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DEVELOPMENT OF CLOUD TECHNOLOGIES AND SPECIFICS OF THEIR USE IN E-COMMERCE

JEL Classification: L81, M2, O33

Abstract

This thesis describes possible application of cloud computing technology in e-commerce. The aim of the thesis is to determine in what ways do cloud computing technologies affect e-commerce businesses as well as what are pros and cons of implementation of such systems. Analyzed what is cloud computing in e-commerce, what types of cloud computing are used and primary reasons for its use today. Conclusions are made about the encouraging future of cloud computing in different sectors of economy, specifically its importance and necessity in e-commerce today for substantial lowering of business expenses as well as for potential increase in operational efficacy and positive influence on national economy.

Key words: Cloud Computing; E-Commerce; Enterprise cloud technologies; SMEs; Internet; Business Technology.

Introduction

One of the fastest growing sectors of the economy today is e-business. It spreads effectively and rapidly. Traditional business tools need to be improved, their use is becoming more complex and time consuming. New rising technologies stimulate financing and business activity of e-commerce. As commerce in general moves online, new solutions and strategies for merging and developing come to the forefront. One of such ways of improvement is the utilization of cloud technologies and remotely managed E-commerce is a prime example.

Cloud computing and technology today is one of the leading trends in global information technology and businesses. They are discussed by literally all companies,

both big and small, everyone in one way or another uses them to create, manage and sell products and services and there are good reasons for it.

Relevance

Cloud computing is a model for providing ubiquitous and convenient network access on demand to a shared pool of configurable computing resources (for example, data networks, servers, storage devices, applications and services - both together and separately), which can be quickly provided and canceled with minimal operating costs and other inconveniences. Accordingly, cloud services provide services of this kind to both small, medium and large businesses and individuals.

So naturally it's going to be of utmost interest to SMEs. For the first time there is a solution that significantly reduces the cost of IT services. Not only that but it can also give a new look at the whole process of automating companies and creating software, help abandon the high investment in infrastructure and its further support, as well as to solve the problems of entering new markets, expanding the customer base, the number of customers, etc. Hence why researching cloud computing in ecommerce and possible ways of its practical application is essential.

Purpose

The purpose of this work is to analyze and find out the specifics of the application of cloud computing technologies in the e-commerce.

The main goal of this work is to study the prospects for the use of cloud computing technologies, as well as structuring their impact in economy in general in addition to e-commerce.

Main material

Cloud computing is a highly effective tool for increasing profits and expanding sales channels for Independent Software Vendors, which expand the capabilities of existing products to resell to the end users. The cloud approach allows you to organize a dynamic provision of services, where users can make payments on the spot and adjust the amount of their resources depending on the real needs without long-term obligations.

The cloud is organized in a pyramidal structure, where the top layer is quite easy to use, while in order to work with the bottom ones it requires more effort, sometimes even a whole team.

First is SaaS (Software-as-a-Service). It is a layer of custom applications like Twitter or Facebook etc. This is the layer that end users of the product most often interact with, and it provides the functionality that these users need: social networking, collaborating on documents, ordering a car or a room for the night. Configuring cloud services in this layer is only possible within the limits of their functionality, and the user has practically no control over the resources used by the application. But the average user gets what he came for – functionality.

Next is PaaS (Platform-as-a-Service). This layer of cloud platforms allows developers to create and host applications used by ordinary users. In this layer, customers of cloud platforms, for example Azure, use the functionality available to them in the service provider's control panel. This layer requires a greater understanding of processes occurring in it, but the vast majority of control over cloud resources is still simplified for the user experience.

Last layer is IaaS (Infrastructure-as-a-Service) or a cloud infrastructure layer. Developers and engineers work at this level. They use a specific set of tools to control vital functions of cloud server like load balancing, creating backups, storage of different to name a few.

We can hear a lot of the times terms e-commerce and cloud computing together and that makes sense. The main idea behind the convenience of cloud technology for online businesses is that it allows small and medium enterprises to utilize functionality of high-cost IT infrastructure for their development on what is essentially a rental basis which helps them to virtually eliminate capital expenditures. Large enterprises can also largely benefit from use of cloud computing. One such way is to use it in a development stage for testing which can reduce costs before investing into a new project. In addition, such companies often require local low-latency network for better performance which can be established in cloud. It goes to show that businesses of all shapes and sizes can benefit from cloud computing.

Table 1**Positive and negative traits of cloud computing technology**

Positive traits	Negative traits
Cheaper equipment for users	Bad function with poor connection
Increased productivity of the equipment	Constant need for internet connection
Decreased expenses and increased efficacy of IT infrastructure	Some software can work slower than on local network
Less expenses for software	Not all programs can be used remotely
Endless database storage	Safety of data can be questioned

Source: [1,2]

While it has its significant advantages, SMEs should weigh all pros and cons of using cloud system for their business. When using these systems, you're totally dependent from provider. In case of an outage in cloud computing service, which can happen to anyone, your business is also affected, and you can't really do anything about it. In addition, some speculate on relative security of personal information that's located in a cloud. Main pros and cons of cloud computing are listed in a table 1.

Considering positive effects of cloud computing on e-commerce and specifically SMEs, economy as a whole can seriously benefit from implementation of cloud computing. As it enables fast business development with what seems to be negligible expenditures, it was never as easy to open and lead a business as it is now, which can ultimately contribute to tax payments and as a consequence beneficially influence national economy. In addition, it can ensure economic growth simply by creating new vacancies and job opportunities inside a country and these are only basic ways in which cloud computing can contribute to the flourishing of national economy.

Conclusion

So, all in all, it can be said that cloud computing in e-commerce is a trend of current time. It's extremely useful especially for SMEs as it is much more budget friendly and gives what seems to be the same functions as local network services on a rental basis. On top of that, it gives significant advantage in storage and management capabilities which is crucial for e-commerce development. Both of these combined create very favorable conditions for further growth and development of SMEs, which can positively

influence the economy as a whole. Although, it has some caveats to it, just like any other new technology, the more it's going to be utilized, the more developed the area is going to get over time and as a result more solutions to the current arising problems associated with cloud computing, not only in e-commerce but also in other lanes of business for example marketing, will be proposed. Cloud computing is definitely important for businesses of all sorts, and will bring change to the economy in the nearing future as more e-commerce is going to emerge on the base of cloud computing, being more readily available for everyone to harness.

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