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An Analysis of an Electronic Document Records Management System Deployment: A Case Study of a United Kingdom Local Authority

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ABSTRACT

UK Local Authorities have the responsibility for delivering a wide range of services to the general public and have a number of significant problems in many service delivery areas. Information Technology (IT) is arguably one of the most challenging fields. A current senior executive issue within UK Local Authorities is transforming organisations through the deployment of IT. This is due to the call from the United Kingdom National Government for the public sector to be more innovative, improve their internal operations and focus on modernising their service delivery. This paper investigates, via a case study, the rationale for the implementation of an organisational-wide and corporate Electronic Document Records Management (EDRM) system. There is paucity in the normative literature with regards to this subject. This paper, therefore, elicits material to analyse how the EDRM system was deployed and to what extent the selected case organisation was transformed. The findings in this paper are based on the literature and case study research to help improve organisational transformation. These findings will have direct benefit to the case study organisation and may assist other organisations in the future. The contribution of the research will be of benefit to both academics and practitioners engaged in EDRM system research and implementation.

Keywords: e-Government; UK Local Authority; EDRM Systems; Transformation.

INTRODUCTION

Information Technology (IT) is now an integral part of the provision of organisational services and is a key and vital resource. The effective deployment of an Electronic Document Records Management (EDRM) system is an important element in establishing an electronic workplace environment and transforming the capabilities of a modern organisation and its workforce. Electronic document records management systems can empower users to streamline business processes via workflow and information sharing, which can also improve information management. Any significant investment in new information technology should be examined for its strategic value and operational benefit to the organisation (Irani and Elliman, 2008; Irani et al., 2008). Often, the specification and implementation of IT is left to IT professionals only, with little or no involvement from organisational management or the user community. This can lead to ineffective or failed IT implementations (Sauer, 1993). Frequently, IT investments proceed without management processes to measure the achievement of specified outcomes (Remenyi et al., 2007). The UK public sector is conservative, reserved and risk adverse (Wilson and Game, 2007). The UK national government has in recent years, called for public sector organisations to embrace new technology, become more innovative, efficient and cost effective (Blair, 2002). Gershon (2004) contends that the implementation of new technology can transform public service delivery. There is also increasing recognition of the fact that efficiencies will come from common information technology systems and common business processes in the public sector. With the growing call for the public sector to embrace more technology, organisations are increasingly implementing information technology systems in an attempt to transform service delivery, both internal to the organisation and externally for the citizen.

The organisation considered in this study, a UK Local Authority (UKLA), has recently implemented a corporate, organisational-wide EDRM system. The system was introduced to transform and integrate the many departmental working
practices, environments and cultures. Mainly due to external political pressure, there was a perception from certain professional domains within the authority that the introduction of EDRM system would improve efficiency and effectiveness of the organisation. The intention was to deliver a coherent organisational information management system on a single information technology platform, across a large geographical area and several organisational sites. The key objectives were to transform the organisation by improving information flow, business processes, working arrangements and organisational efficiency. This paper examines, via a case study, how the EDRM system investment was initiated and undertaken, and proposes a good practice framework to help assess the value and benefit of Electronic Document records management system to help ensure it meets the desired outcomes. There is paucity in the literature and this paper elicits material to analyse how the electronic document records management system was deployed and how the organisation was transformed. The paper is concerned with the high level, key strategic issues that have emerged from the case study and aims to inform both theory and practice.

The paper also identifies a set of lessons, enabling factors and develops a good practice framework for future EDRM system deployment. This is based upon the literature and case study to help improve organisational transformation. This will have a direct benefit to the case study organisation and may assist other organisations in the future. The contribution of the research will be of benefit to both academics and practitioners engaged in electronic document records management system research and implementation.

ELECTRONIC DOCUMENT RECORDS MANAGEMENT SYSTEM

The deployment of EDRM system has been heralded as the solution to a myriad of organisational and business problems. Many proponents of EDRM system claim that the implementation can resolve complex business problems, deliver real competitive advantage and transform organisations. Historically, attitudes towards IT benefits have been described in three phases, which coincide with the three distinct stages of IS evolution categorised by McNurlin et al., (2007) as the: automate, informate and transformate three era model.

- **Transaction Processing Systems (TPS)** to improve efficiency,
- **Management Information Systems (MIS)** to increase effectiveness,
- **Strategic Information Systems (SIS)** to transform organisations.

