



## GESTÃO DE DOCUMENTOS: DE RECURSOS DESPERDIÇADOS A VALOR

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### Resumo

As organizações tendem a se focar em aspectos muito específicos, seja em nível tecnológico, comercial ou recursos humanos, perdendo perspectiva da visão geral onde muitas vezes os recursos são desperdiçados de forma indetectável. Baseado nos resultados de um inquérito efetuado com 104 organizações, este artigo foca como o Electronic Content Management (ECM)(uma área que compreende o EDM-Electronic Document Management) é frequentemente negligenciado e apontará os benefícios financeiros de seu uso apropriado quando aplicado a novos processos criados a partir de mudanças culturais e alteração da forma tradicional de fazer negócios.

**Palavras-chave:** Gestão Eletrônica de documentos. Gestão eletrônica de conteúdos. Valor económico. Sistemas de Informação. Benefícios financeiros.

### 1 INTRODUCTION

Corporations make decisions based on knowledge which comes from processed information that agents possess at each point in time. Information is available from different sources mainly supported by paper or digital documents. Since 1999, 93% of documents are already born in the digital format (HITCHCOCK, 2006, p. 2) and include all sorts of documents such as emails, email attachments, text files, image files, sound files, video files, files created from diversified software applications, documents created in real-time directly fed from databases and, naturally, digitized paper. It is also important to keep in mind that courts are not hesitant to impose e-discovery sanctions where law firms have failed to maintain electronic records (HINSHAW, 2010, p. 14)

Despite legal aspects of document management are usually the ones involving larger sums of money, they only came in third place when considering the reasons why corporations implement such a solution. The most mentioned reasons are related to efficiency improvement and optimization of business processes (MILES, 2011, p. 4). Demand for ECM solutions is being driven by a multitude of IT and business pressures: the need to effectively store and manage rapidly growing content volumes (in order to optimally streamline content-driven processes for a competitive edge), or the need to improve employee productivity or optimising customer-facing activities (CLARKE, 2010, p. 6). All areas of the corporation are involved even those which are not so trivial, such as change or culture management. Less

space occupied with paper, photocopying or people necessary to deal with increasing amounts of documents are some trivial benefits. But others, such as employee satisfaction, better customer service or corporate image improvements are less obvious on short term. Nevertheless, although ECM is around for almost thirty years its value has never been completely recognized due to marginal technical benefits of other solutions catchier to the eye and due to the lack of culture of some corporate managers regarding the necessary vision to direct the IT infrastructure to this issue. As in other corporate issues, this involvement of different people in many different areas of organization makes it harder to successfully implement an ECM solution and extend it to its maximum benefit potential. It is much simpler and easy to justify implementation of a specific software solution which will be directly relevant just for a department or small set of departments. The Enterprise 2.0 organization, has a focus on information as an economical production factor as strong as labour and capital have in the neoclassical economic theory. With this in mind, we conducted a worldwide survey, from April to November 2011, in order to understand which drivers and benefits for having an ECM solution agents most consider.

## **2 RESOURCES: WASTE, ISSUES, GAINS**

In his interesting study of IBM employees worldwide Geert Hofstede (HOFSTEDE, 2003, p. 3) stated that uncertainty is for risk what anxiety is for fear. Risk, as fear, is based on some clear and objective issues although uncertainty, as well as anxiety, is a diffused concept not associated with any sort of probability but leaving a feeling that something may happen although nobody knows what it might be.

This is, as referred later on, the largest problem that enterprises face when confronted with the possibility of leaving the use of paper, a tradition of decades if not more than a century for some organizations, upon which all the processes, equipment and human behaviour has been build. The larger the organization, the larger the risk of making a decision under the uncertainty towards any kind of changes from the status quo namely, Electronic Document Management. The fact that 93% of documents are born digital is not incompatible with the resistance of organizations to leave their comfort area of working with printed paper despite the deterioration and preservation problems related to paper (LOC, 2006, p. 1).

