

Amazon AWS vs. Microsoft Azure: Two Prominent Cloud Service Platforms

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Abstract

Cloud computing is the on-demand delivery of IT services over the internet with a pay-as-you-go pricing scheme. These services include storage, databases, applications, and networking services. Cloud computing is one of the most significant technologies enabling companies to manage their resources, and to save and share data safely through the internet. Cloud computing has many benefits such as measured service providing, high performance, resource sharing, on-demand and remote access. Most leading cloud computing companies offer various cloud services in the form of customized, reliable, and inexpensive web apps. The number of cloud providers is growing rapidly and they are adding new capabilities as technology advances. However, cloud service consumers may find it challenging to identify the best service provider for their requirements. The aim of this research is to compare and contrast the most prominent cloud providers, Amazon AWS and Microsoft Azure, in terms of service criteria such as storage, databases, networking, security, and pricing models.

Keywords: Cloud Computing, Cloud Service Models, Azure, AWS, Cloud Service provider, Comparative study.

مقارنة بين خدمات منصة أمازون (AWS) و خدمات منصة (Azure) كأبرز منصات لخدمات الحوسبة السحابية

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المخلص

الحوسبة السحابية هي تقديم خدمات تكنولوجيا المعلومات عند الطلب عبر الإنترنت من خلال نظام تسعير الدفع أولاً بأول. وتشمل هذه الخدمات التخزين وقواعد البيانات و التطبيقات وخدمات الشبكات. تُعد الحوسبة السحابية واحدة من أهم التقنيات التي تُمكن الشركات من إدارة مواردها وحفظ البيانات ومشاركتها بأمان عبر الإنترنت. تتمتع الحوسبة السحابية بالعديد من الفوائد مثل توفير الخدمات المُقاسة، والأداء العالي، ومشاركة الموارد، والوصول عن بعد عند الطلب. تُقدم معظم شركات الحوسبة السحابية الرائدة خدمات سحابية متنوعة في شكل تطبيقات ويب مخصصة و موثوقة وغير مكلفة. يتزايد عدد مزودي الخدمات السحابية بسرعة ويضيفون إمكانيات جديدة مع تقدم التكنولوجيا. ومع ذلك، قد يجد مستهلكو الخدمة السحابية صعوبة في تحديد أفضل مزود خدمة يلبي متطلباتهم. الهدف من هذا البحث هو مقارنة أبرز مُقدمي الخدمات السحابية Amazon AWS و Microsoft Azure، من حيث معايير الخدمة مثل التخزين وقواعد البيانات والشبكات والأمن ونماذج التسعير.

الكلمات المفتاحية: الحوسبة السحابية، نماذج الخدمة السحابية، Azure، AWS، مزود الخدمة السحابية، دراسة مقارنة.

1. Introduction

Cloud computing is becoming one of the fastest-emerging technologies in the IT industry. Many services and resources have become available to end users because of this improved technology. This technology is also associated with many useful characteristics such as virtualization, scalability, and quality of service. Cloud

computing is the on-demand, pay-as-you-go supply of computing resources, such as networking, processing power, storage, and development tools, hosted at remote data centers (Rawan Aljamal, 2019). The primary benefits of adopting cloud computing include cost savings, mobility (access from any location and device), constantly updated technology, security, and reduced maintenance requirements (Aaqib Rashid, 2019). With cloud computing, customers can access platforms, storage, and software to develop web applications using a variety of devices, including smart phones and PCs, through services offered by cloud service providers (Ouda, 2020). Cloud Service Providers, or CSPs, are IT companies offering on-demand, scalable computing services such as infrastructure, storage service, or applications over the Internet. They provide massive storage and computing infrastructure to consumers along with programming interfaces that enable them to develop and run apps on the cloud. CSPs deliver computing services that can be grouped into three fundamental models: hardware (Infrastructure as a Service (IaaS)), IaaS is basically intended for network architects requiring development resources. Platform (Platform as a Service (PaaS)), PaaS is intended mainly for application developers who need platforms to develop their apps or software. Applications (Software as a Service (SaaS), SaaS is primarily intended for end-users who have to utilize the software as part of their daily activities (Alam, 2020). Cloud computing suppliers offer their services according to these models. Amazon Web Services (AWS) is a cloud-computing platform offered by Amazon that provides a wide range of global cloud-based services such as database, analytics, storage, and computing power to individuals and organizations (Poonia, 2020). Azure is Microsoft's cloud computing platform that effectively delivers similar services to AWS. It provides a range of cloud-based services such as storage, developer tools, databases, analytics, virtual machines, and application services (Nikunj Mani Gupta R. S., 2022). The structure of this paper starts with the introduction of cloud computing. Then reviewing some studies related to the selected service providers in section 2. Section 3 identified some significant characteristics of cloud computing.

