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Cloud computing with MCP: A comprehensive report

Abirami Dasu Jegadeesh and Gaurav Samdani *

Department of Data Science and Business Analytics, University of North Carolina, Charlotte.

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Abstract

Cloud computing is changing the business game. It's like giving companies superpowers with its amazing ability to scale, move fast, and save cash. Now more and more places are getting on board with cloud tech, and it's just opening up a ton of doors for cool new stuff and getting bigger. The brainy folks over at McKinsey & Company have dug into how awesome cloud computing is shining a light on how much it can shake things up no matter where you look. This report goes deep on how cloud computing isn't just techy stuff; it's a big-time game-changer. It uses McKinsey's homework to show us the wins, the tough parts, and the top ways to get your money's worth. The worldwide cloud computing scene offers a massive chance worth about $3 trillion pointing out how much it could boost various sectors (McKinsey 2022). But to rake in this benefit, companies going to do more than just shuffle their tasks onto the cloud. They need to think smart and weave cloud tech into the way they run their biz, spark new ideas, and tackle big probs like keeping costs down staying strong against hiccups, and sticking to the rules (McKinsey, 2025)

Keywords: Comprehensive Report; Cloud Computing; MCP; Review and Research

1. Introduction

Artificial intelligence pumps up this whole setup by making it super smart to analyze data, spot patterns, and guess what might happen next. Those machine learning Cloud computing's arrival has been a game changer in the digital world. It's changing the game for how companies and folks manage, keep, and work with info. Thanks to internet-based remote servers, groups don't go to fork out cash for their own hardware setups. This means they save dough, can grow easier, and move quicker (McKinsey, 2024). Not just that, but this whole new way of doing things makes running a business less of a headache and swings open the doors wide for fresh ideas and making businesses bigger.

At its heart, cloud computing gives us three main service types: Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS). These types offer different levels of abstraction and flexibility meeting various business needs. Also, deployment models like public, private, hybrid, and multicloud setups let companies customize their cloud plans to fit specific operational and regulatory demands (McKinsey, 2024).

* Corresponding author: Gaurav Samdani

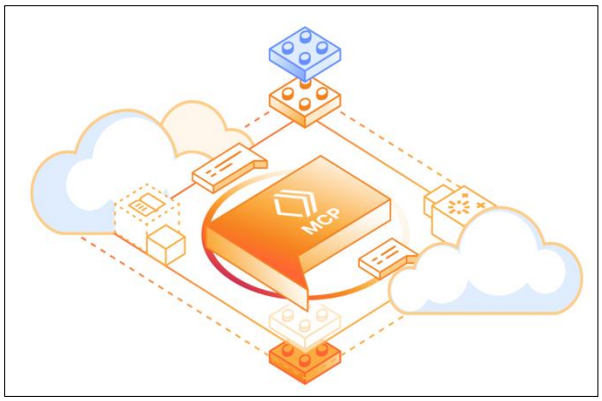

Figure 1 MCP

Cloud computing has caused a revolution in how companies do business giving them unmatched ability to scale, move, and come up with new ideas. It lets organizations store, work with, and handle data on far-away computers through the internet. This means they don't need their own on-site equipment, which cuts costs and helps them run more (McKinsey, 2024). But cloud computing does more than just save money. It allows businesses to create new things, make customers happier, and find ways to earn more. They can do this by using high-level tools like artificial intelligence (AI), machine learning (ML), and looking at lots of data (McKinsey, 2021).

The Microsoft Cloud Platform (MCP) shines as an all-in-one answer in the cloud world giving a bunch of services to speed up digital change. MCP brings together infrastructure as a service (IaaS), platform as a service (PaaS), and software as a service (SaaS) to give businesses the tools they need to update IT systems, boost productivity, and come up with new ideas. When companies use MCP, they can move from old IT ways to cloud-based setups. This lets them get to market faster, be more resilient, and have more wiggle room (McKinsey 2020).

Despite the game-changing possibilities of cloud technology, moving to the cloud takes more than just copying your current setup. Companies face tough problems, like figuring out the best ways to move their apps putting security measures into their code, and creating basic services that work well in the cloud (McKinsey 2025). What's more, switching to the cloud means big changes in how a company runs. This includes using flexible ways of working and building skills to keep cloud costs under control (McKinsey, 2021).

