Paperless Office: a new proposal for organizations

Sandra-Dinora ORANTES-JIMÉNEZ
Instituto Politécnico Nacional, Centro de Investigación en Computación (CIC-IPN), Departamento de Investigación en Ciencias de la Computación. Av. Juan de Dios Bátiz, esquina con Miguel Othón de Mendizábal, Mexico, D.F., 07738

and

Alejandro ZAVALA-GALINDO
Instituto Politécnico Nacional, SEPI-Escuela Superior de Ingeniería Mecánica y Eléctrica (SEPI-ESIME-IPN), Av. Luis Enrique Erro S/N, Unidad Profesional Adolfo López Mateos, Zacatenco, Delegación Gustavo A. Madero, C.P. 07738, Mexico, Distrito Federal

and

Graciela VÁZQUEZ-ÁLVAREZ
Instituto Politécnico Nacional, SEPI-Escuela Superior de Ingeniería Mecánica y Eléctrica (SEPI-ESIME-IPN), Av. Luis Enrique Erro S/N, Unidad Profesional Adolfo López Mateos, Zacatenco, Delegación Gustavo A. Madero, C.P. 07738, Mexico, Distrito Federal

ABSTRACT

The arrival of new Information and Communication Technology on the world stage has caused a change in the traditional model of management and communication within companies and their customers. Organizations are Small and Medium Enterprises (SMEs) or large companies that are aware of this change and see the need to promote the use of these new technologies through the development of e-administration. This aims to offer significant opportunities, improve the services provided, strengthen organizations work processes and support public policies, so that social development and economic growth is favored. The aim is for sustainable development. This paper tries to explain that the paperless office is something that everyone wants and needs, but why cannot it? Why for SMEs it is more complicated?
Achieve a paperless office is possible, what is needed regardless of the size of the company, it is administrative will, since it is necessary to reform administrative processes.

Keywords: document management, electronic documents, paperless office, information technology, e-administration.

1. INTRODUCTION

For centuries men have tried using different methods and tools to carry out their work, to make it more efficient and faster, thus for more than four decades we have spoken of the concept of the Paperless office.

The Paperless office should be seen as an immediate project within organizations and constitutes an initiative of great interest for the application of new technologies in management, and good environmental practices can contribute to sustainable development.

The Paperless office concept means a change in how the technology industry, for information and management, is a "new way of working in the company". This undoubtedly brings other considerations, paradigms and feature works which ultimately impact the labor in all areas of business. The SMEs or large enterprises need technology, not only for the provision of accurate information for which solutions were developed, but also in its implementation phase, which impacts on the operation of the organization and how it is arranged. Technology, it is true, provides answers, but it is undeniable that the solution for a successful company is not likely to be the same as for another, although its organizational structure, business, industry and characteristics are similar.

Currently, systems theory and cybernetics offers different organizational models or schemes applied in the company to provide features or functionality, as appropriate for the type of industry and business in which it performs; for example, the Catholic Church which has a predominantly hierarchical structure formed by the Pope, then the Cardinals, then the archbishops, and so on, cannot benefit from a structure process in the same way as in a company that is in the business of software development; as their needs and response characteristics and operations are completely different. However, there is something similar as both types of companies handle information. Regardless of their organizational structure or line, information flows, and serves as a basis for support in decision-making. Information should be stored safely, as it serves as evidence for any unforeseen event that the company requires.

The development of any project needs to follow a logical sequence of actions to achieve certain guarantees of success in the implementation. A good starting point is to reflect on the strategy, initial conditions and goals to be achieved. It is also important to consider the institutional reality and related items such as infrastructure, regulations or policies, human and financial resources. To establish an action plan its key is to lead efforts in the same direction and define from the outset the responsibilities and commitment of the parties involved, the deadlines, budget, etc. All this allows facing the new concept of a Paperless office, within each organization.

2. IMPORTANT CONCEPTS

Concepts such as Information and Communications Technology (ICT), e-Government and Information Society are increasingly used by many sectors of society.

Moreover, the Paperless office may be considered a new term within a world that still uses paper to support multiple activities, but is changing with the introduction of ICT and e-government.

Information and Communications Technology

Information and Communication Technology (ICT) constitutes a set of increasingly effective tools to create and disseminate knowledge and its use.

For successful people in life, skills in the use of computers are as essential as basic skills in reading, writing and math.

Cabero [2] says about ICT: "Overall we could say that the new technologies of information and communication are those that revolve around three basic means: computing, micro-electronics and telecommunications; but revolve, not only in isolation, but what is more significant in an interactive and interconnected way, allowing new communication realities."

In short, ICT could be defined as technologies for storage, retrieval, processing and communicating information, for example, electronic instruments such as television or mobile phones, fax and computer.