This is particularly true in very large organizations, a fascinating universe where inertia to change is, in some cases, almost infinite and where self-interest behaviour of managers sometimes sabotages the organizational objectives (SHICK, 1999, p. 1)

The financial crisis that is now affecting a large part of the developed world and should act as a stimulus to implement money saving solutions, is actually having the opposite effect. Since middle or top managers do not want to be seen as big spenders, cost saving systems like ECM, are not getting implemented because their ROI is not immediately measurable.

Cultural Intelligence explains certain individuals are more effective than others (THOMAS, 2008, p. 123) and Organizational Cultural Intelligence is one of the areas organizations sometimes overlook in favour of a quick buck. In various organizations, especially in large ones, standardized and documented procedures exist under the format of multi-patched immediate solutions for problems that were arising through the past years. Many of these procedures are well documented in order to meet legal or ISO norms compliance, but they do not completely reflect the real way things are being done. Unawareness of crucial lower level details often leads to misplaced investments or absence of needed ones.

Organizational communication plays a major role addressing this problem and an EDM system can be a perfect way to do it, as it allows top managers to drill down on information on their own to the needed depth demanded by each business situation.

### **3 STRATEGIC ISSUES TO CONSIDER**

There are a number of strategic factors that have an impact on the overall efficiency of the organization and must be taken into consideration when deciding whether, or not, to implement an ECM solution and of what type.

#### **3.1 Opensource vs Proprietary software**

A survey (ASAY, 2007, p.1) showed that professional users do prefer proprietary software. Proprietary software means that the inner code of the software is not made public. After all, when one thinks that particular software is quite user friendly, or quite fast, or quite powerful the real reason lies in its code lines and a good code is a competitive advantage. Software, namely ECM solutions, must have open interfaces so that metadata can be stored in standard databases and files are stored in their original format and not converted into some obscure format that only that specific “ECM solution” can open, but they also have to make sure support is there when you need it. Your vital information is all in there. Other reason for the choice of proprietary software is that, in general, they are easier to configure and, because of that, they tend to respond better to business change requests. Opposite to the proprietary software which is frequently configured by menus and clicks on boxes, open source software is usually implemented by code development in a case-by-case basis or by configuration files with somehow limited graphic interfaces.

#### **3.2 Compliances and regulatory laws**

Nowadays, as far as documents, records and their trustworthiness is concerned, it is absolutely necessary to comply with national and international laws, such as Sarbanes-Oxley, Basel II, GDPdU, AO or PCI DSS, just to mention a few. As said before, this is no trivial issue at the time of selecting an ECM solution, but one must be sure it will allow your organization to comply with necessary regulations.

#### **3.3 e-Discovery**

E-discovery can be a complex and often-lengthy process encompassing identification, preservation, collection, preparation, review and production of electronically stored information in response to a legal or government inquiry (Shah, 2010, p.3). The cost of losing a case in court due to the inability of producing, on time, the required documents is usually much greater than the cost of investing in the necessary IT. Here the question is not so much the cost of IT but the cost of changing the information organization so that e-Discovery can smoothly be implemented. New information organization means new paradigms of working and here we go back to the “Enterprise Culture” and “Resistance to Change” that were dealt with already in this chapter. There is a lot more than meets the eye. Email archiving is not the silver bullet as relying solely on technology is an invitation for disaster. ECM is an organizational issue supported by IT. E-Discovery is definitely a strategic issue and it relies on ECM.

#### **3.4 New paradigms**

The implementation of an ECM solution, in order to be fully efficient, will improve a number of fixed cost reductions and will be a catalytic to change existing paradigms. In the digital world with the proper ECM solution the following habits are, or should be, addressed:

- Less people to process documents since EDM solutions can be configured to automatically classify, archive and even forward documents among those who need to see and process them.
- Digital signatures will replace pen made ones over paper. Less space needed for paper archives, as well as remote processing of documents, via ECM solutions, will lead to smaller offices which means that employees will basically work from wherever they are, including home.
- Customers or employees may have secured access to documents related only with them without the need to receive the requests, retrieve documents and forward them to the recipients.

### **3.5 Risk management**

Risk concerning Enterprise Information is frequently associated with the following issues:

- Risk of Non-Compliance;
- Confidentiality Risks;
- Backup Risks;
- Disaster Recovery Risks.

All these issues are related to direct and indirect costs either in legal litigation, competition or simple survival matters. ECM, contrary to paper will dramatically ease the reduction of these risks.