The cloud computing market has a huge global value. McKinsey's 2023 report suggests that companies could unlock up to $3 trillion in economic value by 2030. This can happen if they go beyond basic adoption and embrace cloud-enabled innovation. MCP has a key role to play in this change. It gives businesses the chance to breathe new life into old systems, break new ground with cutting-edge tech, and create fresh business models. By tapping into MCP's features, companies can set themselves up as frontrunners in the digital economy. This allows them to grab all the benefits that cloud computing has to offer.

2. The Value Proposition of Cloud Computing

Cloud computing has a wide range of advantages that go beyond cutting IT costs. It helps companies boost their productivity, speed up new ideas, and open up fresh business chances. Research by McKinsey suggests that using cloud services could lead to over $1 trillion in run-rate EBITDA for Fortune 500 companies by 2030 (McKinsey, 2021).

2.1. Key Benefits of Cloud Computing

Cost Efficiency: Cloud cuts down the need to have infrastructure on-site letting companies adjust their resources to match what they need. This gets rid of the big expenses tied to running data centers (McKinsey, 2024).

Cloud platforms enable businesses to launch services and apps cutting down the time it takes to get to market and helping them adapt fast to shifting needs (McKinsey, 2020).

Cloud environments help new tech like AI ML, blockchain, and quantum computing grow. These technologies open up fresh chances to create products and make operations better (McKinsey, 2025).

Cloud platforms boost security through advanced methods, which lowers the chance of data leaks and makes sure companies follow the rules (McKinsey, 2021).

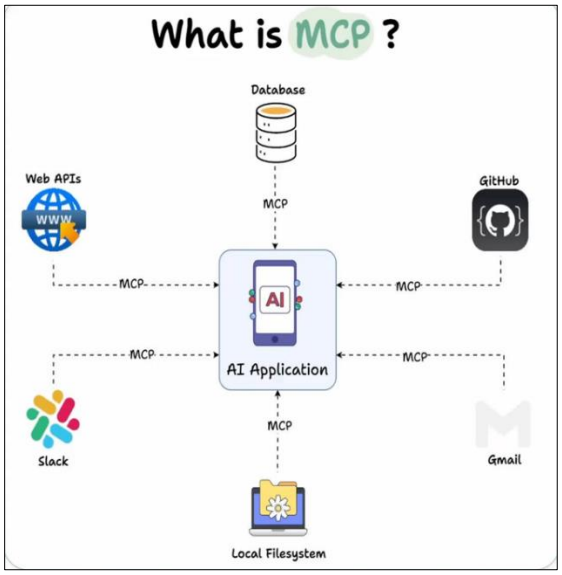

Figure 2 What is MCP

2.2. McKinsey's Research on Cloud Computing

McKinsey's cloud computing study draws from deep research looking at over 700 use cases in 19 industries, asking more than 1,000 organizations, and using data from McKinsey's D2020 knowledge base (McKinsey, 2021). The results show three areas of cloud adoption:

Rejuvenate: This area aims to cut IT costs, including app development, upkeep, and infrastructure spending. It uses the cloud to boost back-office work and lower cybersecurity risks (McKinsey, 2021).

Innovate: Pushes companies to create new products and services by using cloud-native tools like AI, ML, and big data analysis. This part stresses how important it is to be quick and get to market faster (McKinsey 2025).

Pioneer: Looks into how new tech like quantum computing and AR can shake up old business ways and open up new money-making chances (McKinsey, 2021).

2.3. Challenges in Cloud Adoption

Even with its good points, moving to the cloud isn't always easy. McKinsey's study shows that 40% of big companies find it hard to get the most out of their cloud plans (McKinsey, 2024).

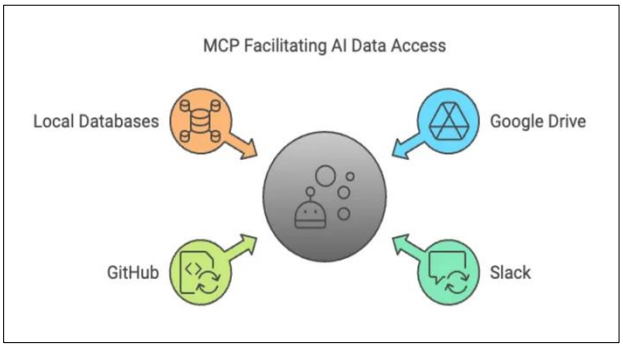

Figure 3 MCP and Data Access

3. Boosting Business Value by Moving to the Cloud with MCP

3.1. Making Work Easier with MCP Cloud Tools

Microsoft Cloud Platform (MCP) gives companies a strong set of tools to make work smoother and more productive. Using MCP can help businesses do routine jobs, use resources better, and cut down on extra work. For example, MCP works with Azure Automation to let companies set up automatic systems for things like fixing servers, planning backups, and adjusting resources. This means less hands-on work and fewer mistakes (McKinsey, 2023).