But without a doubt, the most representative media of today's society are computers that allow using different applications (presentations, multimedia applications, communications and administrative processes in offices, etc.) and more specifically Internet and communication networks. Internet, potentially allows all computers to be connected, thereby giving access to sources of knowledge and information stored in computers worldwide.

It must be stressed that the importance of ICTs is not the technology itself, but the fact that it allows access to knowledge, information and communications which are increasingly important in economic and social interaction elements of modern times.

e-Administration (e-Government)

ICT can help public administrations or private companies, to address their challenges. However, the emphasis should not be on ICT itself, but in its combined use with organizational changes and new skills in order to improve services, business processes and regulations. Good practices in many countries show that e-Administration is a powerful means of providing better services, reducing waiting times and improving efficiency in the use of funds, increasing productivity, transparency and accountability.

SMEs (Small and Medium Enterprises) have an important role in the economy, providing economic development and social inclusion, important concepts in society. In fact it is thought that only people with digital skills can take advantage of all the benefits that the information revolution can provide.

Electronic government (e-government) is defined as a new form of governance, based on the interactive use of ICT (Internet), with the dual aim of providing better services for citizens and businesses, as well as improving internal processes of organizations. This entails optimizing internal management of organizations and the provision of electronic services.

e-Government involves the use of Internet for the development of fast, interactive utilities [9]. The e-Government includes any service, anytime, 24 hours a day, 7 days a week, from anywhere and from any access device, such as computers, mobile phones, digital television, PDA etc. In electronic commerce 4 types of interaction are identified: B2B (Business to Business), B2C (Business to Consumer), B2A (Business to Administration) and C2A (Consumer to Administration). Developments of the last two bases of e-Government have arisen. Traditional management has changed the internal administration to meet the demands of (B2A) and citizens (C2A) enterprises, giving rise to new forms of interaction.

Information Society

There is much talk of the Information Society which has become the expression of the realities and media capabilities of newer or renovated communication. The profit obtained is due to technological developments that have been consolidated in the last decade of the previous century including television, storage, and propagation of video, sound and text which have been compressed into storage media or through signals that could not manage all that data if they had not been translated into digital formats. The digitization of information is the lifeblood of the new information revolution. This expression hitherto complex will surely continue to evolve to take on new formats in the medium term on the Internet.

The global environment induces organizations to change, but also influences the internal pressures almost as powerfully as the social environment itself. Therefore, increasingly a new style of work is required so that individuals can overcome the limitations of space, time zones or geographic location. People who work in information and knowledge as well as people using qualities such as creativity and innovation are essential in the new Information Society.

Nothing seems to stop change or anticipate a possible decrease in speed. However, this gives the impression of increasing severe pressures adding to the internal structures of any organization to learn more in less time to make the right decisions.

It is a fact that this new kind of society is in fact the basis for economic, political and social development in this century. In a process that feeds itself, new technologies empower society to handle large volumes of information, which, in turn, generates more knowledge in a continuous upward progressive circle.

Also it is difficult to draw a clear line between knowledge and information, with the aggravating circumstance that the computer becomes a difficult point to treat concepts, "information society" and "knowledge society" as synonyms. It seems that the information is accumulating faster than the knowledge and the process of transforming information into knowledge is lagging behind.

Therefore, it would be better to speak of a society of information and even data. However, this does not negate the fact of a knowledge society for the same reasons of accumulation and transformation.

The development of the information society implies human beings strengthened by confidence in their own value.

Paperless Office

The Paperless office concept is new and difficult to understand in a world that still uses paper as a support for multiple social, communications, advertising, financial, educational uses. This habit has prevailed in civilizations since paper has increased in recent decades. With the introduction and increased availability of ICT, far from reducing the use of paper it has soared in consumption.

The impact of ICT is increasingly evident in the workplace, public or private setting, as they have automated most of their processes, achieving the improvement of procedures and products and services for customers, without significantly diminishing paper consumption. The causes are many and varied such as lack of new technologies, inappropriate use, the initial rejection of change, custom printing and the belief that a printed document is more valuable than a digital one, etc.

3. INTEGRATION OF ICT ORGANIZATIONS

The information society requires new demands of citizens and new challenges to achieve the organizational level.
- Have criteria and search strategies and selection of proper information, allowing access to relevant information and quality.
- Knowledge of new communication codes used in the new media.
- Promoting the new media help to disseminate the universal values without discrimination to any group.
- Train critical and responsible organizations to have a clear view on social transformations that occur and to actively participate in public.
- Adapt organizations and training to the continuous changes that occur at social, cultural and professional levels.

