In today’s service-led, cloud-centric, and API-connected business landscape, monolithic software struggles to keep up with the rapid development of new innovations, tools, and platforms. In this ‘always on’ and ‘always connected’ world, it is no longer feasible to release software products on a multi-month or multi-year development cycle.

Microservices is the architecture of choice for companies seeking a highly scalable, cost-effective, and resilient approach which helps them operate in a fast-moving business climate. Microservice-based software applications are being utilised by companies such as Amazon, Netflix, Uber, Comcast, eBay, Karma, and Capital One for their business-critical apps.

Traditional monolithic applications work as a standalone software program built to operate separately and independently from other computing applications. Since every component must essentially be built-in in the application, these types of systems have limited flexibility, adapt poorly to change, and are prone to risk.

These drawbacks have led to a shift towards adopting microservices, which are better suited to business needs in the digital age. The microservices approach breaks down a complex application into several autonomous services, which are small, independent processes that communicate and work together to perform the functions of a monolith in a more flexible way. Although each component is connected to another, it is assigned a different task using a modular methodology—connecting all the pieces of the modern software puzzle to deliver smoother, more agile business performance.

For monolithic applications, every time an additional component is integrated or a new change is required, the entire system must be upgraded and rebuilt. With this style of development, there is a risk of interrupting background tasks which makes the system susceptible to failure during startup—which results in poor business agility. Even minor changes or enhancements can become a time-
Migrating from monoliths to microservices is more feasible for a business than building an entirely new system.

and effort-intensive process, prolonging time to market and resulting in higher cost, greater risk, and more errors. Comparatively, microservices are autonomous and independent, which means that they can tolerate the failure of one or more services without crashing the entire system. Microservices are elastic, resilient, and responsive—designed to react quickly to failure with only minimum application downtime. Integrating new components with much shorter lifecycles than the monolithic legacy applications is one of the main reasons businesses are migrating to microservices in order to scale their developments to accommodate numerous and varying processes.

Simply put, migrating from monoliths to microservices is more feasible for a business than building an entirely new system. No company can afford to have operations grind to a halt while a new IT framework is deployed, and re-writing legacy applications from the ground up is neither practical nor financially feasible.

Relying on a single monolithic application requires a long-term commitment to a technology stack or particular version of that system, effectively stopping the clock on an enterprise’s technology environment at the moment that application comes online. In such a case, the entire application must be rewritten in order to adopt a new technology or update the software.

In the long term, this is not economical from a business perspective. Both risky and time consuming, these realities hinder company growth and the ability to compete with newer competitors who began life without the technical debt that traditional players carry around with them.

Holding on to archaic, monolithic configurations might initially seem like the
Updates to the microservices API can be deployed without impacting business as usual, allowing enterprises to innovate while they operate.

simplest option, but the decision to do so will hinder the ability to innovate and have a detrimental impact on propelling the business forward. Developments in technology and innovation represent revenue streams that business leaders can exploit, but without the right framework to support them, growth will be limited.

In contrast, because they are resilient and flexible to today’s changing work requirements, a microservices-oriented architecture gives businesses a significant advantage by letting them experiment with new business ideas.

Using microservices, systems can have multiple versions of services running side by side, providing backward compatibility and easy integration. Updates to the microservices API can be deployed without impacting business as usual, allowing enterprises to innovate while they operate. By adopting microservices, companies can achieve up to a 20% reduction in development costs and 20% faster time to market.

Microservices applications also emphasise real-time application monitoring, to enable better system transparency and fast response time. Semantic monitoring can provide an early warning system that detects failures and quickly triggers alerts to prompt development teams to investigate or even restore service automatically.

In addition, systems can evolve incrementally, by implementing one service at a time in order to bridge the gap between a monolithic architecture and microservices. Over time, more aspects of the business will be shifted to this style of software development until eventually the use of the monolith will shrink to an extent where it is no longer needed.

When it comes to building software applications, I believe the time is now for businesses to turn away from the old monolithic mindset and begin the move to an architecture more suited to today’s digital world. In the modern business landscape, applications are multi-faceted, touching and interacting with virtually every part of your business, and microservices are a powerful way to make the required change.

If your core systems are unable to evolve, you will not be prepared to address a rapidly changing marketplace, meet changing consumer expectations, or compete in the digital age. However, with the right mix of skills, the right approach to technology, and a forward-looking mindset, any business—no matter how ‘legacy’ they might be—can truly go digital.