A Review of Organisational Benefits Through the Use of Enterprise Content Management (ECM) System in Public Sector Organisations

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ABSTRACT

This paper reviews the achievement of benefits through Enterprise Content Management (ECM) systems in public sector organisations. From the literature there are few benefits which deal with ECM benefits in organisations, especially in public sector. The main benefits have been anecdotal and not linked to a theoretical basis. In this paper a framework to classify these benefits is proposed and benefits identified in the literature are discussed and classified. The paper also proposes a more substantial framework through a comparison with benefits from enterprise resource planning systems (ERPs) and Knowledge Management systems (KMs) which are applicable to the ECM environment. From a practical perspective this research will be of value to public sector organisations as these organisations are making substantial investments in the implementation of ECM systems often without achieving the expected benefits. Thus, this study will enhance the understanding of achievements of benefits through ECM use in public sector organisations.

KEYWORDS

Benefits, ECM, ERP, KM and Public Sector Organisations

1 INRODUCTION

Public sector organisations are seen to have a huge amount of unstructured documents and there is a considerable amount of money invested in the implementation of systems [1]. Most organisations especially public sector organisations normally have a large amount of unstructured documents stored in various repositories and these result in information chaos. This huge amount of content is produced at an increasing rate each year [2]. This results in employees of these organisations taking time to search for files and documents as they are stored in different repositories through the entire organisation. It has been mentioned that unstructured data makes up eighty percent (80%) of the content in organisations [3].

The unstructured data cannot be left unattended to because it contains important information. Having data that is unstructured makes it difficult to find, and to know the latest version of the documents. In addition large volume of information makes it impossible for the files or documents to be controlled and managed [4]. ECM was designed to make large volumes of unstructured information easily available [5]. It is for this reason that ECM systems were implemented to assist in managing unstructured documents [6].

Over the past decades there has been a lot of attention devoted to effectively secure documents and records management in public sector organisations [7]. In addition Enterprise Content Management (ECM) has received a lot of attention in industries as far as enabling content to be managed on the enterprise wide
scale [8]. ECM promises that large and unstructured information can be properly controlled and managed with ease of retrieval whenever required. Therefore ECM is a suitable system to use as far as structuring of documents is concerned [9]. However, ECM is an emerging field within Information System (IS) and research conducted is still limited [8]. There is not much ECM research available and the one that exist focuses on large private companies and not the public sector domain. This creates a need for studying ECM in public sector organisations in order to ensure that the benefits associated with ECM are achieved as lots of money has been invested for the implementation.

Public sector organisations have been spending huge amounts in implementing systems. From these implementations, organisations such as the public sector organisations did not necessarily achieve the expected benefits associated with these systems one of them being the ECM system. It is for this reason that it is important to evaluate the achievement of benefits through the use of a ECM system in a public sector organisation. Even seeing what ECM can do, benefits do not accrue in public sector organisations.

2 BACKGROUND TO THE STUDY

2.1 Defining ECM

ECM is a concept that has been evolving and which is currently of relevance to all industry sectors [10]. Yet, there is no consensus that has emerged in defining ECM [9]. ECM can be defined as a technology which provides an organisation with a platform to house unstructured content in order to have information delivered in a proper format to multiple enterprise applications [35]. ECM is also defined as a web based publishing system that manages a large number of electronic documents and other web assets intended for publication to web portals and other complex web sites [11]. Furthermore, ECM is viewed as an approach to assist organisations to reduce search times [12]. Having noted the wide range of definitions for ECM; it is proper to adopt a particular definition for the purposes of this study, which is an integrated system that locates content in a structured manner for ease of use, search and reference.

It is without doubt that due to a high volume of documents in Public Sector organisations searching for documents usually takes a long time or sometimes documents are being lost. Therefore, an ECM system is perceived to reduce the search times as well as to ensure that documents are retrieved with ease [12]. It is important to understand why benefits do not always accrue in public sector organisations. The section below demonstrates the four dimensions in which ECM operates in.

2.2 Extended Framework for Four ECM Dimensions

ECM operates in an integrated manner and has four dimensions which addresses four perspectives and this section demonstrates what is entailed in each perspective. These perspectives are content, process, technology and enterprise [13]. It is mentioned that for the ECM system to be successful, the four dimensions need to be considered [14]. The new perspective called drivers/benefits is included to the original four perspectives.