Categories of cloud computing services are explained in section 4. Section 5 comprehensively describes the selected CSPs. The comparison of both Microsoft Azure and AWS is tabulated in section 6. Section 7 presents the discussion of comparing both platforms. Finally, section 8 concludes this research.

2. Literature review

The study of cloud computing services is the subject of many publications presented in online resources and scientific journals. This paragraph highlights some of these studies that compare AWS and Azure platforms based on various cloud aspects. (Sumit Kumar, 2019) Conducted a comparative analysis of three cloud platforms: Windows Azure, Google App Engine, and Amazon's AWS. These platforms have been compared based on criteria such as storage, compute, caching, networking, big data Support, PaaS technology, content delivery network, etc. According to the summary, many features are the same among all service providers, although their terminology may differ. (Khot, 2020) Provided a comparative study of services of top public cloud providers GCP, AWS, Oracle, and Azure. While most public providers aim for technological efficiency, some are more suitable for particular tasks than others. The research, as a solution, proposed the concept of Multi-Cloud computing, to leverage the benefits of the different cloud providers and to maximize their utility in single network architecture. (Muhammad Ayoub Kamal, 2020) Highlighted service features offered by GCP, AWS, and Azure as well as compared them. Significant service features such as computation, storage, and infrastructure services have been pointed out. The conclusion stated that although AWS leads the cloud industry in terms of market share and many of its best service features, GCP and Microsoft Azure outperform AWS in terms of cost and security. (Ashwin Guptha H. M., 2021) Performed a comparative analysis to provide customers with an overview of the various security services offered by service providers. Based on the results, customers can be more confident when choosing their cloud service provider. The study concluded that AWS and Azure are the ideal cloud providers in terms of the number of services, popularity, cost, and security features.

(Shivendra Bhonsle, 2023) Compared AWS and Azure by listing their features, services, advantages, and disadvantages, which could help in deciding which cloud service provider would provide optimum benefits according to the user's demand.

3. Cloud Computing Characteristics

The definition of cloud computing has been the subject of significant discussion in both academic and industry. An official definition of cloud computing that encompasses the most common features has been created by the *National Institute of Standards and Technology (NIST)* (Grance, 2011). It summarized cloud computing as: “*a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction*”. According to this definition, the essential characteristics of the cloud-computing system are the following characteristics as shown in Figure 1.

- Rapid elasticity.
- Measured services.
- Pay as per usage.
- On-demand self-service.
- Resource pooling.
- Broad network access.

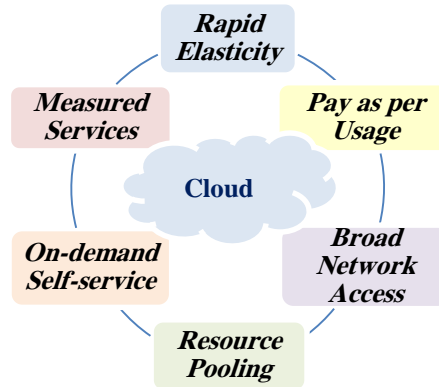


Figure 1. Cloud computing characteristics

4. Categories of Cloud Computing Services

Cloud computing services are any type of IT capability that CSPs offer to their consumers. According to the NIST definition, cloud-computing services are categorized into three basic service models. These service models include IaaS, which provides storage and compute capabilities, PaaS, which provides a develop-and-deploy environment for developing cloud apps, and SaaS, which provides services and applications as depicted in Figure2.