ICT has been integrated in organizations gradually. A first theoretical reflection that employers conducted on the suitability or otherwise of these technology to conduct business, has continued the analysis of the use of these technologies and their linkage to the theories of marketing, along with methodological proposals for implementation.

The use of ICT does not necessarily lead to the implementation of a particular methodology of cost / benefit. Business processes integrate ICT according to a traditional methodology in which the process of automating the business is emphasized, where the employer receives the information and transmits it to the information system. However, employers wish to guide the processes of their organization, foster interaction and collaboration with customers and suppliers. ICT has a strong ally, mainly in the different resources and services of the Internet.

The impact of ICT on organizations, regardless of the business engaged possibly favors one of the biggest changes in the field of Large, Small and Medium Enterprises. Through the Internet the information and resources offered in the organization opens a new window that allows access to multiple resources, information and communicate with others, which in turn provides the ability to easily access known personalities, different opinions about the products offered, and the needs of current customers. On the other hand, new theories focus not so much on the company but its processes, and the client relates to this, as they have a good ally in the media.

As demonstrated by several studies, the use of ICT in organizations depends on many factors (infrastructure, training, attitudes, support from senior management-team, etc.), among which the most important is the interest and training for the employees, at both instrumental and methodological levels. The steps to be followed to achieve the integration of employees (users) to technological resources (ICT) organization, is through an evolutionary process:
1) Access: Learn the basic use of technology.
2) Adoption: Use technology to support the traditional way of performing their work.
3) Adaptation: Integrate technology into traditional practices of their work activities, encouraging greater employee productivity.
4) Ownership: Activities interdisciplinary, collaborative, project-based business. Use technology when needed.
5) Invention: discover new uses for the technology or combine several technologies creatively.

4. ICT AND JOINING E-GOVERNMENT WITH GOOD ENVIRONMENTAL PRACTICES

The contribution of public administrations in the use of ICT is essential to promote a change of attitude in society.

The beauty of the application of new technologies through e-Government is being definitive in the technological modernization of its structures and procedures. To achieve this, they are pursuing a number of changes and adaptations, not only technological, but also cultural, administrative, organizational and legal, which will translate into greater effectiveness and efficiency of services offered by companies.

Organizations and particularly SMEs, are aware of the importance on business development using ICT and e-government which is no less an important factor in today's society for the application of good environmental practices in their processes.

The enormous potential that ICTs can offer in environmental improvement is still being determined and the use of e-administration does not imply a commitment to good environmental practices.

If the Paperless office concept to implementation of new technologies is limited, it may fall into the trap of being defined as a virtual office.

Applied to e-Government, both share the goal of allowing customers telematics access to the services the organization offers, improving agility and quality thereof. The Paperless office also includes a new target, minimizing or eliminating the use of paper in these services, with benefits for the environment. If at first the connection between ICT and the environment was a fuzzy concept, now it manifests as a good combination. Therefore, the Paperless office concept from the perspective of environmental commitment is for the effective use of e-government to minimize the impact on the environment by reducing waste.

Large or small organizations must make, individually and nationally, this commitment and take the management measures and techniques to ensure better environmental performance, as part of its cooperation for sustainable development of Mexico and the world.

5. BENEFITS AND CHALLENGES OF THE PAPERLESS OFFICE

The implementation of a Paperless office has many advantages, not only from an environmental point of view but also for the internal functioning of organizations and for the benefit of customers.

However, this is not without difficulties, especially techniques such as electronic processing involving constant adjustments to innovation and technological developments. Some of the benefits and difficulties of the process of establishing the organization, customers and the environment can be seen in Table 1.