### **3.6 Digital preservation**

Paper is kept, or may be kept forever, and as long as the human eyes function properly it will always be a support of information that we are able to interpret.

When we make the inevitable transfer to the digital supports, one has to plan for the preservation of the digital data on the documents. This means that is necessary to implement enough adjustments to make sure that the information contained in an electronic document or record is going to remain readable in the far future. Information is kept on records created by applications. Applications are supported by specific operating systems and these are installed in specific hardware. It is very easy to lose access to information by changes in any of these dimensions.

Not only is it necessary to deal with the technicalities referred above, but also with the legal authenticity of the documents as they are upgraded so that technical preservation can be accomplished and digital signatures remain valid.

### **3.7 Workflow and process definition**

One key concept of document management is about making sure that documents are, preferably automatically, brought to the attention of those who need to process them. This is also not a trivial issue. Papers just sit on top of desks and digital files are left on desktops or in "To-Do" folders somewhere on a workstation usually far away from a server that is properly backed-up. It's very easy for people to forget to do things and it's even easier to lose track of documents that someone else has also to know about. This is why it is preferable that an ECM solution is implemented and takes care, automatically, of calling the particular attention of each employee to the fact that documents are available, or pending, for his intervention. However planning such a system is a strategic move that requires business comprehension as

well as knowledge of technical possibilities and a great deal of corporate authority to actually implement it and put it to work.

#### **4 DRAMATIC REDUCTION OF FIXED COSTS**

EDM is probably the single software application which allows such a wide range of cost reductions. Together with cost reduction is also the possibility of revenue increase due to the providing of extra services of added value to customers. In general terms we may address the following cost reductions:

##### **4.1 Labor costs**

Since ECM will greatly save retrieval and processing time, concerning documents, it is fair to admit that overhead labour, as well as ordinary labour costs will be reduced since employees will need much less time to perform their duties. Even if an organization, for social reasons, does not actually lay off employees they can be reassigned to other organization tasks where they can boost efficiency. If for the same number of staff we can increase the service then the relative weight of labour costs decreases.

##### **4.2 Quality**

A closer control of document retrieval and security will provide an easier way of compliance with quality clauses by means of more efficient processes. Nowadays companies need to be Quality Certified for a whole number of reasons. Most of the certifications have to do with the way documents and records are processed, secured, and confirmed that have reached those who need to know about them. ECM will not only automatize a number of these tasks but being user-friendly the training costs are low and errors are kept to a minimum. Therefore, mitigation costs are also minimized.

##### **4.3 Space and utilities**

There is a lower need for space since paper documents and records may be stored in digital format, but maybe this is not the major space saving reason since 93% of the documents are already born digital.

The need for physical space shrinks, mainly because there is less people around. Some of them can now do some work remotely and others are just not needed at all anymore. This also saves money in utilities such as electricity, water or even warming natural gas.

##### **4.4 Paper based costs**

For those paper documents that still exist there are some direct possible savings. Printing within a corporation may turn out to be one of the major parcels in the fixed-costs list. Interesting enough very few organizations do keep an updated register of all the bits and pieces that are part of that "printing system". A printing system will inevitably include printing equipment, which is mostly rented by the printed sheet of paper, but some organizations still prefer to buy them together with the support contract. Other costs include paper packs for use in photocopying and formal printing, toners, ink cartridges for the personal printers, ink packs for the departmental printers, paper archives, shelves for paper archives, rooms for the shelves, security services for the rooms, etc.

Paper has usually no backup. To produce a photocopy one needs more paper, toner, staff time, double number of paper archives, double number of shelves, double number of rooms for the shelves, etc. Besides, "backup paper" has to be stored and transported elsewhere or the risk of information loss will be almost the same.

Also it is not possible to sort records under different metadata field or perform a fast search.

#### **4.5 Core-business costs**

Employees are paid to perform a certain function: basically their job résumé. If an employee uses 30, 40 or even 50% of his working hours to perform actions that have nothing to do with the individual's core-business function it means that his salary is only used to pay the remaining part of his, or her, effort. The cost per hour of actual work is therefore much higher than the boss thinks it is. The search and retrieval of a document may be three times more than the processing (core-function) time of the document itself; therefore, any ECM system that will minimize or even make disappear all the marginal functions associated with documents and records will undoubtedly increase profit by eliminating this fixed - not so hidden - cost.