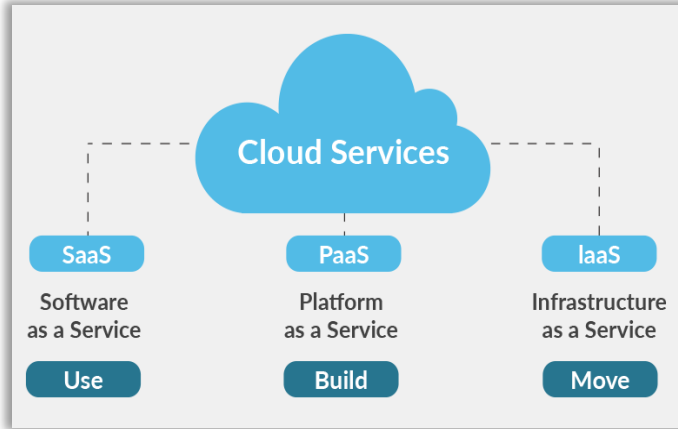


Figure 2. Cloud computing service models (Shruti Walke, 2022)

A. Infrastructure as a Service (IaaS)

In Infrastructure as a Service (IaaS), cloud service providers offer the consumer with servers, storage, and computing resources (Karan Gulia, 2021). The benefit of this is that the user does not have to invest in expensive IT infrastructure. This means the resources are pay-per-use and can be scalable according to customer demand (Aaqib Rashid, 2019). Resource virtualization is the basic concept of IaaS. It enables the users to run their guest operating system on top of the cloud provider's infrastructure. This concept results in distributed and scalable infrastructure being automatically deployed. The deployment, administration, and maintenance are the responsibility of the service provider (Dhanashri Ravi Patil, 2022).

IaaS offers some benefits such as resource availability, high reliability, pay-for-what-you-use pricing, and resource scalability according to user requirements (Aaqib Rashid, 2019). Examples of IaaS Amazon EC2, IBM, Microsoft Azure, and Google Compute Engine.

B. Platform as a Service (PaaS)

In the PaaS model, CSPs offer a platform, or computing environment, that typically includes an operating system, database, programming language environment, and web server (Veerawali Behal, 2016). These platforms help software developers create new apps more rapidly and efficiently by offering storage and computing infrastructure, text editing, compilation, and testing services (Nikunj Mani Gupta R. S., 2022). PaaS utilizes the same fundamental infrastructure as IaaS but also includes the middleware, operating systems, database management systems, and development tools required to create software applications. App developers can develop and run their software applications on a cloud platform without the effort and cost of buying and managing the underlying development environment. Some advantages of PaaS include reducing development time and cost, increased flexibility and scalability, and development for multiple platforms (Aaqib Rashid, 2019). PaaS examples include Amazon Elastic Beanstalk, Google App Engine, Microsoft Azure, and Salesforce.com's Force.com.

C. Software as a Service (SaaS)

In this model, operating systems, applications, and other resources are run and maintained by CSPs (Aaqib Rashid, 2019). The SaaS provider manages the data, middleware, and infrastructure required to deliver the program to ensure that the software is available where and when customers need it (Hiral B. Patel, 2021). Many SaaS apps do not require downloads or installations because they operate directly in web browsers. SaaS offers some benefits including cost-effectiveness and ease of use, provider maintenance, and accessibility from any location with Internet connectivity. Additional benefits include its scalability, configurability, and

multitenant efficiency (Aaqib Rashid, 2019). Examples of SaaS include Salesforce, Cisco WebEx, Microsoft Office MS 365, and Google Apps.

5. Major Cloud Computing Service Providers

A cloud service provider is a third-party company that offers platform, application, infrastructure, or storage services that are hosted in the public cloud. Customers can access these services with a certain level of reliability through a variety of well-known cloud service providers. There are numerous cloud service providers available in the market. A few major service providers with their launching years are listed in Table 1.