Table 1 Benefits and difficulties of the Paperless Office

Benefits	Difficulties
<u>Organization processes and services.</u> - Centralized management. - Processes and effective and efficient services. - Increased efficiency by integrating and simplifying processes. - Increased productivity. - Optimization of resources. - Reduction of errors. - Decreased costs (administrative, communications, stationery, etc.). - Total and easy access to information from different departments and positions. - Better control of information. - Increased control and security by decreasing loss of files, restricted by confidentiality levels, etc. - Elimination of duplicate documents. - Ease of query data. - Decreased time location information. - Decreased response time, increasing the speed of service. - Reduced storage space. - Reduction of copies and versions of the same document. - Diversification and increased number of services offered. - Improving the work environment and organizational communications. - Personal better informed and more involved in the processes of the company. <u>Customers, companies and other entities.</u> - Quick and easy access to information and services of the organization. - Increase the availability of services, extension of hours of care 24 hours a day, all year. - Improving the quality and speed of service by reducing response time. - Decrease waiting time and attention. - Multiple users can perform the same procedure simultaneously. - Avoid transfer to face service points, saving time. - Improved information to allow monitoring procedures and requests made. - Improving the relationship between organizations, companies and customers. <u>Environment.</u> - Save paper. - Reduced waste disposal costs. - Reduced environmental impact:	These are presented for the three classifications that are broken down into Benefits: - Difficulties in implementation processes, especially technical and cultural changes regarding attitude and aptitude towards new technologies. - Investment. Greater initial investment is needed in equipment and software (fax, scanner, databases, Internet, Intranet, etc.). - Expenditure on staff training and organizational changes. - Technical difficulties and integration of applications, electronic signature, etc. - Constant innovation of computer systems, which requires continuous renewal. - Difficulty reading on computer screens. - Adapt the designs of processes and services to computer formats with easy handling and adequate accessibility. - Cultural barriers in the organization and users. - Bad habits to print everything. - Distrust safety storage system in computerized form. - Training of staff and customers. - Interest in the use of ICT can be an obstacle. - Unequal access to customers, companies and other entities to new technologies. Especially internet connection. - Lack of experience and knowledge in the use of ICT.
- Reduction in waste generation. - Reduced consumption of natural resources used in the manufacture of paper, trees, water and energy. - Reduced pollution caused by bleaching paper products. - Reduced consumption of energy used in printing, copying, etc. - Reduction of pollutant waste such as toner, ink cartridges, etc. - Contributes to sustainable development, responsible consumption of resources does not compromise the social and environmental development of future generations.	

6. ADVICE FOR A PAPERLESS OFFICE

Here are some tips that should be considered when you want to get to have a paperless office:

A paperless office is not achieved in the overnight. A home office or business will not get rid of paper a day after having implemented a paperless system. It is a progressive task. You can begin scanning all the bills that will be input to the system and then go to expand gradually to include all business correspondence. Initially companies feel that a lot of work, rather than a support. For example, it has been found that in the case of medical, case records of patients still do not rely on a 100% paperless system. They make backups of information in the system, but also printed copies of them, because they are not comfortable with not having tangibly records.

"Paperless" It means "less paper" unfortunately humans still fails to conceive of the absence of the paper. It should be noted that it is possible to scan all documents received in the business. It is possible to virtually eliminate paper faxes, generating them on the computer and creating folders to keep them sorted in a computer system. Currently, it is possible to electronically sign or use with a digital stamp to give validity to the outgoing documents of a business or company. Firstly, there will be some paper present activities. You should also take into account the environment and the fact that not all suppliers and / or customers will want electronic communication with the company.

Every business or company has to adapt and not all do the same way, nor all the same does it take. Say as a manager, you want to achieve a paperless office have not necessarily mean that is achieved. All partners and staff of the company have to accept and adapt to the transition, seeing it as a new way of doing business. The change is not necessarily easy. People are used to make photocopies, fax paper documents, now with the decision of a paperless office, must change their perceptions and ways of working. All customers, enterprise users, suppliers, etc. must learn new routines and adapt to own them until, as previously done with the use of paper.

Use of electronic documentation (likes billing, statements, tax returns, etc.) Currently, companies use electronic invoicing, which is already supported by the government in Mexico, this has enabled customers to reduce costs and increased safety in handling such documents. Understanding the business is important and will reduce the need to create legal

documentation could eventually end up in a crusher. Electronic invoicing, among others, is part of the way to future, have tools that facilitate the generation of electronic documentation, it is to achieve competitiveness and permanence of companies in Mexico.

Advertising of products and services not printed. There are several companies that send advertising by way of catalogs where they offer their products and services. It is a good measure to promote the business, but damages the environment, because most of this kind of propaganda ends and broken in the trash, even creating unnecessary waste. Currently, this can be done through email, which should give us the option to take our mailing list or you can consult and even buy online. What companies need to recognize is that the supply of products does not have to be overwhelming and that at present; it does not need the paper.

Be aware and ready for the switch to a paperless office. When companies or rather, when the owner of a company is deciding to move from the traditional way to a paperless office, ask yourself what is the worst or the best that can happen if I no longer have all the information in printed form? It should also be questioned on the measures and ways of retrieving information and if you agree Intranet applications or use the Internet. Besides the information I really need to be stored? A paperless office, involves a change in ways of thinking, accept that not be the same, but definitely better.