Therefore, in explaining these dimensions, the Content is mentioned as focusing primarily on the semantics such as the users, information and systems. Whereas, Processes focuses on the development and deployment view and Technology is an important enabler of ECM as it addresses the hardware, software and standards that support the management of content. Whilst the Enterprise acts as an overview perspective which describes the economic context for ECM such as legal,
social and business aspects [13]. The drivers/benefits perspective covers six benefits [15].

![Figure 1. Extended Framework for ECM Four Dimensions](image)

ECM is integrated and has to fully consider all the mentioned dimensions above [10]. However, the lifecycle of ECM include activities such as capturing, storing, creating, reviewing, editing, distributing, publishing, archiving and deleting content [16].

### 2.3 Explanation of Benefits Realisation

Before explaining the term benefits realisation, it is necessary to first clarify the two words that make up this term separately. The benefits take effect after the system has been implemented. Benefits in the IT investment context are regarded as an outcome that is advantageous to an organisation in terms of nature and value [17]. In contrast benefits can be defined as being afforded to individuals or groups of people due to achieving objectives [18]. For the purposes of this study, the benefits referred to will be the one defined in the context of IT investment. However, there are a number of benefits frameworks which will be explained later in this study.

The previous studies make a clear remark that organisations struggle to measure benefits and that there are no established metrics in place. The ability to measure benefits are often reported to be the most critical issues for chief information officers (CIO) in industries [19]. It is for this reason that one would find that organisations do not have benefit measures in place after the system has been implemented. Benefits realisation takes precedent years after the system has been implemented [20] and is a process of measuring and monitoring benefits associated with a system.

The realisation of benefits arising from the implementation of enterprise systems is a significant challenge in both research and practice even though there has been a lot of study pertaining to benefits realisation. In order for the benefits to be achieved organisations are required to do new things or do things differently [21]. From these discussions it is clear then that organisations do not measure the benefits post implementation which makes it difficult for the benefits to be realised. Researchers [22] attest to this in that the project team members only identify benefits when writing the business case and the benefits noted are mostly overestimated. Therefore the process of benefits realisation in organisation is practically difficult and this research will not study benefits realisation but will study the achievement of benefits through the use of ECM at a public sector organisation.

### 2.4 Barriers to ECM Benefits

From viewing other literature on benefits, it was clear to note that there are other conditions that appear to be barriers in achieving the expected benefits amongst those were the following: Lack of establishment of metrics, Lack of resources, Inappropriate IT Infrastructure, Lack of Top Management Support, Lack of proper communication and organisational culture. Failure for organisations to establish metrics, it was mentioned that without an established metrics organisations will not be in any position to
know if the benefits have been achieved or not [23]; [24]. Not having resources to support the organisation at the post implementation stage. Having an ongoing support at the post implementation stage is necessary as it enables further in-house knowledge [25].

Inappropriate IT infrastructure was identified as another barrier in achieving the expected [26]. In the study performed by [27] pertaining to e-governance in South Africa, one of their findings was the fact that South Africa does not necessarily have a strong IT infrastructure hence there tends to be a failure in IT projects. As long as there is no involvement of top management in the implementation of any system, the users of that particular system in an organisation will not take the system seriously regardless of how powerful the system is.

From the study conducted [28] one of the respondents mentioned that it is critical to clearly define and to communicate the objectives of ECM or no one will want to accept the system. The literature suggests that the fit between the organizational culture and information system is important for organisations to reap potential benefits promised by the system [29].

2.5 Context of South Africa

The South African Government has come a long way in appreciating the value of technology and as a result government is making significant investments in ICT initiatives and infrastructure [30]. The public sector organisations have also begun to request funding from the government to take advantage of the benefits associated with such initiatives. The Public Sector Organisations are controlled and funded by the Government and are accountable to several stakeholders. Government plays a critical role in supporting and enabling the creation of tools for reform and transformation [31]. Moreover, the public sector organisations have to report to the government on how it spends the money it was funded hence it is important to understand the achievement of benefits from the systems it implements. The ICT initiatives invested vary from business intelligence, e-governance, knowledge management and ECM to name a few. In this research, the focus is on ECM system but there will be a mention of other ICT platforms deployed in public sector organisations.

Public sector organisations particularly in South Africa have limited research pertaining to ECM. A study [32] evaluated the implementation of ECM in South Africa through literature survey and revealed that there is very limited number of studies represented institutional experiences related to implementing electronic documents and records management. Moreover, there is a gap in the field of ECM and further research is required for improving records management [6].