Table 1. The major cloud computing service providers

CSP	Year of launching
Amazon Web Services (AWS)	Launched in 2006
Google Cloud Platform (GCP)	Launched in 2008
Alibaba Cloud	Launched in 2009
Microsoft windows Azure	Launched in 2010
IBM cloud services	Launched in 2011
iCloud	Launched in 2011
Oracle Cloud	Launched in 2012

1) Amazon Web Services (AWS)

Amazon is a leader in the global provision of cloud computing services using Amazon Web Services (AWS). Amazon AWS has offered Amazon Elastic Compute Cloud (EC2) with a wide variety of resizable solutions and offerings to customers since 2006 (Rawan Aljamil, 2019). Elastic Block Store (EBS), Content Delivery Network (CDN), and Amazon CloudFront were among the additional services that Amazon provided in 2009. The main part of AWS is Amazon EC2. Customers can rent virtual computers with EC2 to run their applications (Ouda, 2020). EC2 was the first service that Amazon released to simplify the use of webscale computing by saving time navigating between resources, and by only billing for the capacity that is actually used. The second service launched was

Amazon S3, which was initially a storage product combined with a web service interface. For cloud applications, Amazon S3 can be viewed as the primary storage and backup solution (Hajjdiab, 2017). AWS provides more than 200 fully featured services from data centers located all over the world (Nikunj Mani Gupta R. S., 2022). With plans to add 15 additional Availability Zones and 5 more AWS locations in Canada, Germany, Malaysia, New Zealand, and Thailand, the AWS Cloud currently spans 102 Availability Zones across 32 geographical regions worldwide. AWS has its own physical fiber network, which connects regions, Edge sites, and Availability zones (Shivendra Bhonsle, 2023). Amazon's backup system maintains the global availability of AWS servers (Muhammad Ayoub Kamal, 2020). AWS delivers a wide range of PaaS and IaaS options, such as Relational Database Service (RDS), Elastic Beanstalk, Simple Storage Service (S3), and Elastic Cloud Compute (EC2). Users can reduce costs by using only the services they require through AWS's highly customizable infrastructure (Zalmi Zormatai, 2023). AWS comprises a broad set of worldwide services provided as a utility: on-demand, instantaneously available, helping organizations move faster to scale their applications and reduce their IT costs.

2) Microsoft Windows Azure

Microsoft Azure, commonly referred to as Azure, is a cloud-computing platform developed by Microsoft that allows users to build, deploy, and manage services and applications through a global network of Microsoft-managed data centers. Azure was released back in the year 2010 and now it is a competitor to AWS (Prakarsh Kaushik, 2021). Azure is an evolving suite of integrated cloud services including mobile, networking, analytics, compute, database, storage, and web services to help customers work more efficiently and cost-effectively (Kabiru Yahaya Mikailu, 2022). Clients can use Azure's cloud services purely on the cloud or in combination with any existing apps, infrastructure, or data center. This platform is an ideal vendor for a hybrid cloud combination model (Tripathi, 2020). Microsoft's Azure platform consists of three main components, and each one provides cloud users with a specific

set of services. These components are (a) The Windows-based environment that is utilized to execute applications and store data in data centers; (b) SQL Azure provides Cloud-based data services based on the SQL Server; (c) .NET Services that offer distributed services as infrastructure to both Cloud-based and local apps, which can be run on Azure platform (Alreshidi, 2019). One of the main benefits of Microsoft Azure is its integration with Microsoft's current suite of services and products, such as MS Office 365. It offers several types of services such as scalable and on-demand infrastructure, identity and access management, web and mobile development platforms, creating and publishing any type of media, and big data cloud (Shruti Walke, 2022). Azure's services and tools are intended to help developers create applications that are simple to manage and highly scalable. A variety of programming languages, such as Node.js, Java, and C#, are compatible with Azure (Prakarsh Kaushik, 2021).

