearn

The transition to e-Court platform requires adequate training and adjustment on both sides of end users- the judges and court staff, as well as lawyers. With new systems in place, whether the operating system, new software or added a new piece of hardware, the e-court system end users will be faced with a change and a new way of doing things.

Malaysia requires court administrators/judges/lawyers that are 'technology savvy'. Introducing a computerized CMS requires a paradigm change for judicial and legal practitioners who have not used computers when studying [18]. To minimize stress and increase the performance of staff using these tools, training is essential. This can allow end users to utilize new tools and make use of the additional capabilities, which could make their job easier and more efficient. The aim of training are first, to minimise confusion and mistakes when the new system is implemented, second, to ensure that staff are able to take full advantage of new features, to ensure that the budget spent on the system implementation is not wasted, third, to minimise unnecessary work for IT staff solving minor problems and fourth, to make staff feel valued and empowered by updating their skills.

Any organization cannot afford to spend lots of money on new systems, only for the staff to revert back to their traditional methods. Training will help to avoid this, as they will be more confident with the functionality of the programs they use. However, it shouldn't end there. Not everyone can master something within a day, and as employees use the tool, there may be additional questions. Courts need to make sure that there is an effective support for end users after the training takes place. The best option is to have a dedicated training center encompassing not only training of ICT and system use but also for other substantive and procedural case workflow matters. In line with this, Malaysia has established a judicial training center with the name Judicial and Legal Training Institute (Institut Latihan Kehakiman dan Perundangan, ILKAP) in 1993 for the purpose of the provision of training including on e-court.

(e) Start Small with a Pilot Project

The system must be user-friendly and adaptable in response to comments from users; a thorough needs analysis is required. Pilot experiments are frequently carried out before large-scale quantitative research, in an attempt to avoid time and money being wasted on an inadequately designed project. An e-court pilot experiment/study is used to test the design of the full-scale E-Court implementation, which allows adjustments needed. It is a potentially valuable insight and should anything is missing in the pilot implementation it can be added to the full-scale (and more expensive) experiment to improve the chances of a clear outcome. When IT systems are being planned, it is important that that court staff has some say from the start. Although everyone is likely to have different opinions, the system developer may get some useful ideas. This is an important way to get court staff behind the IT changes, for a much higher level of adoption of the new technology.

In a complex business process like courts of law, a system cannot be taken from the shelf or customized from a readily available package. It must be developed carefully taking into consideration of every detailed requirement to be adhered with. A pilot project provides quantitative proof that the system has the potential to succeed on a full-scale basis. Pilot experiments are also used to reduce cost, as they are less expensive than full implementation. Simply put, a pilot is a trial run, a small-scale version of your larger project. Cases covering various subject matters should be integrated. In conclusion, a pilot testing is an important step that can help court catch potential problems and prevent them from escalating as well as accomplish several goals before full implementation occurs.

5. Conclusion

Savings from the implementation of e-court systems can be substantial that result from a reduction in the use of paper, time spent in court, the need for storage space, as well as easier archiving of documents, and a general streamlining of processes. Computerized court systems also make archives more secure by reducing the risks of document loss; they enhance transparency, and they can significantly extend the availability of the justice system. A number of success factors that contributes to the successful implementation of e-court are, among others, careful planning and piloting of the project, proper and adequate training to all stakeholders, change management, financial capital and strong leadership.

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Competing Interests

The authors declare that they have no competing interests.

Authors' Contributions

All the authors contributed significantly in writing this article. The authors read and approved the final manuscript.

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