Also, MCP's hybrid cloud features allow smooth blending of on-site systems with cloud setups. This mixed approach lets companies move tasks to the cloud without messing up current work. For instance, Azure Arc helps businesses oversee and control resources across mixed setups making sure rules and compliance stay the same (McKinsey 2024).

3.2. Driving Innovation through Cloud-Native Development

MCP gives organizations the power to use cloud-native development practices, which leads to new ideas and quick changes. Cloud-native tools like Azure Kubernetes Service (AKS) and Azure Functions help developers create, launch, and look after apps with microservices setup and serverless computing. These methods let businesses make changes to products, get them to market faster, and keep up with what customers want (McKinsey 2025).

What's more, MCP's backing of DevOps practices makes dev and ops teams work better together. Tools like Azure DevOps offer complete solutions to plan, build, test, and roll out apps. This teamwork cuts down on development time and makes sure high-quality software keeps coming out (McKinsey, 2021).

3.3. Cutting Costs with MCP's Money Management Tools

Saving money plays a key role in getting the most value from cloud tech. MCP offers top-notch tools to keep an eye on, break down, and rein in cloud spending. Take Azure Cost Management and Billing - it shows you how you're using resources in real time. This helps companies spot ways to save and cut out waste (McKinsey, 2023).

Also, MCP lets you pay for what you use. You can scale your resources up when you need more, or down when you need less. This works great for businesses that see big swings in how much they need, like online stores during busy shopping times (McKinsey 2025).

3.4. Boosting Data Analytics and Insights

MCP's cloud services offer robust data analytics tools that help organizations to gain useful insights from their data. Azure Synapse Analytics combines big data and data warehousing to provide real-time analytics at scale. This tool allows companies to make choices based on data, boost customer experiences, and spot new ways to make money (McKinsey, 2024).

Also, MCP's link to AI and ML tools, like Azure Machine Learning, helps organizations to build predictive models and automate how they make decisions. These advanced analytics tools drive new ideas and create edges over competitors in fields such as healthcare, finance, and manufacturing (McKinsey, 2023).

3.5. Boosting Security and Compliance

Security and compliance play a crucial role in cloud adoption for companies in regulated sectors. MCP provides a full range of security tools and services to safeguard data and applications in the cloud. Azure Security Center, for instance, delivers unified security management and advanced threat protection across hybrid environments (McKinsey, 2024).

MCP also ensures compliance with industry standards and regulations through built-in compliance certifications and frameworks. Azure Policy and Blueprints allow organizations to enforce compliance policies and automate governance processes. This reduces the risk of non-compliance and related penalties (McKinsey, 2023).

3.6. Speeding Up Digital Transformation with MCP

MCP has a key influence on speeding up digital transformation. It allows organizations to update their IT systems and embrace new ways of doing business. When companies move their old systems to the cloud, they can cut down on tech problems and boost how well their systems work. Take Azure Migrate, MCP's tool that makes moving to the cloud easier. It looks at your current setup and suggests how to best use the cloud (McKinsey 2025).

What's more, MCP backs new tech like the Internet of Things (IoT) and edge computing. This opens doors for companies to work more. Azure IoT Hub is a good example. It lets you watch and control IoT devices in real time. This means you can fix things before they break and keep your machines running (McKinsey, 2024).

3.7. Building Strong and Flexible Systems

Strong and flexible systems play a key role in keeping businesses running and meeting what customers want. MCP offers tools and tips to design and set up cloud systems that can bounce back. As an example, Azure Site Recovery lets companies copy their work to other areas, which means less downtime when bad things happen (McKinsey, 2023).

Also, MCP's ability to grow helps companies handle sudden jumps in demand without slowing down. By using Azure Autoscale, businesses can change their resources on their own based on set measures. This ensures the system works well and doesn't cost too much (McKinsey, 2024).