6. Comparison of the Selected Cloud Service Providers

The increasing popularity of cloud service providers has led to a large number of IT companies providing cloud-computing services. Cloud services are being adopted by organizations and individual customers quite rapidly due to their features and reasonable prices. However, choosing the most suitable cloud service provider should be undertaken based on some factors mentioned in the following comparison tables. The following tables put forth the comparisons of AWS and Azure according to some service criteria such as compute, storage, database, networking, Artificial Intelligence (AI) and Machine Learning (ML), pricing models, and security (Nikunj Mani Gupta R. S., 2022) (Shivendra Bhonsle, 2023).

• Comparison of Storage service features: AWS vs Azure services

Table 2. Comparison of Storage service features





Storage Services	Features		
	Object Storage	Amazon Simple Storage Service (S3)	Blob Storage
	File Storage	Amazon Elastic File System (EFS)	Azure Files Storage
	Block Storage	Amazon Elastic Block Storage (EBS)	Azure Managed Disk (Built-in Service)
	Archive Storage	Amazon Glacier	Azure Archive Storage
	Hybrid Storage	AWS Storage Gateway	StorSimple, Migrate
	Backup	AWS Backup	Backup Service

Table 2 displays a comparison of Storage services between AWS and Azure. The provided services in this category are related to storage, which allows to storage of all data in a scalable, reliable, and secure place. Five different storage service features are used to compare cloud storage services between the two platforms: Object storage, File storage, Block storage, Hybrid storage, and Archive storage.

• **Comparison of Database service features: AWS vs Azure services**

Table 3. Comparison of Database service features

Database Services	Features		
	Relational Database Management Service	Amazon RDS Standard SQL DB (PostgreSQL, SQL Server, MySQL, etc.)	Azure SQL, Database for MySQL, PostgreSQL, MariaDB
	NoSQL: Document	DocumentDB, Amazon Simple DB	Azure Cosmos DB
NoSQL: Key-value	Amazon DynamoDB	Table storage	

	Manage Data Warehouse	Redshift	SQL Data Warehouse
	Caching	Amazon ElastiCache	Azure Redis Cache
	Blockchain	Amazon Managed Blockchain	Azure Blockchain Service
	Time series Database	Timestream	Time Series Insights

Table 3 presents a comparison of important service features of AWS and Azure in terms of database services. These services are essential for effective data handling. Since data is created in a variety of formats, the databases that store it must be updated regularly. The category of database provides services for managing relational databases, NoSQL databases, and in-memory cache.

• **Comparison of Networking service features: AWS vs Azure services**

Table 4. Comparison of Networking service features





	Features		
Networking Services	Content Delivery Network (CDN)	Amazon CloudFront	Azure CDN
	Load Balancing	Elastic Load Balancer (ELB)	Azure Load Balancer
	Domain Name System (DNS) Management	Amazon Route 53	Azure DNS
	Cloud Virtual Network	Virtual Private Cloud (VPC)	Virtual Network Cloud (VNC)
	Application Programming Interface (API)	Amazon API Gateway	Azure API Management
	Firewall	AWS Firewall	Azure Firewall

Table 4 provides a comparison of Azure vs AWS for Networking services. Networking and content delivery offer services that allow the user to connect with the world through a global fiber network. The Amazon Virtual Private Cloud (VPC) and Microsoft Azure

Virtual Network Cloud (VNC) are two popular networking services that allow the user to build private networks within the cloud.

• **Comparison of Compute service features: AWS vs Azure services**



Table 5. Comparison of Compute service features

Compute Services	Features		
	Virtual Machine	Amazon Elastic Compute Cloud (EC2)	Azure Virtual Machines
	Autoscaling	Amazon EC2 Auto Scaling	Virtual Machine Scale Sets
	Batch Processing	AWS Batch	Azure Batch
	Serverless Computing	AWS Lambda	Azure Functions
	Isolated Servers	Dedicated Instances	Dedicated Host
	Platform as a Service	AWS Elastic Beanstalk	App Service, Cloud Services
	Spot Virtual Machine	EC2 Spot Instances	Spot Virtual Machines
	Container	Amazon Elastic Container Service (Amazon ECS) or Kubernetes Services	Azure Kubernetes Service (AKS)

In cloud computing, one of the essential services is compute services. Table 5 presents a comparison of important service features of computation concerning AWS and Azure providers. Services for virtual server hosting, application platform, container management, and serverless computing are offered. In this table, some of the most commonly used computing service features that are utilized by the providers are listed.