7. GOOD ENVIRONMENTAL PRACTICES

Good environmental practices involve saving paper, hence the name Paperless office. But to achieve savings, the following is necessary:
- Use the form if possible.
- Encourage the use of e-mail for internal and external communications.
- Save and distribute documents digitally, sharing information using the possibilities of Intranet, e-mail, etc.
- Revise the text on screen before printing, for spelling, margins, "preview", reducing font size, etc. texts to avoid errors.
- Adjust the documents to fit two pages on one side, if you must print consultation documents.
- Photocopying and printing duplex reduces paper usage by half.
- Recycle paper already printed on one side for internal documents, notebook, erasers, faxing, etc.
- Don't set up the fax with a cover page, it uses less paper and transmission is faster.
- Preferably use recycled paper, now its quality is similar to conventional.
- Provide specific containers for collection and subsequent recycling of discarded paper.

8. LEGISLATION

It is important to know the legal framework in which to operate the organization, which law applies to the project, for example, in Mexico, the legislation considered relevant to be taken into account and kept in mind:
- Electronic signature. To ensure information security and data protection through the construction of centralized platforms

with Service-Oriented Architecture and its widespread use for the procedures that citizens hold with the government and private companies and from within the government, between public officials.
- Federal Law of Transparency and Access to Public Government Information. Which aims to provide what is necessary to ensure access of everyone to information held by the branches of government, the autonomous constitutional or legal autonomy bodies and any other Federal entity.
- Federal Institute for Access to Information and Data Protection (IFAI). Agency which guarantees the right of access of persons to public government information. Protects personal data that is held by the Federal Government, as individuals and ruling on the refusal of access to information that the departments or agencies of the Federal Government have made.
- Federal Consumer Protection Act (LFPC) contains general provisions on electronic commerce in Chapter VIII bis (Of the rights of consumers in transactions through the use of electronic, optical or any other technology).

9. PAPERLESS OFFICE IN SMEs

Technological advances open up possibilities for innovation in business and SMEs are no exception.

These developments lead us to reflect on the processes of cost / benefit of companies and carry a continuum of professional development within organizations.

The Paperless office, located in the ICT gives new ways to perform activities:
- Analysis and evaluation of technological resources and their use within each company and for each project within.
- Integration of the media to achieve economic benefits for the company.
- Design strategies that protect the environment and to promote the integration of technology resources in the different environments of the company.
- Design of multimedia materials to promote the marketing process of the company making profits and reduced costs.
- Development of digital materials.
- Design and evaluation of commercial software that can support business processes and reduce paper use and waste generation that harms the environment.
- Design, development and evaluation of models of work, customer contact and distribution and retrieval of information at a distance, using ICT, such as Internet.
- Design, implementation and evaluation of technological resources.
- Planning and design of marketing techniques, customer relations, distribution of propaganda and loyalty campaigns, supported by technology.
- Development, implementation and evaluation of projects within the company, mediated by technology.

10. BEST PRACTICES

The creation of a paperless environment within an enterprise is an important to keep up with the development of technologies and stay competitive step. One goal of this research is to

provide information to companies; SMEs in particular, can be used to make a smooth transition to a paperless office.

After considering the experiences of other companies that have successfully managed the transition from a traditional office to a paperless office, to benefit the environment; the creation of a planning and changing the mindset is recommended, become aware in improving the environment, before starting the transition. Based on the definition of the term "paperless office" general guidelines for storage planning documents, planning the roles of people within your organization and the implementation of a paperless office they are provided.

The office desk of a professional, covered with documents, binders and folder files, is quickly becoming a historic relic as the contract cleaning industry is embracing the paperless office concept. Building service contractors are realizing the cost, space and resource-saving resulting from digitizing documents while coming to realize that going paperless is essential to efficiently compete in today's business climate.

11. CREATING CONSISTENCY

Before making any changes, you need to have a strategy, for example, if they are to scan documents to employ digitally is necessary to determine permissions to restrict access to files and folders, also create naming conventions for documents and folders for recovery it efficient.

Should be ready for is the cultural shift that is needed when going to a paperless enterprise. Some of their older employees may not be as receptive (compared to the younger staff) to the broad use of technology that is required to go paperless.

One of the keys is for leadership within a company to embrace paperless. Instead of telling staff to use less paper, company leadership should lead by example by being seen with their laptop or tablet instead of a stack of paper.

Two of the important components that come into play in terms of the cultural shift are control and fear. Employees like to have their files and documents all to themselves while they fear destroying the hard copies after the hard copy has been digitized.

The consistence and proper use of information and its storage has to do with culture, otherwise the paperless office will not function.

The company will have to invest in and that will have huge costs and capital investment. Hardware that may need to be purchased includes scanners, servers and communication devices such as smartphones and tablets for those in the field to keep in touch. Software that may be needed consists typically of integration solutions that help different systems to communicate with other systems, document archiving and communication applications.

Investments can be gradually and incremental toward becoming a paperless office. They can start by printing on both sides of a sheet of paper and use a projector instead of hand-outs during a meeting, buy a single scanner and not all teams first, can be introduced gradually to cover at a time areas of the company. You can begin by key areas, until the organization is completely covered.

