Advantages and Disadvantages of Cloud Computing

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Introduction

In this golden age of advanced digital technology, some companies still employ on premises systems as they are fearful about adopting advanced technology such as the cloud computing. The issue with on premises systems is that they have a low potential of scalability, as they are hardware dependent (Ahmed & Hossain, 2014). They also lack flexibility such as in the case of restructuring the IT system after a merger of two or more companies. Servers and their utilities must be allocated a lot of space within the premises while a dedicated skilled workforce must be sourced to maintain the hardware and software (Ma, 2012). This translates to high operating costs.

Most of these on premises systems have a poor security system as they are prone to data breaching by sophisticated malware. Furthermore, there is less chance of data recovery due to the costs involved (Singh, 2013). In most cases, the data cannot be accessed remotely, which hinders the staff from collaborating and sharing data effectively across different locations. This has forced some companies to migrate to cloud computing, as it seems to offer a lot of functions companies need nowadays. Hence, this study aims to highlight the benefits and limitations of cloud computing so as to illustrate if this technology is worth adopting.

Discussion

Just like every technology, cloud computing has its own pros and cons which must be taken into consideration when businesses want to adopt it (Rittinghouse & Ransome, 2009). Cloud computing offers unique benefits and the first one is the low upfront costs when compared to the traditional model. The cloud offers a simple pay as you go and pay for what you use model, which makes it a very efficient system. In a traditional project, a business must go out and buy a bunch of servers, additional rack space, and more networking equipment

when performing large projects. If that project is cancelled, the company will be stuck with all the upfront investments. This is not the case with cloud computing. The business can opt to simply cancel their subscription to the cloud provider and all their files will be sent back (Dogo, et al., 2013). Cloud computing also offers the benefit of not worrying about capacity, as the business can easily scale up in case of a surge in demand. This is useful especially during seasonal periods such as the Christmas rush, where demand for computing grows due to high traffic in networks. Since the model is cloud based with no infrastructure constraints, it is possible to increase speed and agility.

Another major benefit of this technology is that it provides resources very quickly, which enables the enterprise infrastructure to adapt quickly to the changing market. This factor was evident during the critical period of the COVID pandemic, which witnessed a lot of uncertainty in the market (Abdalla & Varol, 2019). Enterprises that had cloud services adapted very quickly, as they had greater capacity that utilized relatively good speed while still maintaining a lot of agility. This enabled companies to focus on what mattered most, such as spending more time on developing applications that add value to the enterprise (Islam, et al., 2013). Furthermore, the current digital age requires enterprises to adjust quickly when they expand to global markets. Cloud computing makes this possible with ease due to the massive scale of shared infrastructure. For example, cloud providers such as Amazon, AWS, and Microsoft Azure, have worldwide data centres coverage, which firms can take advantage of at a fraction of the cost.

Despite all these benefits cloud computing offers, it has several limitations. The first one is that businesses do not have physical control over its environment, as they cannot schedule a visit to an AWS data centre, in order to check the cloud servers running their IT system. This is simply not possible due to the security constraints. Furthermore, the firm

shares that infrastructure with several other customers (Balachandran & Prasad, 2017). There are cases where regulated industries may require physical custody of data and processing equipment. Some highly specialized applications and regulated industries may require that the firm has in physical possession certain types of data. All this is not possible when the company is utilising cloud computing.

Another issue is network latency such as in the case where the firm's application requires that the processing centre to be very close to the user. The latency between the user and the cloud may be too great for very specific types of applications. A good example is in the case of a plane where the flight control system has to process instructions from sensors quickly and promptly send instructions (Mukherji & Srivastava, 2016). This is not possible if the system is operating over a wireless network when trying to control a flight, as the latency would be too great for that to be possible. Furthermore, since it is very easy to provide resources in cloud computing, this can lead to problems if there is no good governance in regulating the firm's app (Islam, et al., 2013). This results in cloud sprawling which translates to a significant rise in cost of the cloud service.

Conclusion

Cloud computing is a rapidly growing industry that has several significant advantages over the traditional on premises IT systems. Instead of a company operating its own data centre, cloud providers provide all the required services at reasonable cost. The cost of service is kept minimal through employing the pay as you go and pay for what you use model. Furthermore, the cloud offers far much greater capacity, which enables the system to have relatively good speed, flexibility, and agility. Despite the several benefits cloud computing offers, it has several drawbacks such as network latency, cloud sprawling, and inability to control the firm's physical environment. However, it is worth noting that even though cloud

computing has several disadvantages, it is a useful technology that meets most of the current

business challenges.

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