### **5 SPECIFIC SURVEY CONCERNING ECM BENEFITS**

The survey aimed at collecting data about the economic value of EDM systems in organizations. The data, perceived by managers and decision makers of those organizations, was collected through an online survey and complemented with follow up telephonic or physical interviews with the respondents. It was conducted in 2011, from April to November. From the original near 500 contacted organizations only 104 replies were in fact received. 58 of the of the non-repliers argued, one way or the other, that the problem of evaluating the economic value of an information system, EDM or for that matter of any other kind, is too dependent on specific circumstances that vary from organization to organization and mainly, within each organization, with time and economic environment. As 2011 was a year of special difficulties due to the global economic crises that generates an increasing level of uncertainty within businesses, the actual perceived value of an information system such as an EDM, is very much dependent on how general economy performs and how managers face the future in terms of business growth. Even sometimes without an explicit answer to the survey, many contacted managers agreed upon the idea that there is an increasing marginal productivity of the EDMS within their organizations, as the savings offered by the EDMS are perceived to be percentage higher as business develops and expands, but the need for cost reduction can also be a significant driver for EDM implementation even in the context of an economic recession. On the other hand, public services covered by this survey, mostly Portuguese city halls, revealed an increase on EDM importance due to an increment on their activity in consequence of the economic crisis which has demanded for more public local support to certain populations.

The replying organizations were mostly from Europe (71%), many of them Portuguese Local City Halls and major corporations, but also from other regions such as North America (13%), Africa (7%) and other world regions (9%). Their turnovers vary from less than 0.5 million € per year (23%) to more than 1.5 billion € (4%), but the majority of the replying organizations have intermediate turnovers between 1 and 10 million € (20%), between 10 and 100 million € (28%) and between 100 and 1 billion (20%). Very few organizations had turnovers between 0.5 and 1 million (6%) and none was at the 1-1.5 billion ranges.

20% of these organizations have their business spread over more than 10 different countries, while 59%, primarily the city halls, only operate in one single country. 61% of them have between 100 and 5000 employees and 10% have more than 5000 workers. City halls and other public services represent 38% of replying organizations. Consulting services and utilities represent 32%. Other repliers were financial services, pharmaceuticals, education, oil businesses and other businesses.

One of the first conclusions retrieved from the results is that major differences between organizations in Europe and other regions were not detected. In fact, public organizations and big corporations seem to share the same set of problems all over the world as far as electronic documentation is concerned. They vary however with organization size, as big organizations tend to value their ECM's more than little ones.

One interesting result detected is that 65% of organizations answered that they see themselves as information-intensive organizations, rejecting the traditional answer choices of labour or capital intensive as purposed by the neoclassical economic theory. In fact, a recent research showed that existing business processes across Europe are unnecessary labour intensive (PARKS, 2011, p. 2). Information is now an important input to the production, especially the production of services, whose share in GDP is growing, especially in developed countries, which are now relocating their industries to emerging regions. Information is therefore not pure capital or pure labour. Information results from an organized system of procedures, software solutions, investments and recording practices. If, for example, a bank loses all information about their creditors and debtors, there is no amount of capital or labour in the world that would allow it to survive. Yet, American and European banks are now surviving with extreme capital shortage and they are laying off workers which leads to the conclusion that those are less important production factors than information, as the survey results demonstrate.

Most of the answers (73%) stated that the IT department is in charge of ECM systems within the organization. This responsibility is not only technical but sometimes also functional. In fact, it seems that IT departments are not only installing and configuring software to do what businesses need, but they are also defining the way system responds to market demands, and how records are kept within the system. Only 18% of organizations answered that business units did participate in designing, defining or managing the EDM system they use. This is not necessarily negative if it means that IT departments are nowadays more aware of businesses needs and constraints, but it could also mean that with generalized cost reduction business departments are now just sending part of their work to others who might be less prepared to do it. On the other hand, 58% said that administrative services did participate in those system definitions and are in fact in charge of managing the information in them, which leads to the conclusion that EDM is yet seen by organizations much more as an administrative tool rather than a strategic advantage.