It is not recommended implementing the paperless office in a single step across all departments in your firm. To limit the issues you may encounter during this process, consider starting your implementation in a single department, or a small group of departments. This will allow you to refine new procedures before incorporating them throughout your company.

Going paperless is as much about reducing paper use as it is about making smarter choices about the type of paper used, such as that with recycled content. Beyond that, contractors have to make a commitment to utilizing technology in order to save even more paper.

12. PAPERLESS INICIATIVE

The information era concepts of electronic document management, work-process automation (workflow), optical character recognition and imaging are essential elements of the paperless office [6].

They are required to handle the following concepts within the company:

- Document management.
- Workflow.
- Intranet.
- Enabling technologies.

That is why we should definitely:

- First, developing a document storage plan before transitioning to a paperless (or less-paper).
- Determining document storage guidelines.
- Organizing documents (You can use a commercial tool or tailored to the company).
- Create a file structure.
- Date-specific document folders.
- Creates a folder for each program within the client drawer.
- Organizing your firm's documents.
- Determining drawer naming conventions.
- Defining structure for document folders.

After deciding how to store company's document, must be considered the personnel roles and hardware requirements associated with implementing a paperless office environment.

Further, before implementing new methods of storing your business's documents, you need to consider possible changes to your firm's hardware requirements and plan for any necessary upgrades.

After you have decided which documents your firm will store, determined the storage structure and personnel roles, and identified hardware requirements, you are ready to begin implementing the paperless office. We do not recommend a one-step, company-wide conversion to the paperless office.

Instead, consider implementing the paperless office in a single department or small group of departments first.

This will limit the scope of any issues you encounter and allow you to refine your company's approach to electronic document storage before incorporating new procedures and hardware throughout the company.

13. SUCCESSFUL CASES

Organizations are losing millions of dollars to invest in productive work time searching for information. Millions more in the excessive use of paper between copies and printouts of information, most of the time existing.

The Company Cuauhtemoc Moctezuma [3] adopted this model of environmental conservation, which through various programs the achieved saving was 6 382 boxes of 5000 sheets of paper. Therefore, Cuauhtemoc Moctezuma through the duplex printing achieved saving was 50 percent in paper consumption.

The company handles a "paperless" program have three main advantages:
- Money saving: double-sided printing lets you save money because you spend half the standard printing paper
- Space saving: less paper, more place
- Environmental Care: fewer trees felled and less fuel to transport them

Another success of the "paperless" is the financial institution BANORTE [1], which has worked to create a culture of responsible consumption of paper and toner among employees. The savings achieved during 2013, in the paper consumption was 35% with respect to the base year of the program corresponding to each area of the institution (2010, 2011 or 2012). Is approximately equivalent to a cumulative savings of about 1,100,000 Mexican pesos and the important thing is to continue working so that this year (2015) the goal of 50% savings range set for 2014. BANORTE handles recognition program "Paperless Hero" scope for projects that besides improve the efficiency of internal operations, generating an environmental benefit.

Lexmark Mexico [8] it mentions that the use of digitization of information is not just talking about technology, but modernization and sustainability. Therefore, he has conducted the most recent efforts in the public sector in Mexico, to take the decision to move towards a paperless government. Lexmark shares a success story in which its alliance with the US government, has allowed a saving of 1,000 million dollars in the different technological solutions implemented to scan individual files and data of the nation.
Lexmark has a production plant in "Ciudad Juárez" in Mexico and it is the first to obtain the certificate *LEEDS* a reference standard in green building environmentally worldwide. With the program "Lexmark Planet" the life cycles not only of information but also of any device, are weighted on the road to building recycling mechanisms.

14. SMES MUST STEP FORWARD TO A PAPERLESS OFFICE

The success stories that were mentioned in the previous section, it should be noted that SMEs are not dealt with.

Whenever you talk to large companies on the ability of having a paperless office, they immediately think of reducing paper consumption by installing a system that allows scan documents and create secure electronic document repositories.

But if this idea you try to take SMEs, particularly family businesses where there are elderly people who all their lives have worked and brought their business with the support of paper, this is not easy, plus most of the SMEs do not think or not considered an investment in technology, much less to build systems that digitize its documentation.

However, the requirements of customers and suppliers, regardless of the service or product in question, the current need to generate invoices and other electronic documents, has made awareness among SMEs must adopt new technologies and many of them They take the commitment to reduce paper.

The government has good intentions to "achieve paperless" but getting companies and SMEs, to take the decision is the hard part.

It will try to explain briefly how you can overcome the road to a paperless office.