• **Comparison of AI and ML service features: AWS vs Azure services**



Table 6. Comparison of AI & ML Service features

AI & ML Services	Features		
	Machine Learning	Amazon SageMaker	Azure ML
	Natural Language Processing	Amazon Comprehend	Text Analytics
	AutoML	SageMaker AutoPilot	Azure Machine Learning Studio, AutoML
	Recommendation AI	Amazon Personalize	Azure Cognitive Service Personalizer
	Language Translation	Amazon Translate	Azure Cognitive Service Translator
	Computer Vision	Amazon Rekognition & Lookout for Vision	Azure Cognitive Service Computer Vision
	Conversational Service	Amazon Lex	Azure Bot Service
	Document Capture	Amazon Textract	Azure Form Recognizer
	Speech to Text	Amazon Transcribe	Azure Cognitive Service for Speech to Text
	Text to Speech	Amazon Polly	Azure Cognitive Service Text to Speech

The selected cloud service providers were compared based on ML and AI services as shown in Table 6. This category delivers services that allow the processing of natural languages, translation, data science or ML virtual machines, and computer vision, etc.

• **Comparison of Security service features: AWS vs Azure services**

Table 7. Comparison of Security service features

Security	Features		
	Security	AWS Security Hubs	Azure Security Center
	Access Management	Identity & Access Management (IAM)	Azure Active Directory

Services	Activity Tracking	CloudTrail	Monitor Activity Log
	Monitoring	CloudWatch, Transit Gateway Network Manager	Azure Monitor, Anomaly Detector
	Cost Optimization	Cost Optimization	Cost Management
	Automation	OpsWorks	Automation

Table 7 shows a comparison between the selected cloud providers AWS and Azure based on security services. Both platforms offer good security solutions for user data and privacy. This category provides services such as activity tracking, access management, security assessment, and monitoring.

• Comparison of Pricing models: AWS vs Azure services

Table 8. Comparison of Pricing models



Pricing Models	 AWS	 Azure
	Pay-as-you-go, Per-hour billing	Pay-as-you-go, Per-minute billing

Table 8 includes a comparison of pricing models to assist consumers in choosing the best option for their requirements. Cloud service providers use various pricing models to specify the price. Pricing models affect the user's demand, utilization, and behaviors. Both Azure and AWS offer pay-as-you-go pricing models, making them popular options for organizations of all sizes.

7. Discussion

Amazon AWS and Microsoft Azure provide comparable services, but they still differ based on several characteristics. According to reviewing many research papers, all features which are in the previous tables are collected and divided into groups of all services concerning storage, databases, computation, networking, etc. It has been a big challenge to discuss every feature of the table individually and propose the appropriate platform, which provides better service features. For the storage service, AWS and Azure

offer reliable and long-running storage services. AWS has services such as Amazon Simple Storage Service (S3), EFS, EBS, and Amazon Glacier whereas Azure storage services have Blob Storage, Disk Storage, Azure Files, and Azure Archive Storage. Amazon S3 and Azure Blob Storage are competing object storage services. Despite a variation in terminology used to describe their services, they offer similar functionality. The competing Block storage services are Amazon Elastic Block Storage (EBS) and Azure Managed Disk Storage. Each service allows the user to attach disks in two different ways. Amazon Elastic File System (EFS) and Azure Files are the competing file storage services. AWS offers archival storage through Amazon Glacier classes. Whereas Azure offers archival storage through Azure Archive Storage access tiers. To compare AWS and Azure in terms of database services, both provide different database services to manage structured and unstructured data. Azure has Azure SQL Server Database, and AWS has Amazon RDS. There are six standard database engines supported by Amazon RDS. Azure offers several different relational database services that are equivalent of AWS Relational Database Service including SQL Database, Azure Database for PostgreSQL, MySQL, and MariaDB. When it comes to compute services, AWS provides services such as EC2, AWS Elastic Beanstalk, AWS Lambda, Amazon Elastic Container Service (Amazon ECS), and more. Similar services are also offered by Azure, including the Container Service (AKS), App Service, Azure Virtual Machines, and Azure Functions. Containerized apps in AWS run using Elastic Beanstalk, which supports Docker files through a command-line interface. In Azure, App Service performs the same functionality, but the process is a little more complex as one must run the container inside of a web application. In terms of virtual machines, Azure and AWS offer VMs, with Azure they are part of the "compute" whereas AWS cloud refers to them as "EC2". Obviously, these services are somewhat neck-and-neck. When comparing platforms in terms of networking services, Amazon VPC makes it possible to create private networks within the cloud. Similar to VPC, Microsoft Azure VNC enables the user to do all of VPC's functions.