An interesting result for archivists and other document related professionals is that only 62% of organizations that have an EDM system installed still maintain a classification plan for their documents as required by best practices as international standards for documentation processing. 62% may seem a high percentage but we're talking about something that used to be untouchable just a few years ago and still is a major component of ISO and other standards for documentation. Any percentage below 100 is for that matter a surprising one. Search functionalities, automatic indexing, optical character recognition, fast retrieving and aggregation of documents, virtual multilevel folders and other technologies are slowly transforming the classification plan, even an electronic one, into something not as useful as it used to be. As a consequence, more than a third of the survey respondents have considered it to be an expendable overhead and just did not implement it in their systems.

When analysing the main reasons why organizations felt the need for an ECM system, several factors were pointed out. The excessive time spent carrying and dealing with documents, referring essentially to paper documents was mentioned by 83% of the repliers but other factors were also stressed, like the compliance with legal requirements (69%), consumables expenditure reduction (62%), physical space storage (71%), document versioning (86%), better customer service (77%), people reduction (60%), need for faster collaborative work (77%), e-mail management (72%), need for mobile information (76%), finding related documents (84%). Document versioning and finding related documents are considered to be two of the most important reasons to implement an ECM system. More important than spending some extra time finding a document is to be sure that it is in fact the latest version of it. Stories are known about organizations actually losing money because a report or a business proposal was outdated about prices, deadlines, legal conditions or any other major commitment. Making sure managers have the last version of a document is a hard corporate task although it seems conceptually easy. Another frequently pointed problem was the actual difficulty organizations have about finding related documents to another particular document or situation. ECM systems allow organizations to group their documents in virtual folders and relate them to one another more than once. As a document can be in an unlimited number of virtual folders, it relates to all relevant subjects or documents and a quick search can reveal all those relations. This is something hard to implement dynamically with just the traditional classification plan and very much impracticable with paper documents. Mail and e-mail management were also problems EDM systems were expected to solve for most (72%) of these organizations. Certain important e-mails need to be regarded as documents and stored within EDM relating them to all relevant processes. Nevertheless, inbound and outbound paper mail still exists in many of the organizations under scrutiny and they are important documents as well. Outbound mail is expected to be born digital, stored, filed and printed only for sending purposes. Inbound mail is supposed to be scanned, stored, filed, and sent digitally to all recipients within a corporate workflow.

Organizations with large geographical dispersion claim significant savings with this electronic implementation although they don't seem to be able to quantify them. Very few have answered how much they estimate those savings would be. The need for mobile information is also mentioned by 76% as one of the reasons for an ECM implementation. This is also a reminder the ECM industry must pay attention to. ECM is expected to be available, not only within the organization facilities but virtually everywhere. Web access to corporate systems is considered a must, but it's not enough to meet business needs and expectations. Organizations increasingly wish to rely on mobile devices, such as smartphones and tablets, to perform their daily tasks, and they need the information to be there for them.

Some factors however, were not considered as important by organizations. Improvement to environmental conditions was considered important only by 46%, better corporate image by 54%, physical degradation of paper documents by 54%. These are not surprising results as they are indirect and less perceptible factors that may or may not impact immediately on corporate performance.

While these were the reasons why organizations felt the need for an EDM system, the following results relate to the benefits they actually experienced after EDM was implemented.

Paper, toner and other paper related consumables are traditionally pointed as potential benefits of an EDM system, but those, yet truthful and frequent factors, are far from being the most important ones. Having a centralized repository for documents was the most important issue ECM system solved for the organizations answering the survey. In fact, 83% of all replies pointed centralization as a dear benefit they have experienced with ECM. This result matches one of the major reasons that led them to implement ECM at the first place – version control. This allows us to conclude that there are significant gains in centralizing

documentation instead of maintaining separate or departmental archives. The problem with this approach is that keeping a centralized repository is often seen as a less safe way to keep information because documents are physically distant from their owners or because IT personnel typically has access to them. Although these concerns are still present in contacted organizations, 84% of them have considered that they are now more confident about their documents safety. This safety feeling results from centralized daily backups, database maintenance and other routine procedures that ensure that documents won't disappear. But safety also results from not having papers archived in cabinets or offices that an unauthorized person can access. Visitors, cleaning or maintenance personnel, or for that matter anyone who, for one reason or another, enters the organization facilities can easily access paper documents, stored in a file cabinet or left in someone's desk. If stored in an EDM system, only users with the right set of permissions can access them.