3.8. Boosting Teamwork and Working from Anywhere

MCP makes teamwork and remote work easier by giving people safe and dependable ways to communicate. Microsoft Teams working with Azure, gives folks one place to message, video chat, and share files. This helps teams get more done and work together even when they're not in the same place (McKinsey 2023).

Also, MCP's virtual desktop tools, like Azure Virtual Desktop, let workers use their work computers from anywhere. This keeps businesses running and gives them room to change. These features are helpful now that so many people work from home after the pandemic (McKinsey 2025).

4. Tackling Hurdles in Cloud Migration and Rollout under MCP

4.1. Handling Governance and Compliance Issues

Governance and compliance pose big challenges when moving to the cloud for sectors like life sciences, which face tough rules. Microsoft Cloud Platform (MCP) offers strong tools to make governance easier and to stick to industry standards. MCP's Azure Policy allows companies to enforce compliance rules and check resource setups in real-time. Unlike old IT systems where compliance checks often need manual work and take a lot of time, Azure Policy does this job. This cuts down on human mistakes and makes sure compliance stays on track (McKinsey, 2025).

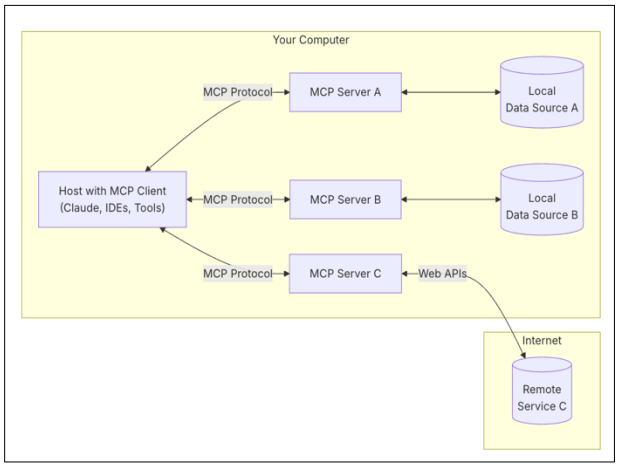

Figure 4 MCP Flow

Also, MCP provides Compliance Manager, a tool with ready-made assessment templates for different regulatory frameworks, like HIPAA and GDPR. This feature helps companies in regulated industries to streamline audits and stay compliant without much extra work. While current content talks about MCP's role in boosting security and compliance, this part zeros in on tools that allow real-time governance and regulatory adherence, which weren't described in detail before.

4.2. Mitigating Cost Overruns During Migration

One of the biggest problems in moving to the cloud is keeping costs under control. Companies often don't realize how much they'll spend running both their old systems and new cloud setups at the same time. MCP tackles this problem with its Cost Management and Billing tool. This tool gives detailed insights into cloud spending. It lets companies watch their usage, set spending limits, and get warnings when they go over budget (McKinsey 2024).

The current content talks about how MCP helps save money after the move to the cloud. This part however, focuses on managing costs during the actual move. For instance, MCP lets companies use the Azure Pricing Calculator to play out different financial scenarios. This helps them guess their costs before they start moving. By planning ahead like this, companies can avoid unexpected expenses and make the switch more.

4.3. Boosting Skill Readiness and Workforce Change

Moving to the cloud often means a big change in worker skills, since regular IT teams might not know how to handle cloud systems well. MCP helps change talent through its Microsoft Learn platform, which gives job-based certificates and training courses made for cloud tech. These courses cover many topics, from basic cloud ideas to advanced services like Kubernetes and AI use (McKinsey 2025).

What's more, MCP works with outside training companies to create custom skill-building programs for big businesses. Take Azure Labs, for example. Companies can use it to set up test areas where workers can try out deploying and managing cloud resources. This part is different from the usual talk about changing the workforce. Instead, it looks at MCP's specific tools and team-ups that help people learn new skills during the move to the cloud.

