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# Rise of AI and Automation: Transforming IT Operations and Driving Business Innovation

AI used to be a novelty in the business world. A few short years ago, it seemed only a few were using it. Reality has inverted. Now, it’s hard to find an organization that *doesn’t* use AI in one form or another. Whether it’s programming, designing marketing plans, or creating artwork for ads, AI has become a ubiquitous force.

But, in some organizations, there’s still some trepidation around using AI in IT operations and for business innovation. Some may feel that AI can do a decent job at writing an email, but solving IT issues is best left to the human mind. Others have similar sentiments when it comes to driving business innovation: There’s no replacement for human creativity as you take your company to the next level.

In reality, they’re right. Human intuition and creativity are far from obsolete. At the same time, however, AI can play an integral role in your IT ops and innovation initiatives. The right AI strategy results in each employee having their own team of smart, digital assistants. And, in many cases, an AI integration can add unprecedented efficiency and accuracy to core IT processes.

## AI-Powered Cybersecurity: Greater Efficiency and Accuracy

AI is a natural partner for a cybersecurity team, and many are already using it. When you’re hunting for threats, you’re basically collecting and analyzing data. For instance, suppose your website gets hit with a distributed denial-of-service (DDoS) attack. Here’s how that may play out:

1. Your traffic monitoring solution detects a spike in site requests.
2. You check the report and see the requests are coming from many different IP addresses from a number of geographic locations.
3. You check your server’s response times, and they’re much slower. CPU and memory usage are spiking far beyond normal levels. This confirms you’re dealing with a DDoS attack.
4. Realizing you’re dealing with a volumetric attack, you configure your firewall to filter out traffic from all of the malicious IP addresses involved in the attack.
5. After your firewall successfully filters out all of the traffic from the DDoS botnet, the false request ceases, and your server returns to normal operating levels.

If you can do this relatively quickly, it’s a huge win for you, your team, and your organization.

But there’s a better way.

AI can do all of the above. Here’s why: Each step in the detection process involves analyzing data and looking for anomalies that violate an established pattern. The mitigation steps center around network configuration.

AI excels at performing these and other data-dependent functions. With the right suite of AI solutions, you can automate the legwork and focus on other important tasks.

While this is just one example, the principles apply to many cybersecurity operations. AI can collect, analyze, and act on a wide variety of data.

## Automated IT: Streamlining Core Functions

The ability of AI to process data and make decisions also paves the way for automating a number of IT functions. How much time have you spent over the last year deploying software patches? How about managing updates for legacy computers and hardware? These tasks often consume several precious hours each week, and an AI system can reduce many hours to a few minutes.

## Network Monitoring

For many organizations, bandwidth requirements shift constantly, and it’s common for network congestion to put a cog in the operational gears.

AI is introducing what amounts to next-generation SD-WAN. With traditional SD-WAN, you program in rules that tell your network what to do given certain conditions.

For example, you can tell an SD-WAN system to route all videoconferencing traffic to a network that delivers very low latency. You can also have it process all file downloads using a network that’s more prone to latency, as a little latency isn’t a big deal when downloading a file. However, it could completely derail an important conversation during a video conference.

But AI can take these and similar automation to another level of convenience. Your AI can analyze all traffic, as well as the performance and configuration of your network and then dynamically decide how to manage all data.

Also, using machine learning, an AI-powered system can learn how your network state fluctuates and its traffic patterns and then use that data to improve its decision-making.

## Predictive Analytics: Always Staying a Step Ahead

AI has been playing a role in predictive analytics for a few years now, and you may have already used it to some extent. For example, you can enter a dataset into a generative AI solution, like Gemini, and it can tell you what’s likely to happen in the future based on trends it observes in the data.

However, predictive analytics engines can also integrate AI into their core functions, and this can result in enormous time and money savings for IT teams.

To illustrate, suppose you have a business-critical server running as part of a hybrid cloud infrastructure. Your cloud functions depend on data flowing from your on-premise server, making it a crucial hub for your operations. Consequently, downtime can be very costly.

A predictive analytics tool empowered with AI can predict when the server might fail long before it actually happens. For instance, it can monitor the server’s heat output, fan speed, and temperatures at different points along its silicon infrastructure. It can also contextualize its readings, comparing different measurements to CPU load while also factoring in atmospheric factors, like room temperature and humidity. By recognizing patterns, your AI system can tell you when your system is most likely to fail, giving you plenty of lead time to replace a component or purchase a new one.

## AI: Your New IT Team Member

Some fear that companies will use AI to boost profits by reducing payroll as they replace people with robots. However, many organizations have been taking a very different approach. They boost profit by using AI to help people do more in less time.

The IT industry is on a similar trajectory. It’s important to embrace AI as a team member. It’s not your competition; it’s your complement. The best way to adopt this mindset is to proactively seek out ways to use AI tools. When you find something that may work, approach a manager or other decision-maker, then reach out to the provider for a demo or start a free trial.

You should see this as the probationary phase—a “tryout” for your new AI assistant. If it performs well, you embrace it. If it falls short, you move on to the next “candidate.”

## How Fiber Enables an AI Infrastructure

Fiber optic service is key to enabling AI infrastructure because it gives you the bandwidth and flexibility you need to run AI processes. Even though AI systems can make complicated decisions and manage huge amounts of data, they still have to run on a network. If your network has the speed and bandwidth of fiber, it may be able to handle many AI-powered systems at once.

Also, by connecting multiple areas of your network using fiber connections, you can unite your AI-enabled infrastructure, turning it into one, unified “brain.” The efficiency of fiber then allows you to share data between disparate applications and network components at the speed of light.

## Use Cloud Services to Shorten Your AI Runway

You don’t have to build your AI solutions on your own. Many are already available through cloud services. In some cases, an AI-enabled system is plug-and-play ready, and you can adjust it to meet your network needs very quickly. But you can also use existing AI-powered cloud tools to build your own custom solutions. All you need is the right cloud provider.

## Choose Acme Business for Your AI-ready Infrastructure

Acme Business can give you the kind of fiber network that’s ready for years of AI innovation. Acme also provides cloud solutions and guidance around choosing the best one for your business needs. Acme Business’s experienced experts learn your needs and then help you configure your system, so it meets or exceeds expectations.

Connect with Acme Business today to learn more.