Confidentiality is another major concern about implementing EDM systems. People tend to think that, because documents are stored in the EDM system, some secrecy may be lost or classified documents are not as classified as they used to or should be. Because physical documents are stored elsewhere or just because there is a digital copy of them, the feeling of possession is no longer obvious. In fact, this is a false problem. Physical documents are nowadays born digital somewhere, so a digital copy of them always exists. The problem is whether to be sure that such a digital copy has its life cycle within a well-controlled ECM system or keep a hard copy locked in a safe while there might be hundreds of copies somewhere taken from the original word file or pdf, paper photocopies taken from mail handling personnel or literally from anyone who has been in contact with the document. Some IT people may gain access to the documents, but that is a little price to pay to a huge increase on general confidentiality. That is also what the survey has demonstrated. In fact, 86% of organizations stated that they now feel their documents are more confidential. Moreover, some of them said that they regard IT people with extreme trust and that "*techies*" usually don't even care about information kept in organization documents as they are worried about other issues. Although this could be an interesting angle for sociologists or psychologists to explore, for now it's fairly safe to state that confidentiality increases with an ECM implementation despite IT people access. Disaster recovery and business continuity are also improved by ECM presence as regarded by 73% of respondents. This is not a surprising result as centralization of documentation in only one system properly backed up and with right safety procedures would obviously lead to it. One interesting aspect, though, is that ECM implementation does not often occur from paper based systems. In fact, information systems have been around for quite a while, and the most common scenario is that ECM implementation occurs through migration from several heterogeneous systems such as legacy ECM systems, database systems, client-server apps, departmental solutions and of course paper based routines.

An ECM project often discontinues these pre-existing systems and integrates them all into one centralized solution, allowing workflow implementation and document proper sharing across the organization. 82% of organizations stated that they now have less lost documents, what is consistent with previously given replies about centralization and version control. So, one of the major benefits from ECM seems to rely on the capability of keeping documents accessible and updated rather than on paper related consumables savings. Faster decision making is another major benefit referred by 78% of organizations participating in the survey. With a centralized repository, that allows to quickly find the latest version of documents and also all related documents to a particular subject, the process of decision making is perceived to be faster and more accurate. The economic impact of these faster and more accurate decisions can be little or huge, depending on how big the business itself is, and what kind of

impact a particular decision provides. Either way, faster decision making or accuracy are always considerably important benefits of an ECM implementation.

Regardless mobile information being at the top of the benefits list, teleworking is not seen as a major benefit. 53% answered that they had detected little or no benefit from this, as physical presence of workers is still needed as the same level as before. This result relays, in some extent, to yet existing corporate culture which privileges physical presence a sign for productive and work dedication. However one should not underestimate the remaining 47%, who testified that ECM had in fact permitted workers to perform a higher percentage of their tasks from home, reducing some costs in office space, electricity and other employee related consumptions. These teleworkers were all from the private sector. Public services replying to the survey largely stated that they did not see any special interest on teleworking whether through the ECM or other IS.

Customer service has improved for 74% of organizations as response time to business solicitation became faster and more accurate, and 54% stated that if their customers had remote access to their EDM the service could be even better. That kind of access would save a significant amount of work, and therefore money, for themselves as well as for their customers. Nevertheless direct access to ECM is not a usual thing to be provided to customers mainly due to security concerns. This is a little strange behaviour since almost all of them claim to be users of net services, like banking or e-government services which they regard as safe. When confronted with this somehow inconsistent behaviour, organizations usually argue that their ECM contains sensitive documents that, if compromised, could mean significant losses. Organizations are therefore being more careful about their documentation security than with their bank accounts, insurances or government-related issues. If this behavior is justified or not it still remains to be seen, but for now it is reasonably fair to say that organizations regard they documentation, and therefore their ECM systems as something extremely valuable. This may also be the reason why 87% of respondent organizations have their EDM hosted in-house. Cloud solutions, yet available, don't seem to be attractive enough for a major movement towards them. 65% bought their own solutions and have customized software developments implemented in it. These are really software add-ons, plug-ins, or modified functionalities, not only configurations differences. Only 35% use a SaaS or a non-changed software solution, which also demonstrates how careful organizations feel they must be regarding documentation and how specific they all think their solution should be.