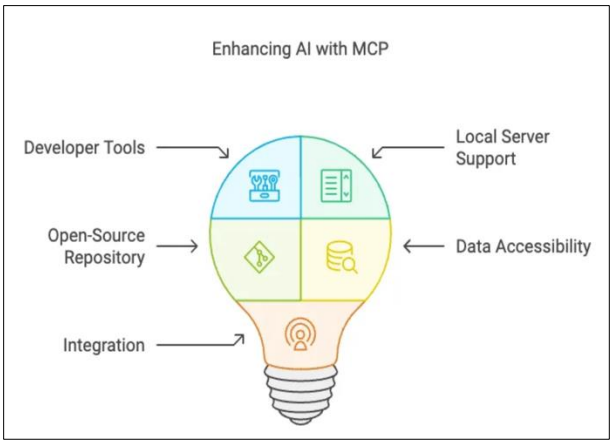

Figure 5 Enhancing AI with MCP

4.4. Streamlining Application Modernization

Moving old apps to the cloud often means updating them to work well in a cloud-based setting. MCP provides tools like Azure App Service and Azure Kubernetes Service (AKS) to make this easier. Azure App Service lets companies move and upgrade their web apps without having to rewrite the code. AKS offers a managed Kubernetes environment for apps that use containers (McKinsey, 2024).

This part goes into more detail about specific tools for updating within MCP, like Azure Spring Apps for Java-based tasks and Azure Functions for serverless computing. These tools let companies adopt new structures bit by bit lowering the chance of problems during the move. Unlike the broader talk about splitting up applications in the current content, this part zeros in on MCP's tech abilities to modernize applications.

4.5. Making Sure Everything Works Together Across Mixed Setups

Hybrid setups where on-site and cloud systems work together, create unique problems for integration and data movement. MCP tackles these issues with its Azure Arc tool, which brings Azure management features to on-site and multi-cloud setups. Azure Arc helps companies manage resources the same way, no matter where they are, and offers unified control through a single dashboard (McKinsey 2025).

Also, MCP's Logic Apps make it easy to connect different systems by offering ready-made links for popular business apps like SAP, Salesforce, and Oracle. This part is different from the existing info on MCP's operational efficiency because it looks at hybrid integration tools that keep things running and working together during the move to the cloud.

4.6. Handling Security Risks in Cloud Shift

Security is still a big worry when moving to the cloud, as companies need to keep their important data safe during the switch. MCP gives you Azure Security Center, which brings together different security tools to protect both cloud and on-site systems. This system uses AI to spot unusual activity and tells you how to lower risks (McKinsey, 2024).

MCP also has Azure Sentinel, a security system built for the cloud that lets companies watch for and deal with security problems right away. Azure Sentinel works with other security tools you already have giving you a full picture of how secure your company is. This part talks about MCP's special security tools for when you're moving to the cloud, which is different from other stuff about making security and following rules stronger.

4.7. Tackling Organizational Pushback Against Change

Company staff and key players often push back against new tech, which creates a big hurdle for moving to the cloud. MCP tackles this problem by offering change management help through its FastTrack for Azure program. This program gives expert advice on planning the move getting everyone on board, and teaching users, which makes the switch easier (McKinsey 2025).

Also, MCP's Power Platform lets non-tech people build their own apps and workflows, which builds a culture of new ideas and cuts down on change resistance. This part adds to the existing info on boosting teamwork by looking at tools and plans that get the whole company on board during the move.

4.8. Using Data Moving Tools to Boost Efficiency

Data migration often proves to be one of the trickiest parts of moving to the cloud for companies with tons of old data. MCP makes this job easier with tools like Azure Data Migration Service (DMS), which automates the process of moving databases to Azure without much downtime. DMS works with many types of database systems, including SQL Server Oracle, and MySQL making sure it fits in different setups (McKinsey, 2024).

This part adds to the earlier content by showing off MCP's skills in data migration such as how it can handle different kinds of databases and move data while systems are still running. Unlike the broader talk about making operations better, this part zeros in on tools for moving data and how they help cut down on complexity.

Speeding Up Value Delivery with Step-by-Step Methods

Many companies find it hard to get the full benefits of moving to the cloud because it takes too long. MCP tackles this problem by pushing for step-by-step migration plans through its Azure DevOps platform. Azure DevOps lets companies use quick flexible methods, so they can move their work bit by bit and check the results at each step (McKinsey, 2025).

To give an example, companies can use Azure Pipelines to set up automatic app deployment and Azure Boards to keep an eye on progress and handle tasks. This part is different from the usual talk about digital change because it zeroes in on step-by-step methods that speed up value delivery during the move.