During the automate phase in the 1960s and 1970s, the emphasis of computerisation was placed on reducing the labour required for the manual aspects of clerical work. The main perceived result of this initiative was the reduction of routine and tedious work with the primary benefit being greater speed and accuracy of paper handling, resulting in better customer service and perhaps reduced costs. Systems in this automate phase are generally referred to as transaction processing systems, an example being a computerised payroll system. During the second, **informate**, stage in the 1980s and 1990s, computers were used to deliver extensive management reports which were intended to facilitate more effective management and control. These reports presented regular and routine descriptions of how various aspects of the business were performing. These systems, called management information systems provided sufficient information for managers to be able to make important contributions to improving organisational efficiency. Since the early 1990s there have been claims that it is possible to radically change the way an organisation does business via the deployment of IT (Hammer and Champy, 2003). These information systems intend to transform the function of the actual business or organisation. The third phase and the term **transformate** has been applied to describe what may be achieved the use of these systems. They are also referred to as Strategic Information Systems (SIS). These systems are frequently based on wide area networks and are corporate, in that they rely on the strategic nature of data and communications to develop and improve efficiency, effectiveness and business transformation.

Although the three phases of automate, informate and transformate may be described as the historical development of IT, all three are currently relevant. Any contemporary organisation which is effectively exploiting its IT potential will be using all three types of approaches in the organisation (McNurlin et al., 2007). It is the SIS transformate category that EDRM system falls into. Hammer and Champy (2003) contend that the potential benefits delivered by the strategic information system can be substantial. However, it is also claimed they can deliver no benefit, and indeed dis-benefits, and actually put the organisation at a disadvantage. Research suggested that vendors, consultants and academics generally tend to exaggerate the ability of IS to transformate (McNurlin et al., 2007). EDRM system enables organisations to manage documents and records throughout the document life-cycle, from creation to destruction. Typically, systems consider a document a work in progress until it has undergone review, approval, lock-down and publication, at which point it becomes a formal record within the organisation. A corporate-wide EDRM system is a crucial element for any progressive Council. Many of the potential
savings from mobile, flexible and home working, and from a near-paperless office environment cannot be achieved without EDRM system. For customer-facing staff it is important that they can access all relevant information relating to the customers they are dealing with, and that means that all information, whether it be letters, e-mails, notes or records, should be accessible electronically.

According to Wilkins et al., (2009) the primary benefits of a corporate wide EDRM system are summarised as follows:

- **Customer-facing staff have access to the information they need to provide a complete service,**
- **If combined with mobile, flexible and home working, staff can access that information wherever they happen to be,**
- **Holding information electronically means that paper originals can (mainly) be destroyed, greatly reducing the need for filing space in the office,**
- **Roughly 20% of office space can be freed up by holding information electronically instead of on paper,**
- **Reduction in printing and printers, as documents are held electronically,**
- **Significant efficiency savings can be achieved, resulting in reductions in staff numbers.**

IT is now first and foremost an enabling technology which can be embraced by the workforce to improve organisational efficiency and effectiveness (Willcocks and Greaser, 2001). The implementation of EDRM system can have a large impact and can also transform the way an organisation undertakes tasks and the prevailing organisational culture. The application of information technology systems, such as an EDRM system is increasingly perceived as less of a technical innovation, rather a social one, with the risk of unsuccessful implementation being potentially great. Implementation should ensure that new technology meets user requirements and gains user acceptance (Remenyi et al., 2007), a fact which history has shown is neither easily achieved nor well understood.

**CASE STUDY RESEARCH METHODOLOGY**

An EDRM system has a soft focus and is people orientated. To obtain valid case material it is necessary to choose a qualitative research methodology. The strongest justification for a qualitative, field-orientated approach for our research comes from the need for an increase in field-based methods (Baskerville and Wood-Harper, 1996) as certain categories of knowledge cannot be acquired through traditional quantitative methods (Swanson and Swanson, 1990). This literature demonstrates the need for case studies where ‘the primary research data are the concepts employed by the actors in the field and where the researcher wants to know how the different actors involved understand and use information systems’. This is particularly true of EDRM system where the focus is not on analysis and prediction, but rather interpreting human action and perceptions to develop an understanding of social, human and user aspects of EDRM system. Our approach uses grounded theory (Glaser and Strauss, 1967). Grounded Theory is a field based, ‘discovery’ qualitative research methodology, which allows the researchers to develop an account of the organisation under study by empirically investigating the organisation from a user orientated and organisational perspective. It enables the researchers to deal with non-standard data and facilitates the collection, analysis and reportage of qualitative data, thus providing an accurate, rich account of the area under study (Weingand, 1993). The research methodology assumes that the emerging theory is ‘grounded’ in the research data. Grounded Theory is well suited to research situations which deal with “qualitative data of the kind gathered from participant observations, face to face interaction, semi-structured or unstructured interviews” (Toraskar, 1991).