Growth of SMEs to successful solutions
SMEs they should submit a proposal for clear, reasonable business, which really enable them to use software tools to help them use new technologies and put them on the way to get rid of the paper. The product to be successful, must be entered first with the teaching of the change must be told that the use of technology, savings will be achieved and increase its permanence and visibility in a competitive market like this.

Why a paperless office in SMEs is necessary?
What person or business would not want to reduce spending on paper and have easy access to all the documents? It is known that one ton of recycled paper is equivalent to saving 17 trees. Furthermore, the office will have more space if cabinets are eliminated. The document search times are reduced. They are able to find information when they need it. Lost documentation problems are avoided by accidents such as flood or fire.

The paperless office is for everyone
Every company should look for solutions, or identify problems and not give excuses for not proceeding.

Common excuses often heard are:
- *We do not have a scanner to scan documents*. Today the cost to purchase a scanner is not as high, and come even including multifunctional desktop.
- *We have no infrastructure or need improvement*. The current operating environment in enterprises is based on Microsoft software and there is free document management for the platform, so this should not be an excuse.

The "paperless office" promotes the exchange of information, since it is now easier to do so (but not everyone likes to share).

This leads to the need to standardize documentation such as contracts and proposals and also means how to run the workflow visibility across the organization (not everyone likes to monitor the progress).

A motivating the "paperless office" is that it manages to avoid hoarding and storing corporate documents on the desktop.

Individual ownership of information is avoided (with the idea that information is power).

Employees must comply with the new rules of taxonomy and metadata that allows everyone to easily find and work with the latest copies of the documents.

No more secret files on desks for private use, you just have to decide how information is displayed.

Deciding on a different twist: paperless
In spite of the difficulties and resistance to the "paperless office" the payback is obvious and at some point in time some form of implementation is coming. There are two approaches:

Deciding on the change, without thinking. It's an approach that avoids fear, but need big budget, time and resources. Implement the "paperless office" using the big bang theory – do it all at once.

This requires a lot of preparation and consultation with employees. It absolutely requires a strong visible mandate from senior management. It requires a formal certifiable process of employee training. It needs detailed documentation of the re-engineering processes. It affects every corner of an organization. All-inclusive participation is not negotiable. It probably will be very expensive and requires outside consultants. This compresses a lot of activity into a specific time frame that is rarely met. The project is; all or nothing and succeeds or fails, but usually failure is not an option. Resources will be consumed and money will be spent indefinitely until implementation is complete.

Beginning slowly. Starting at the departmental level is a low risk and practical approach to implement the "paperless office".
Often it is departments themselves who recognize their problem and want a solution – they're very motivated. The cost and risk of a departmental solution is not high and if it never expands beyond the department it can still be justified. Training is simple and the IT effort is not massive.

The benefits of working without papers: It is estimated that a worker takes an average of four hours per week looking for lost information and fifteen minutes a day to accommodate your area.

"One advantage of working without papers is a better utilization of the working day, as the location and search scanned documents becomes more efficient".

By working directly with the document on-screen time demanded by its location, recovery, Re-archiving and associated costs are reduced.

This trend reduces the chances of losing documents and enables access to files can be controlled by preset security levels. Also, a reduction in expenses that the company engaged in printing costs, paper and file records.

But above all, incorporate this and other sustainable practices within an organization, it is essential to reduce the ecological footprint and play an active role in caring for the environment.

Let's take the next step
Any company looking for and want to find ways to reduce paper, switch to a paperless office keeping your documents safe and following the required standards. A desk in a paperless

office is known as "Ground Zero", that is the first place you should stay clean.

The first thing to do when you decide to start is achieved or convert paper to electronic format.

It is not an easy task, as it involves a cultural change to promote the exchange and sharing of intellectual property.

Users of a paperless office, they have to be sure that the long-term benefits are greater and IT practices will ensure information security, avoiding duplication of documentation.

Towards a paperless office for SMEs
If your budget is low, why waste it?

The paperless office should adopt productively for actual use and not as a fashion trend.

A "framework of solutions" must be set suitable for SMEs.

This solution framework, in the first instance should provide guidance document management and precise knowledge of workflow SMEs.

Gradually you get SMEs to adopt and implement, to have a Document Management System, later will be in a position to achieve a paperless office.

Essentially a paperless office needs to automate workflow, is why it is mentioned that the first thing to do is clearly SMEs identify, so, you have the ability to interpret the information contained in the documents, not only store, know where they come from, where they go and why they are needed.

What an SME should do it is:

- Having well established and understood its administrative process.
- Knowing where the information is derived, the sources of origin and destination.
- Achieve everything in the shortest time possible.
- Recognize that must actually store and what not.