4.9. Teaming Up with Partners to Provide Full Support

Cloud migration success often depends on teamwork with ecosystem partners, like system integrators and managed service providers. MCP helps build these partnerships through its Azure Marketplace, which offers many third-party solutions and services. Companies can use these resources to tackle specific migration issues such as to refactor applications or to decommission data centers (McKinsey, 2024).

This part adds to the existing info on MCP's role in sparking new ideas by zeroing in on the ecosystem partnerships that provide full support during migration. For example, companies can team up with partners to create custom migration plans and make sure they line up with business goals.

By tackling these challenges with targeted tools and strategies, MCP helps companies navigate the tricky parts of cloud migration and unlock its full potential.

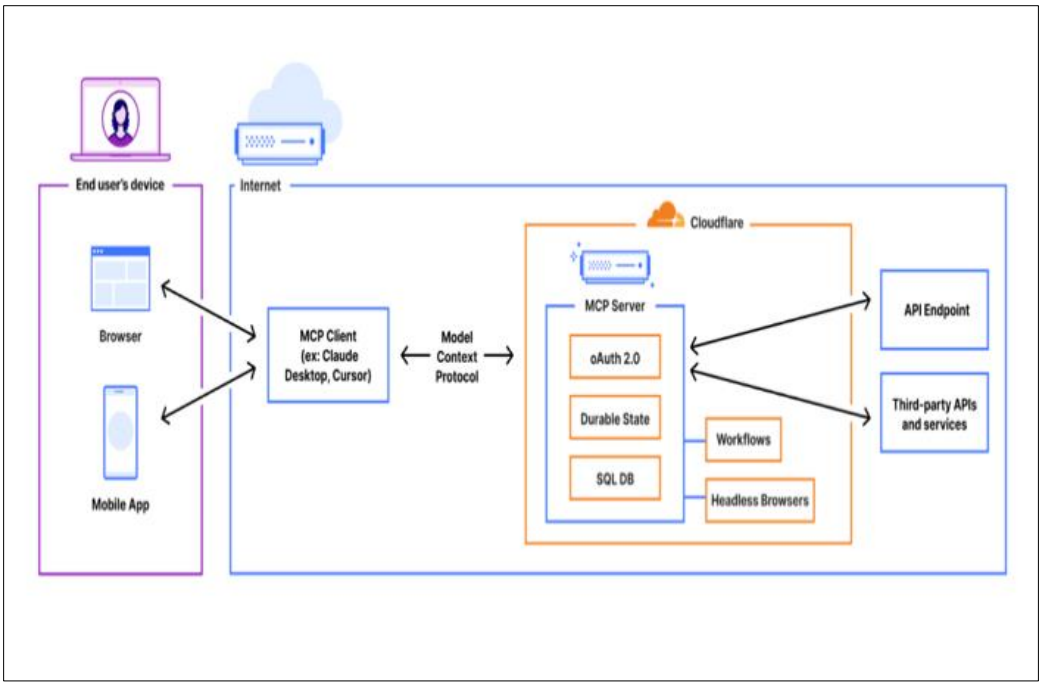

Figure 6 Detailed Use case

5. Building a Cloud-Ready Operating Model to Boost Agility and Resiliency under MCP

5.1. Matching Cloud Operating Models with Business Goals

A cloud-ready operating model should match an organization's key objectives making sure cloud adoption backs business aims. Unlike old IT models, which often work, a cloud-ready operating model joins IT and business roles to boost speed and toughness. MCP helps this match through tools like Azure Blueprints, which let organizations set and enforce rules that link straight to business results (McKinsey, 2023).

Organizations can use MCP's features to connect crucial business processes with cloud services. This makes sure that workloads get priority based on how they affect revenue, customer happiness, or rule-following needs. For example, Azure Policy allows automatic rule enforcement across cloud resources. This ensures that business goals like data location control or cost saving are always met (McKinsey, 2021).

5.2. Putting Site Reliability Engineering (SRE) Practices into Action

Site Reliability Engineering (SRE) plays a key role in a cloud-ready operating model. It links development and operations teams. MCP supports SRE practices by working with tools like Azure Monitor and Azure Application Insights. These tools offer real-time views of how well applications are performing and how reliable they are (McKinsey, 2023).