Mumford and Weir (1983), Corbin and Strauss (1990) and Baskerville and Wood-Harper (1996) have demonstrated the value of interview based field research in the context of IS. Grounded Theory supports inductive research whereby the researchers develop more than just a descriptive account (Swanson and Swanson, 1990). Grounded Theory incorporates an iterative approach, whereby the initial data analysis is used to shape continuing data collection. The methodology is particularly useful for exploratory research where rigid and well-controlled experimental design is not possible (Calloway and Ariav, 1991). The theory therefore becomes derived from a dynamic body of knowledge that is grounded in the data (Weingand, 1993). The case study involved interviews with key staff, which were identified in conjunction with the Chief Executive and the authority's board of Directors. The only data collection method used were interviews that were semi-structured and interviewees were encouraged to comment, and to raise, reveal and suggest issues and problems which they regarded as important to the subject in question. These interviews were subsequently transcribed and analysed using an intuitive approach based on Grounded Theory. As discussed above, this is an inductive, discovery methodology that allowed us to develop an account of the general features of a topic while simultaneously grounding the account in empirical observations. The essential focus of the research methodology is a search for a particular view or views. This Weltanschauung (Assumptions or World View) was then extracted to describe and help understand the problem situation.
The approach required the collection of empirical evidence from a variety of sources in organisation. Our primary aim was to accurately describe the subject of study, through the process of concept discovery, and to formulate ideas and hypotheses about the relationships between the observed factors. The concepts and views generated were regarded simply as more or less useful and not more or less true or valid. A total of 20 staff members consisting of at least one representative from each department within the UKLA were interviewed individually. Some staff members were seen on more than one occasion. The decision to interview a large number of staff representing the full spectrum of service departments throughout the authority was deliberate, to enable a broad view to emerge and to assist with the process of comparative analysis.

CASE STUDY FINDINGS

The authority has recently implemented an organisational-wide EDRM system. This system was procured to consolidate and integrate the many departmental systems, working environments and business cultures. Prior to the corporate Electronic Document records management system implementation, individual users appeared comfortable with existing departmental paper and technology based, for example email and word processing, arrangements. However, due to the fact that there was no corporate EDRM system environment, it was difficult to transform working practices, share information and improve information management. There was a general perception throughout the organisation that the pre-EDRM system situation was both inefficient and ineffective. The corporate EDRM system was therefore introduced to deliver a coherent business information system on a single information technology platform, across a large geographical area and several organisational sites. This initiative had the key objectives to improve information flow, working arrangements and organisational efficiency. Implementation and use of EDRM system at the authority has been virtually identical to that in most other government and commercial organisations in the past decade. EDRM system was introduced within the past 2-3 years, to avoid problems faced by early adopters and to ensure that EDRM system would integrate into proprietary business systems. For example, housing benefits and planning systems. The EDRM system adopted by the authority was a leading industry product and one of the most highly rated packages available. A well-planned and participative approach to its selection and implementation was undertaken. The choice was also strategic, in that the EDRM system was introduced through a positive commitment by the authority. Significantly, the Chief Executive, Director’s Management Team and many key users were consulted. However, the EDRM system procurement was not based on formal cost feasibility study. Rather, there was finance available via capital funding and the EDRM system was purchased.

The EDRM system project team had used a PRINCE2 project management approach. This was perceived as successful by the interviewees because the implementation was on time and budget. EDRM system had been made available to every staff member who had requested it and there had been no requirement for a business justification to use the system. This was not seen as an issue, as interviewees were of the opinion that once the licenses had been acquired, there would be no additional costs. However, this is not strictly the case because the intangible costs such as IT staff support costs, increased network traffic and disk storage has to be considered. These factors had an impact on the authority resources. Indeed, there had recently been a request for an increase in IT support staff as a direct result of implementation of the EDRM system. The implementation of EDRM system in the case study organisation should, according to the literature, make a significant difference to the organisational efficiency of the local authority and offer real benefits and advantages (bib, 2011). However, this case study research has highlighted the not all the authority’s staff see EDRM system as integrated with their business processes or integral with other IT systems but as something else they can use. There had been no value or benefit appraisal or post implementation review on the value and effect of the EDRM to date.

The authority has seen recent demands for home and mobile working from staff, with parallel demands for EDRM. This trend is matched by organisations in almost every business and Government sector in the UK. It is apparent from the analysis of the interview transcripts that EDRM must fully support current and future service delivery plans. It also emerged that it will be necessary for the EDRM infrastructure to support any significant changes to the way in which the organisation undertakes its responsibilities in future years. Perhaps most importantly, it has been identified that service plans and EDRM capability must be considered together. This supports the view in the literature survey, that IT strategy and business strategy must be integrated. Only then will EDRM reflect real need whilst simultaneously shaping service provision. Significantly, in this case there has been no alignment of EDRM strategy to business strategy. The case study established a perspective on the social and organisational culture of the authority. Many of the social aspects of EDRM deployment had not been considered or addressed. For example, the training element of the project was inadequately identified, planned and delivered. Moreover, was recognised that inadequate training had in some instances led to only very limited success, which had subsequently resulted in some views expressing a consultation. Users had cited anecdotal examples of systems and procedures being virtually paper-based one day and EDRM-based the next. Managers stated that they had not got the full anticipated benefits from the introduction of EDRM system. The purported benefits included a:
• Modern approach to business processes,
• Reducing headcount of administrative staff,
• Improved efficiency, and
• Improved data quality.

