

## **Application of cloud technologies and services with online sales systems.**

**Hamid Huseynov**

### **Abstract**

This article considers the use of cloud technologies and services in online sales systems. Cloud technologies and services are an innovative approach to organizing data storage and processing, which allows you to simplify and optimize business processes. The article discusses the main advantages of using cloud technologies and services in online sales systems, such as the ability to scale, flexibility in setting up and managing resources, increasing system performance and availability disadvantages were presented, such as: the need for a reliable Internet connection, limited control, provider dependency, compatibility issues. In addition, typical scenarios for the use of cloud technologies and services in online sales systems are described, such as the use of cloud storage, cloud servers, platforms for content management and marketing, analytical services, etc. The article also contains information about the risks and limitations when using cloud technologies and services, such as possible security vulnerabilities and network bandwidth problems when assessing all weaknesses without fail. In general, the article provides an overview of the use of cloud technologies and services in online sales systems, and helps to understand what benefits and risks can arise from using this approach. Summarizing all of the above, the interaction and use of cloud technologies and services in online sales systems is essential to ensure and maintain the structure of the entire integrity of the enterprise and protect data, using and analyzing all the information that can bring profit to the organization and increase the profitability of the enterprise.

**Key words:** cloud technologies, sales systems management and marketing,

With the development of technology and the expansion of the Internet, online shopping has become an integral part of our lives. Every day, millions of people around the world shop online and this trend continues to grow. In such a situation, Internet sales companies must constantly improve their technologies and services in order to remain competitive [1].

One of the most important technologies used in online sales is cloud technologies and services. Cloud services allow companies to store and process large amounts of data, providing access to them from anywhere in the world using the Internet. Such technologies and services also make it possible to optimize the operation of online stores, improve the buying process for customers and increase the security of online sales [2].

Firstly, cloud technologies and services allow you to create and maintain websites and online stores at a high level. Thanks to cloud services, companies can easily scale their online sales; adapt them to growing needs and market changes. In addition, the use of cloud technologies allows you to reduce the cost of creating and maintaining a website, speed up the process of its development and reduce the risks associated with its reliability and security.

Secondly, cloud technologies and services help make online sales more accessible and convenient for customers. Companies can use cloud services to create convenient and simple interfaces for buyers that help them quickly find the right product and make a purchase. In addition, cloud technologies allow companies to create many different ways to pay and deliver goods, which increases the convenience for customers and helps to attract new customers.

Thirdly, cloud technologies and services can be used to analyze data and improve online sales processes. Thanks to cloud services, companies can collect and analyze large amounts of data about customer behavior, explore their preferences and needs, optimize their online stores and increase sales efficiency. Cloud services also allow companies to create personalized offers for each customer based on an analysis of their purchase history and interests. This allows you to increase the likelihood that the buyer will make a purchase, which, in turn, increases the profitability of the online store.

Finally, cloud technologies and services can improve the security of online sales. Cloud services can be used

to protect websites and online stores from cyber-attacks and to detect and prevent fraudulent transactions. This allows you to protect both the company and its customers from potential threats [3, 4].

In this article, we will look at exactly what cloud technologies and services used in online sales and how they can help companies improve their efficiency and competitiveness in the market.

### **Research methods and analysis of applied cloud computing and services in online sales systems**

Many cloud technologies and services can be applied in online sales. Some of the most important of these are the following cloud technologies and services and how they can help companies improve their efficiency and competitiveness in the market [5]:

**Cloud storage.** Cloud storage allows companies to store large amounts of information on remote servers rather than on local computers and servers. This way, they can save space on their devices as well as provide easy access to data from anywhere in the world. This can be especially useful for online sales companies that have large amounts of data such as product catalogs, customer databases, and order histories.

**Cloud hosting.** Cloud hosting allows companies to store their website on remote servers, which gives access to the site from anywhere in the world. This can be especially important for online retailers who need to provide fast and reliable access to their website for customers to make their purchases hassle-free.