67% answered that version control problems, one of the major drivers for ECM implementation, are now over, which, although it is a good percentage, it doesn't match those initial 86% of people expecting version control problems would disappear. The main reason detected for this to happen was lack of standard procedures. ECM is not enough to keep documents accessible, organized and with latest version in place. Its implementation must be accompanied by a well-designed set of documentation and recording procedures. Naturally, it takes more work to do it than before. Documents must now be stored, OCR'ed, index data filed or recognized, placed in proper folders, distributed within workflows and any new version must be recorded. Although some of these tasks can be accomplished automatically, in general there is more work and attention involved than just making two holes in a paper and putting the sheet in a file. But that work is needed to collect further benefits. Therefore, an EDM system is not something where you start gaining from the first minute, it's something you must invest in, and like many other investments, if well-managed, ROI can be huge.

## **6 FUTURE RESEARCH DIRECTIONS**

Clearly most data collected so far is of the qualitative type and not quantitative one. There is no doubt about the qualitative benefits described above in the organizations that have

ECM installed and in use, but there is not a direct correlation with the savings that undisputedly are gained. Organizations do not have, on the one hand, a clear view of the costs associated with the areas where there can be savings and to have them it will mean spending someone's time which is always difficult, on the other hand there is no framework where to fill in that data in order to have a very approximate total savings amount due to the use of ECM.

Future research should be focused both on the building of that framework as well as on the discovery of the non-trivial savings that arise, for instance, from the fact that an employee is happier at his job or the fact that decisions can be made quicker by a manager. Non-trivial benefits are everywhere but the more non-trivial the greater the change needed behind them and this change also has associated costs, also not-trivial to discover.

Considering that many organizations are using social networks to market and even support their products those posts are records that not only have the associated primary value but they may also have a secondary value (or not) for legal action. Managing those postings is as important as managing files or emails but automation is in order otherwise people will just not have the time.

The trend is for the human to intervene only when quick decisions based on experience, intuition and personal knowledge are needed. Everything else should be automated. To find out what that "everything else" is, is in itself a huge research field still to be fully covered.

## **7 CONCLUSION**

For each day that goes by without an organization committing itself to ECM there is an objective cost that can be calculated which can be designated as "The Cost of Waiting". This matter has been discussed by the authors at a 2003 Microsoft conference entitled "The Cost of Waiting" where real costs involved by taking no action towards this type of solution were profusely debated. However, the cost of inaction is still an issue today. Investing in EDM, or generally in ECM, may have a huge ROI if all impacts on organization performance are taken into account. Organizations will find benefit in identifying business costs and unknown costs associated with inefficient processing of information and other hidden costs associated with lost productivity, poor customer service and underutilization (DATACORE, 2004, p. 6) Stored information has value that can be converted in cost savings or increased revenues and investing in ECM can, in fact, unleash many of those potential gains. Managers are now facing a time of making important decisions regarding the way information is managed. Those decisions may be the edge separating success from failure.

### **DOCUMENT MANAGEMENT: FROM WASTED RESOURCES TO VALUE**

#### **Abstract**

*Organizations tend to focus on very specific matters either on the technological, commercial or human resources aspects, losing perspective of the greater picture on which the waste of resources is clear but, therefore, not detected. Based on results from a 104 companies survey, this paper will focus on how ECM (Electronic Content Management (a broader area of EDM-Electronic Document Management) is frequently neglected and will show the financial benefits of its proper use with new processes created from necessary changes of cultural paradigms all over the traditional status quo of the corporate way of doing business.*

**Keywords:** *Electronic Document Management. Electronic Content Management. Economic Value. Information Systems. Financial Benefits.*

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