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The Cloud Solutions in DMS, the application and the reality

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Abstract

The paper discusses the technical application of cloud computing and establishes connection to any worthwhile solutions. Cloud Computing is still missing the wide recognition and satisfied implementation as a result of concerns in the area of data protection as an important issue. Especially in the area of documents management, companies could benefit a lot from the positive properties of using the backup and archival content storage. The paper contains results of our research based on two studies. The first study was carried out on sample of students with experiences with cloud solutions. The second study contains views from companies.
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Keywords:; Document Mangement System; Dada Storage; Data Protection; Cloud Computing; Cloud Solutions

1. Introduction

Nowadays, companies have to compete within a complex of challenging factors, from the globalization, technological development and the rapid dissemination of new technologies, to the development and exploitation of knowledge (Papula & Volna, 2013). New and more developed technologies can help managers in many aspects of running a company, from marketing perspective to operation processes (Mokrisova, 2013).

Over the last few years, a cloud computing is often referred as a new phenomenon not just in IT world but also in business practice. Cloud computing brings many benefits and is attractive to managers and business owners as it eliminates the requirement for users to plan ahead and allows to start from the small and then increase resources only when there is a rise in service demand (Zhang et al., 2010). Cloud computing typically involves over-a-network, on-demand, self-service access and has the potential to improve the way businesses and IT operate (Carroll et al., 2011). There is a noticeable shift form traditional computing to cloud computing due to its benefits, mostly in area of cost saving, scalability, mobile storage, availability of access, energy saving or environment benefits (Sether, 2016).

However, cloud computing is still missing the wide recognition and the satisfied implementation as a result of concerns in the area of data protection as an important issue for many companies. In the area of document management systems, a company could benefit from the positive properties, especially using the backup and the archival (long time depot) storage of the content. The first aim of this paper is to summarize the technical application of cloud computing and to exemplary establish the connection to any worthwhile application in practice of organizations based on example of Document management system (DMS). The second aim is to bring current opinions, experiences and views on cloud computing based on two independent studies. These studies will allow

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summarize and compare results to conclude with new insights and recommendation for future development of cloud computing solutions.

The paper is organized as follows. After introduction, in the literature review we discuss the main characteristics of document management system and the possible usage of cloud computing in this area. We also look at the benefits and risks connected with application of cloud computing. In the next chapter we describe the data and methodology of our research. The results and discussions are presented in the chapter Results. Last section summaries and concludes our main findings and recommendations.

2. Literature Review

2.1. Document management system

The term "document" is usually defined as an information carrier containing written or drawn information for a particular purpose, so information can be easily stored, transferred and handled as a unit (Björk, 2002). Organizations need to carefully manage their information to insure its properly handling and in the same time make it available for daily usage. The increasing amount and the variety of documents make management and efficient usage of information more challenging and achievement of efficient management of documents becomes an emerging issue (Kao & Liu, 2013).

Document management system (DMS) was created out of archive systems to simplify management and access in the 1960s and have been continuously developing since the end of the 1990s (Steffen & Papulova, 2016). It stands in relation to knowledge management and content management systems (Schütz et al., 2004). DMS should provide a system to work with documents efficiently; practically it involves any system, device, means and methods used for the treatment and disposal of documents. Nowadays, document management systems are computer systems (programs) used for storing, archiving and sharing electronic documents. According Hernard & Gaya (2013), the term "system" should be understood not just as IT application but also considering people, processes, tools and technology. Integral part of a DMS is a system for managing the flow of documents, the document workflow. DMS is also connected to knowledge management which is a concern of many disciplines (Kuhlen, 2004). It is still a challenge for organization, some companies automate knowledge management and others rely on their employees to share knowledge through more traditional use (Hansen et al., 2000). The modern database systems to manage knowledge should consider following aspects (Ohly, 2010):
- Software and computer models (technology aspect);
- Sustainability;
- Longevity of the data carriers (Cloud computing);
- Formats (encoding images, symbols, language, meta-language...);
- Processing storage and systematic organizing (SQL selection);
- Organization, guidelines, classification systems (norms, rules and standards).

Despite the investments, DMS produces quick savings due to optimized and shorter processing times, more fluid workflow and significantly more comfortable handling. If a company is certified according to ISO 900x, these processes can run even faster. DMS can cope with exorbitant amounts of electronic documents in enterprises and public administrations (Gulbins et al., 1999). As Klingelhöller (2001) indicated, the amount of information increases inexorably and equally to its targeted availability decrease. In the literature, there are already many models documented with calculation how many savings with document management systems are possible. Such a model requires a joint target agreement. Which targets are relevant in these calculations, companies are on the one side and manufacturers of document management systems on the other side. The objectives should be clarified together and set. To install and maintain document management system in existing organizations requires that system should to be used. On the agreement on common objectives stands or falls the later usage. What will be achieved with this investment can be used as a way to approach a target agreement managed by the SMART (Specific Measurable, Accepted, Realistic, Timely) principle (Robbins & Coulter, 2016). With this tool, a target definition could be found quickly and structured. If targets and solutions are not congruent according to the requirements, they are not used later. The requirements on the mutually agreed goals to be achieved with the complete system include requirements for the software, specifically on the suitability for use of the software. Here are some standard benefits (EN ISO9241-11:2017-019):
- Effectiveness of the solution of a task;
- Efficiency of the handling of the system;
- Satisfaction of software users.

A key point of a transition to an electronic document management system is to save the operation data, documents, and the managing data, metadata, and to be able to manage them. Among others, this brings benefits for easy and fast backup and archiving. Here, it is possible to use a new technology, cloud computing, which is so far not yet highly spread. Certainly, to use less paper in the company or have a company without paper will be not possible, but it can be reduced in consistent implementation of the opportunities available. Especially in the area of document management followed as the integration and documentation function with a view to large and steadily growing volume of content (documents), security (tamper-proof) and reliability (clearly recoverable originality), it is very important to manage the technology of cloud computing (Schütz et al., 2004). It can provide great benefits that can be expressed qualitatively and monetarily. The benefits will be clearer …