Despite the EDRM system deployment having mixed outcomes, the overall perception by interviewees is that EDRM system was well implemented and well supported by IT staff. There were also many positive aspects about EDRM system, including the improved information management, growing support services and a clear demand for EDRM system from the more knowledgeable, assertive and well-informed users. The case study research enabled a broad, high level picture to emerge from studying the particular local authority scenario.

A GOOD PRACTICE FRAMEWORK FOR DEPLOYING EDRM SYSTEM

Although the culture and usage of EDRM system within the UKLA has been on a par with many public sector bodies, the overall picture of EDRM system implementation and the overall development of EDRM system within the authority are mixed. However, this should not be seen as problematic as this situation can be exploited, with minimum cost, to obtain improved value and benefit from current EDRM system investment. The greatest challenge facing the authority will be encouraging the use of EDRM system and develop an appropriate strategy together with an internal support programme to manage demand. Furthermore, to assist staff in using EDRM system to transform services. These factors require planning, managing and monitoring to ensure the best use, value and benefit is obtained from the investment in the technology to help ensure efficient, effective and successful IS. A properly conducted feasibility study should be undertaken retrospectively, which identifies cost, value and benefit from the implementation of new technology. This will enable the organisation to understand the full impact of the system. All appropriate staff, including senior management, should participate in this activity. Senior Management Team Commitment to the project was evident, which assisted with the implementation and project delivery. However, an ongoing EDRM system Strategy aligned to Business Strategy needs to be developed to ensure the system meets current and future business needs.

Project Management was evident which has assisted with the implementation. There was some user community ownership. However, it was felt that this could be improved to give more kudos and to help ensure EDRM is recognised as an integrated and collaborative business service, implemented to transform services. Appropriate training was not undertaken and this needs to be actioned to further exploit the technology. Therefore, appropriate EDRM system education, support and training should be undertaken, which is orientated both to the EDRM system application and to its use within a business context. Appropriate support from the IT team was evident and this had helped ensure that the technical implementation was successful. Common business processes were not fully completed and these processes were currently being developed. Once implemented, common business processes will help identify further efficiencies. An information management strategy needs to be developed to ensure electronic records are processed, stored and deleted appropriately. A Printing Strategy needs to be developed to minimise the amount of printing and number of printers in use. This will reduce costs.

A post implementation monitoring, review and evaluation process should be introduced to ensure that implementations are successful and identify barriers to enable remedial action to be taken. The correct combination of package choice with the application of success criteria will be a powerful alliance. The success criteria that have been identified and extrapolated from the case study and the literature are now presented to form a tentative best practice framework. These are mapped against the scenario in the case study organisation. The current position is one of optimism because there is great potential to exploit existing EDRM system provision and develop a greater collaborative and integrated service in the future. Key staff recognise that successful implementation of EDRM system, aligned to business strategy, will offer a direct method to support many aspects of the organisations future social structures and working interactions both internally and externally. To determine whether EDRM system has transformed this substantial organisation is a complex and multi-faceted task, which needs further work. With the growing concern to improve efficiency, effectiveness and transformation, it is an area where further research is necessary.

The case study resulted in highlighting that the deployment of EDRM system has been mixed. Some users were comfortable with new arrangements and were maximising potential benefits from the EDRM system deployment. According to Johnston and Bowen (2005) those organisations that plan to adopt and implement an EDRM system, or upgrading and or altering their existing EDRM systems can be certain of the fact that real benefits and potential return on investments are achievable. Having said that, the following benefits were extracted from the case study that includes:
• Instant access to records information,
• Ability to access flexibly from mobile and home locations,
• Significantly reducing filing space and improved information workflow,
• Reduction in storage space, and
• Freeing up office floor space.

Due to abovementioned benefits, the inter-departmental collaboration was achieved by improved workflow. However, some users could see shortcomings in the EDRM system implementation. This resulted in a need for:

• Improved user ownership,
• Improved training,
• Improved system utilisation,
• Improved information management, and
• Post implementation review.

CONCLUSION

Literature and empirical findings clearly state that EDRM system deployment involves high risks, large sums of capital expenditure and high revenue streams. Specifically, it has emerged from the case study that senior management took responsibility for the project, which helped support and deliver the implementation. This paper reports the rationale for the implementation of an organisational-wide, corporate electronic document records management system. The paper also identifies a set of lessons, enabling factors and a good practice framework for future EDRM system deployment, which could assume a role in practice. The research will be of benefit to both academics and practitioners engaged in electronic document records management system research and implementation.

REFERENCES