Azure and AWS each provide a CDN solution, Azure CDN and Amazon Cloud Front, respectively. Microsoft and Amazon supply similar cloud-based DNS solutions Azure DNS and Amazon Route 53. Both platforms provide comparable load-balancing services that users can configure to meet their requirements. The load balancing service for Microsoft Azure is called Azure Load Balancer, whereas Amazon's load balancing solution on AWS is known as Elastic Load Balancer (ELB). AWS and Azure deliver Machine Learning Studios to help in the development of Machine Learning models. AWS' Sage Maker gives flexibility and freedom in building ML models. Unlike Amazon Sage Maker, which requires familiarity with Python coding and open-source libraries, Azure's Studio does not require any technical knowledge or background in data engineering, Python coding, and open-source libraries. In terms of security features, Azure provides security by offering permissions on the whole account, whereas AWS security is provided using defined roles with permission control features. Azure uses Microsoft's Cloud Defender service, which is supported by AI and can protect against both current and emerging threats, while AWS gives a range of secure alternatives and default settings. AWS uses IAM to ensure that no unauthorized user can access the platform, whereas Azure has Azure Active Directory, which assists in protecting resources and managing user identities. With the help of this service, users may increase security and instantly counter advanced threats. As for pricing, both platforms give reasonable pricing and employ a pay-as-you-go pricing model. AWS and Azure cater services and pricing based on user's requirements. However, AWS is priced on an hourly basis and Azure on a minute basis. Moreover, Azure offers higher flexibility in short-term subscriptions.

8. Conclusion

Cloud service providers such as Amazon AWS and Microsoft Azure offer various cloud-computing services to their customers. AWS and Azure are in a leadership position together due to Microsoft's position in the IT industry. This paper introduced a comparative

study of the selected cloud platforms based on some service criteria such as storage, databases, networking, security, pricing models, etc. The choice between Azure and AWS is mainly down to preference as both providers offer market leading services with some additional benefits, such as AWS' robust consumer base and Azure's easy integration with Microsoft technologies. Many businesses that utilize Microsoft tools find that using Azure cloud platform makes more sense because Azure makes it simple to employ MS tools. Azure is great when it comes to hybrid cloud and integrating with Microsoft's services and products. While Azure Platform has benefits, Amazon AWS has the unique advantage of being the first of its kind. In addition to that, AWS has more flexibility and extra services and features as compared to Azure. On the other hand, Azure also has good features, especially in all services. Microsoft Azure is dominant in PaaS and SaaS, and service features are good as compared to AWS. However, AWS is more dominant in IaaS services than Azure. Pricing is an essential factor, and all CSPs try to keep service prices as low as possible. Since consumers typically pick cheaper cloud services over more expensive ones. Microsoft Azure is a bit cheaper as compared to AWS, while AWS is somewhat more expensive. AWS charges on an hourly basis. Meanwhile, Azure charges on a per-minute basis, giving consumers a more precise pricing component than AWS. In conclusion, Both Cloud platforms as noticed above show powerful capabilities and offer a wide range of services. Therefore, it is difficult to decide which one is better for business need and requirements.

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