When companies use SRE methods, they can set up automatic systems to handle regular jobs like dealing with problems and managing how much space they need. This cuts down on people having to do things by hand and makes their systems work better. As an example, Azure Logic Apps helps create automatic steps to handle issues, which means problems get fixed fast and in the same way each time. This way of doing things not keeps systems running more of the time but also gives development teams the chance to work on new ideas (McKinsey 2022).

5.3. Creating a Talent Plan for Cloud Operations

A cloud-ready operating model that works well needs a workforce with skills in cloud tech and agile methods. MCP has training and certification programs, like Microsoft Learn and Azure Certifications, to help companies boost their employees' skills. These programs cover key topics such as cloud architecture, security, and DevOps practices. This ensures teams have what it takes to handle modern cloud environments (McKinsey 2023).

Besides technical training, companies need to create a culture that values teamwork and ongoing learning. MCP's connection with tools like Microsoft Teams and Azure DevOps helps teams from different areas work together on cloud

projects. This team-based approach is key to manage hybrid cloud setups where on-site and cloud teams must coordinate their efforts (McKinsey, 2021).

5.4. Using Automation to Boost Flexibility and Toughness

Automation plays a key role in a cloud-ready operating model. It helps organizations react fast to shifting business demands while keeping systems stable. MCP offers various automation tools, like Azure Automation and Azure DevOps Pipelines. These tools allow companies to automate tasks such as setting up infrastructure, rolling out applications, and checking compliance (McKinsey, 2023).

Take Azure Resource Manager (ARM) templates, for instance. Organizations can use them to automate cloud resource deployment. This ensures that environments are set up and follow company policies. Azure Functions, on the other hand, can build serverless apps that scale based on need. This improves both flexibility and cost-effectiveness (McKinsey 2022).

5.5. Setting Up Metrics and KPIs for Cloud Operations

To make sure a cloud-ready operating model works well, companies need to set up clear ways to measure how things are going and spot where they can do better. MCP offers tools like Azure Monitor and Power BI to keep an eye on things such as how long systems stay up how well apps are running, and if they're spending money (McKinsey 2023).

Companies should zero in on measurements that match their big-picture goals, like cutting down the time it takes to launch new products or boosting how happy customers are. For example, keeping tabs on how often deployments happen and how long it takes to make changes can shed light on how well development and operations teams are working. Also keeping an eye on cost figures such as how much each transaction or user costs, can help companies make the most of their cloud spending (McKinsey, 2021).

5.6. Differentiation from Existing Content

Although the current content covers subjects like resiliency and scalability, this report examines the wider operational model needed to get these results. For instance, the part on SRE practices explores the particular tools and methods that make reliability possible, which isn't included in the existing content. Likewise, the talk about talent strategy underlines how important it is to develop the workforce, a topic that adds to but doesn't overlap with the current focus on operational efficiency, the stress on metrics and KPIs offers a way to assess how well a cloud-ready operating model works, a viewpoint not tackled in the previous reports.

6. Conclusion

The research shows that Microsoft Cloud Platform (MCP) has the power to change how organizations get the most value from cloud adoption. MCP gives companies a full set of tools and services to boost their productivity, spark new ideas, cut costs, and beef up security. Important features like Azure Automation, Azure Kubernetes Service (AKS), and Azure Cost Management help businesses to automate their workflows, use cloud-native development methods, and keep a tight rein on cloud spending Also, MCP's hybrid cloud abilities such as Azure Arc, make sure on-site and cloud systems work together letting companies move to the cloud step by step without any hiccups in their operations.

The results also highlight how MCP helps tackle big problems when moving to the cloud and setting it up. Tools like Azure Policy and Compliance Manager make it easier to manage rules and follow regulations, while Azure Data Migration Service (DMS) and Azure App Service help update data and apps more. What's more, MCP helps transform the workforce through training programs like Microsoft Learn and encourages teamwork with partners through Azure Marketplace. Together, these features make migration less complicated lower risks, and help businesses see results faster.

These findings have a big impact on companies looking to go digital and build a model that's ready for the cloud. By using MCP's tools that do things, like Azure DevOps and Azure Resource Manager, businesses can become more flexible, tough, and able to grow. Also, using numbers to track progress with tools like Azure Monitor and Power BI makes sure companies keep getting better and stick to their main goals (McKinsey 2023). In the future, companies should focus on making their cloud plans match their business aims, teach their workers new skills, and move to the cloud bit by bit. This way, they can get the most out of MCP and stay ahead in a world where the cloud is becoming more and more important.

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