**Cloud content management systems.** Cloud content management systems (CMS) allow companies to manage their website, store content, and manage its distribution over the Internet. A CMS can help online stores manage their product catalogs, manage content on product pages, and manage orders and payments.

**Cloud-based order management systems.** Cloud-based order management systems enable companies to manage the order process from start to finish. This may include managing inventory, tracking orders, notifying customers of order status, and managing delivery. Cloud-based order management systems can help online retailers improve the efficiency and speed of order processing, which will improve the shopping experience for customers.

**Cloud security services.** Cloud-based security services can help online retailers protect their data and improve the security of their customers. These may include hacking, virus and other malware protection services, website security certification, and security analysis services.

**Cloud-based customer relationship management (CRM).** CRM systems help companies manage customer relationships and provide a high level of service. This may include customer database management, order and shipping management, and marketing campaign management. Cloud CRM systems can help online retailers increase customer loyalty and improve their shopping experience.

**Cloud analytics services.** Cloud-based analytics services help companies analyze data and gain valuable insights into customer behavior, sales and marketing campaigns. This may include analysis of website traffic, conversions and metrics, as well as analysis of social media and advertising campaigns. Cloud analytics services can help online retailers make better data-driven decisions and improve the effectiveness of their marketing campaigns [6, 7].

In general, the use of cloud technologies and services can help online sales companies increase their efficiency, improve the buying experience for customers and improve their competitiveness in the market. However, when choosing cloud services, companies must ensure that they are secure, reliable, and meet the requirements of their business [8].

**Risks are possible when using cloud technologies and services in online sales systems if they are not eliminated or resolved.**

**Privacy risk:** Customer and order information stored in the cloud may be exposed to unauthorized users, resulting in the leakage of sensitive data.

**Risk of Denial of Service (dos):** In the event of an attack on the cloud service or problems with its operation, the online sales system may experience a denial of service, which will lead to loss of customers and revenue.

**Service provider dependency risk:** If the online sales system is completely dependent on the cloud

service, then if the service leaves the market or changes its conditions, the online sales system may be in a difficult position.

**Risk of Misuse:** The use of cloud technologies and services may require specialized knowledge and skills, and misuse may lead to errors or even security breaches.

**Risk of connection problems:** If the Internet connection of the online sales system is unstable or slow, it may cause delays or errors when using cloud technologies and services.

**Risk of data loss:** In the event of a failure in the cloud storage system, data may be lost, which may lead to problems with order processing and customer management.

**Risk of lack of flexibility:** Some cloud services may have customization and configuration restrictions, which may result in the e-commerce system not meeting the needs of the company.

**Risk of non-compliance with security standards:** not all cloud services meet the required security standards, which can lead to security breaches of the online sales system [9,10].

As a result, the use of cloud technologies and services in Internet sales systems is a prerequisite for modern companies that want to remain competitive in the market. Cloud computing provides companies [11] with:

**Flexibility and availability** - the ability to quickly and easily change the amount of computing resources and services used by the company, depending on current business needs. This means a company can quickly scale it is infrastructure up or down based on changes in demand for its products and services or other business needs. Flexibility can also include the ability to choose different payment models for cloud services, such as pay-per-use or fixed costs, allowing companies to choose the best option for their business. In general, flexibility is an important factor that helps companies adapt to a rapidly changing business environment and quickly respond to changes in the needs of their customers;

**Scalability** - the ability of a data processing and computing system to change its capacity and volume depending on business needs. This means that a company can easily and quickly increase or decrease the amount of computing resources used, such as data storage, server capacity, and network resources, to maintain its health and meet the needs of its users. Scalability also ensures high availability and system fault tolerance. If there is an increase in traffic or other loads on the system, cloud services automatically scaled to ensure high performance and system stability:

**Economic efficiency is an indicator that reflects the ratio of costs and benefits.** In the context of using cloud technologies and services in online sales systems, economic efficiency means that a company can reduce its IT infrastructure costs and at the same time increase the efficiency of its operations and customer service. Optimizing processes and increasing productivity can also achieve cost efficiency. Cloud services provide powerful algorithms and data analytics tools that can help companies streamline processes and make better business decisions;

Making them more accessible to small and medium enterprises. In addition, the use of cloud technologies and services helps to improve the security and reliability of Internet sales systems, which is extremely important for protecting customer data and company reputation [12]. However, companies must consider a number of factors when choosing cloud services, including cost, security, reliability, flexibility, and suitability for their business needs. In addition, companies must ensure that the cloud services they choose are compatible with other systems used in the company.