The paperless office is no utopia.

Until recently the documentary software was considered a luxury, something dispensable. However, in recent times, it has become a strategic component for organizations.

Increasing productivity, streamlining internal processes of a company and cost reduction are some of the keys to this evolution.

There are many small and medium enterprises have begun to reduce the number of prints with applications that control your printers and on the other hand, they have had to implement the electronic invoice in your accounting processes.

There was an important change of mentality in recent years regarding the cost savings and other benefits that can be obtained with document software solutions.

However, small businesses there are still some ignorance. Keep in mind that many SMEs do not have or cannot have

their own systems department and responsible business, is much more concerned to take the company forward to analyze how can this or other technology help prosper your organization.

Many small and medium enterprises may have to go a long way as far as technology is concerned. But, thanks to the democratization that have experienced IT, which are at the service of small companies applications that were previously only available to large, the change is only a matter of time.

15. CONCLUSIONS

The purpose of a Paperless office is to use information technologies and communication to improve the quality and accessibility of services by reducing costs and protecting the environment.

A Paperless office can reduce costs for both businesses and governments and facilitate transactions between administrations, management, suppliers and customers.
This work has created a little awareness and promotes the idea that the concept of Paperless office is a reality.

However, from experience, the authors know that the success of any documental management program always is born of an organization study. In light of the processes and procedures the information is unique and not due to considerations such as recording medium in which it is located.

Not all electronic information is essential and not all essential information is in electronic format. This forces the professional to take a more active role not only as custodian of information, but as an observer and processes reviewer on stage management, because only the professional knows the value of information in time. Further electronic information is dynamic and usually due more to concepts of immediacy that true conservation policies.

The incorporation of technology is not bad, nor counterproductive, simply conforming specific criteria, and supports the needs of the organization obeying a structured implementation plan.

But how will the future? A paperless office will be really possible? The paper continues to play an important role in everyday life and business. Particularly, it is the older generations hardest to rid them of the paper. We believe that a paperless office possible, be achieved for small businesses and homes. The use of paper is a cultural thing, but you can change achieved, the paper can still dominate, which leads to think that the paperless office is a myth; it is not, the important thing is to change the idea that people and businesses can reach their goals without paper.

With each technological advance, the information and the workload is multiplied, the digital revolution is beneficial for the industry and the people in general and for the role, in particular. At first glance, it seems that paper consumption can be reduced radically, thanks to technology.

Right now, "a paperless office means a work area where the use of paper has been omitted or considerably reduced."

16. REFERENCES

[1] BANORTE. **Informe Anual 2013**. Online: January 15, 2014, http://www.banorte.com/portal/personas/home.web, http://www.banorte.com/doc/Informe_Anual_2013_esp.pdf, 2014.

[2] Cabero, J. **Cibersociedad y juventud: la cara oculta (buena) de la Luna**. En AGUIAR, M.V. y FARRAY, J.I. *Un nuevo sujeto para la sociedad de la información*. A Coruña. Netbjblo. 13-42. Online: January 7, 2014, http://tecnologiaedu.us.es/bibliovir/pdf/ciberjuve.pdf, 2014.

[3] Cuauhtémoc Moctezuma. Online: December 14, 2013, http://www.cuamoc.com/es/content/bienvenido-al-sitio-de-cuauhtemoc-moctezuma. 2013.

[4] Dimopoulos, George. **Paperless Joy: Paperless Business & Lifestyle Design**. Digital Life Artist Inc. Baltimore. 2008.

[5] Hesselben, F. et al. **La organización del futuro**. ISBN: 950-641-255-3. Granica, 1998.

[6] Hammer, M. **Reengineering work: don't automate, obliterate**. ISBN: B00005RZ34, July 1. Harvard Business School Press. 1990.

[7] Keary, M. **Document management: new technologies for the information services manager**. The Electronic Library, 18(2):137–146. 2000.

[8] Kelley, T. **The Art of Innovation**. ISBN: 0385499841, January 16. Doubleday. 2001.

[9] LEXMARK MEXICO. Online: November 21, 2013, http://paperlessmx.wordpress.com/2013/11/28/digitaliza-tu-empresa-en-5-pasos/ .2013

[10] Liikanen, E. **eGoverment providing better public service and wider participation for citizens**. Stockholm, 29 june 2001. Speech/01/319. Consultado el 27 de diciembre de 2014, http://europa.eu/rapid/press-release_SPEECH-01-319_en.pdf, 2001.

[11] Pérez Tornero, J. M. - comp. **Comunicación y educación en la sociedad de la información: nuevos lenguajes y conciencia crítica**. Editorial Paidós. Barcelona, España. ISBN 84-493-0850-X. 2000.