The public sector organisations in South Africa operate under tight budgets which put further constraints on service delivery [33]. It is for this reason that the public sector organisations are chosen for this study as it is believed that the benefits of ECM still require attention in such environments.

3 ADOPTED CONCEPTUAL FRAMEWORK DISCUSSION

The benefits of using the ECM systems are always identified by the service providers as previously mentioned. On the contrary, the public sector organisations do not always achieve these benefits. Organisations in all types of industries develop information systems to achieve benefits [34]. There are several ways in which organisations benefit from ECM Technology [35]. It was from these benefits that the benefits conceptual framework was formulated in order to put a structure to this study. A literature review
assists researchers in developing a theoretical framework that can assist to structure future studies [6]. Therefore, this section of the paper categorises the benefits of ECM as well as the barriers to ECM Benefits.

The theoretical framework above shows a combination of ECM, KM and ERP. These benefits are grouped according to the five benefit dimensions as suggested by [38]. A further investigation is required to determine if the KM and ERP can fit to the ECM environment.

The theoretical framework above shows the factors preventing benefits from being achieved and these factors are grouped according to the proposed conceptualised framework. The benefits relating directly to ECM will be put in bold and the ones that are not bold relate to KMs and ERPs. From the literature review the benefits were explained in a broader context which includes other technology such as ERP technology. To some degree the benefits were even outside the public sector domain. What was evidenced is the fact that there is no clear indication as to which benefits are valid for ECM in public sector organisations. Thus, these benefits need to be confirmed and verified in an ECM environment particularly in the public sector domain. This paper will attempt to undertake such confirmation and verification of ECM benefits within the public sector. Also, there seems to be a lack of understanding as to why these benefits are not achieved. The previous studies have shown the potential benefits and very little has been made of the benefits not achieved or the understanding thereof.

<table>
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<tr>
<th>Table 1: Summary of benefits from literature survey.</th>
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<tr>
<td>Benefit Dimension</td>
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<td>2. Increased productivity</td>
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<td>4. Improved customer service</td>
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<td>6. User Satisfaction</td>
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<tr>
<td>7. Improved efficiency</td>
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<tr>
<td>8. Improved Customer Service</td>
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<td>3. Employees Benefits</td>
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<td>1. User satisfaction</td>
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<td>5. Strategic benefits</td>
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<td>2. Cost leadership</td>
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<td>3. New or Value added products/services</td>
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<td>4. Returns on Investment</td>
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<th>Table 2: Barriers to ECM benefits.</th>
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<td>Barriers</td>
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<tr>
<td>1. Inadequate vendor partnership</td>
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<td>2. Lack of customer service improvement</td>
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<td>3. Lack of user participation</td>
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<tr>
<td>3. Employee</td>
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<tr>
<td>Lack of Controlled Content</td>
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<td>5. Strategic</td>
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<td>1. Lack of implementation strategy</td>
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<tr>
<td>2. Lack of IT Infrastructure</td>
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<td>7. Organisational</td>
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<tr>
<td>1. Organisational culture</td>
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<td>2. Insufficient Training</td>
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<td>3. Empowerment</td>
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<td>4. Change in working patterns</td>
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4 CONCLUSION

This literature review is aimed at understanding the achievement of benefits through the use of ECM in public sector organisations. To begin with, this paper introduced what the ECM system is and how organisations have been struggling before ECM was introduced. Organisations have a huge amount of unstructured content and there is a significant amount of money invested in systems[1]. With ECM organisations have started to appreciate the tool as the benefits were highlighted by the systems vendors.

However, the benefits of ECM systems are not being achieved in public sector organisations and there is limited studies conducted in understanding why the ECM benefits are not achieved. Similarity, there are studies that investigated the understanding of benefits but from the ERP domain and not ECM. Therefore the theoretical model for understanding the benefits was found after surveying relevant benefits frameworks within the ERP domain. This framework needs to be confirmed in the ECM environment.

This model will be validated as a case study in a public sector organisation in South Africa that is currently using ECM and potentially other researcher may also validate it in future studies. As previously mentioned public sectors organisations spend a lot of money in ECM systems yet the benefits do not always accrue. This was indicated to be a concern as so much money is invested by the government in the implementation of systems in public sector organisations. Therefore a case study to fully have an understanding of the underlying factors is recommended.

5 REFERENCES


[40] Sprehe, J.T., The positive benefits of electronic records management in the context of enterprise

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