However, there is a list of disadvantages that need to be taken into account:

**The need for a reliable Internet connection:** Using cloud services requires constant access to the Internet, so the reliability and speed of the Internet connection are critical factors.

**Limited control:** Companies do not have full control over the infrastructure and data that is stored in cloud services, so you need to carefully select providers and ensure that security and data access are properly configured.

**Dependency on the provider:** Companies can become dependent on cloud providers, which can change the terms of service or even stop their activities.

Compatibility Issues: Using different cloud services can lead to compatibility and integration issues, which can make it difficult to manage your online sales system.

In general, the use of cloud technologies and services is a key element in the development of Internet sales systems. They help companies improve their efficiency, improve customer service and increase competitiveness in the marketplace. Therefore, companies should strive to use cloud technologies and services to optimize their business and achieve better results [13,14].

### **Conclusion**

To sum up, it can be noted that the use of cloud technologies and services is an important step for online sales companies that seek to increase the efficiency of their activities and improve their competitiveness in the market. Cloud technologies and services provide companies with the opportunity to significantly improve the management of their processes and improve the quality of customer service.

However, it should be borne in mind that the use of cloud technologies and services also has its drawbacks, which must be taken into account when implementing them. It is necessary to conduct a thorough analysis and choose the most appropriate solutions in order to balance the advantages and disadvantages, as well as minimize possible risks.

### **References:**

- [1] Judith S. Hurwitz, Daniel Kirsch. “Cloud Computing For Dummies 2nd Edition”, 2020
- [2] Anders Lisdorf. “Cloud Computing Basics: A Non-Technical Introduction 1st ed. Edition”, 2021
- [3] Eric Frick, “Introduction to Cloud Computing”, October 18, 2021
- [4] Stephen Orban, Andy Jassy, Adrian Cockcroft, Mark Schwartz. “Ahead in the Cloud: Best Practices for Navigating the Future of Enterprise IT 1st Edition”, March 27, 2018
- [5] *Google Cloud. (n.d.). Cloud Computing Services / Google Cloud.*
- [6] Thomas Erl, Ricardo Puttini, Zaigham Mahmood. *Cloud Computing: Concepts, Technology & Architecture (The Pearson Service Technology Series from Thomas Erl) 1st Edition*, May 10, 2013
- [7] SK Singh. *Cloud Computing: Cloud Computing Fundamentals | iaas | paas | saas | faas | Serverless Computing | Virtualization | Virtual Machine | Hypervisor | Docker*, April 12, 2022
- [8] Michael J. Kavis. “Architecting the Cloud: Design Decisions for Cloud Computing Service Models (saas, paas, and iaas) 1st Edition”, January 28, 2014
- [9] Nayan B. Ruparelia. “Cloud Computing (The MIT Press Essential Knowledge series)”, May 13, 2016
- [10] Austin Young, “Cloud Computing: A Comprehensive Guide to Cloud Computing”, July 29, 2019
- [11] Todd Hoff, “Explain the Cloud Like I'm 10” October 3, 2017
- [12] Yu, M., & Gong, Y. (2020). Research on the Development of E-commerce Based on Cloud Computing Technology. *Journal of Physics: Conference Series*, 1468(1), 012150.
- [13] Winkler, V., & Wagner, S. (2019). Cloud Service Adoption in E-Commerce: An Analysis of Service Quality, Trust, and Risk Perceptions. *International Journal of Electronic Commerce*, 23(3), 385–410.
- [14] Gartner. (2021). *Gartner Forecasts Worldwide Public Cloud End-User Spending to Grow 18% in 2021.*