

Topic:

Cloud computing is one of the new technologies in this 4IR era that is becoming popular. Explain what it entails and how it has impacted businesses. Give practical examples.

Subject:

Technology Management (MBAB 821)

Date of submission:

29 August 2020.

Name: (Members contributing to project)

Name: (Members contributing to project)	Student number	Participation
Morakane Seleke	36874620	Participated
Jeanne-Marie Brown	10825541	Participated
Tshego Manoto	26812355	Participated
Tshediso Senne	28578759	Participated
Vusi Masemola	27702553	Participated
Sello Matime	32855478	Participated
Benedict Modise	29930650	Participated

Table of Content

1. Cloud computing background.....	Page 1
2. How does it work.....	Page1–2
3. Cloud impact in health care industry.....	Page 2
4. Cloud Impact in Netflix.....	Page 2 - 3
5. Conclusion	Page 3
6. Reference.....	Page 4

1 Cloud computing background

Cloud computing is one the fastest growing segment in Information Technology. It is used in many industries as a form of social networking, information storage and software systems provided by companies like Amazon, Google, IBM and Microsoft (Khayer, Bao & Nguyen 2020: 965). Cloud computing is a resource infrastructure of a service and software that offer users a platform that includes application program interfaces, gateway software or website portals to allow users access to access data and software from any location (Khayer *et al*, 2020: 973). The Building an Intelligent Africa Summit (2020) is exploring opportunities of how cloud computing could transform industries such as finance, energy, manufacturing, mining, telecommunications, retail and others during the Fourth Industry Revolution (4IR). Therefore, cloud computing is regarded as an emerging and innovative technology used to change the way we work, live, and relate to people through 4IR technology trends.

2 How does it work?

Cloud computing to businesses is the on-demand of Information technology resources via the internet with pay as you need pricing option. Instead of business buying and owning or maintaining physical data servers, they can access technology services such as computing powers, storage, and databases on an as-needed service from a provider. Cloud computing is used for data backup and disaster recovery, email virtual desktops and customer facing web applications (Courie, 2019). Most businesses opt for private cloud because of its safety feature and have control over privacy concerns. Health care companies use cloud to develop personalized treatment for patients. Financial services use cloud to power real-time fraud detection and prevention. Head of Google Cloud, Thomas Kurian identified Cloud as a way how businesses differentiate capability of how do they help a retailer to reach customers better, and how do you help a marketer, market better and deliver unique solutions for different industries is seen a big future for cloud. It's about cost efficiency and cost optimization.

Through cloud computing, a business can become more agile, reduce cost and instantly scale, it provides business to an instant access to broad range of technologies and divert their attention to innovate faster. Data is accessed free from cloud in real-time at any time when it is needed. This data can be scaled up and down

to grow or shrink capacity instantly. It makes it easy for business to expand to new regions.

Amazon's web services have infrastructure all over the world, they are able to deploy applications in multiple physical locations in just a few clicks, putting applications in closer proximity to end users by reducing latency and improving the experience users. Cloud frees business from managing infrastructure and data management centers to allow focus on what matter most to most businesses. Cloud has improved the way we communicate, interact, and sell information or ideas.

3 Cloud impact in health care industry

Cloud computing has provided biometrical research with acceleration and discoveries of new drugs, therapeutic treatment, and cure. Farahani *et al* (2018;659) suggests that health care is receiving an exponential growth of high valued data from electronic health records, mobile health technology like cancer and diabetes treatment. The cloud provides medical emerging data of patients' lives based on where they are born live and work. Data stored on cloud has assisted health professionals in detecting cancer or diabetes. It enables doctors to easily diagnose and can guide prognosis. Tests are conducted and shared on an experimental data main domain across many medical disciplines. Few health care service switched to cloud because services were not reliable and maintenance cost were rising. Data and health records are now stored on the cloud, so they are accessible from anywhere. It has become easy for doctors to discuss results with specialist and keep better track of patients' recoveries. Medical data is safely stored in a private cloud and will not get lost. Hospitals invest in a pay as you go model, only pay for cloud capacity and service that they use with zero maintenance cost and high savings on energy costs.

4 Cloud impact in Netflix

Netflix is a global destination for people to enjoy movies and TV shows built on the cloud and company that is technologically driven and focused. In 2009 Netflix migrated almost entirely from an on-premises data center environment to a public cloud-based setup located in the Amazon Web Services infrastructure. It uses Amazons infrastructure for servers and storage that allow users to save their data anytime and anywhere all running Amazon Web Service (AWS) cloud. A service like Netflix, elasticity and scalability is important. The AWS can expand and shrink its footprint

based on traffic. It serves over 1 billion of content per month all running from the AWS infrastructure. The cloud allows content developers the freedom and use the judgment to spin up instances to do tests or experiment at any time in seconds for services required procured to users. Users content selection is stored on cloud and new tv content can be scaled according to history viewing.

It continuously improves to grow their customer base. The plan is to get more customers, providing them with a service and capacity that support many more users (Frankel, 2019). The users expect that when they turn on the Netflix service it would just work, part of it is attributed that Netflix is now on AWS cloud. Users from all over the world can stream movies anytime and anywhere as the file is loading and not having to wait for the entire file to load before users can begin watching. The stream service on cloud has exponentially increased demand, services are less expensive and virtually accessible anywhere.

5 Conclusion

Businesses in South Africa are slowly understanding the value cloud or internet offers. Despite business benefits that comprise of reduced IT costs, faster speed-to-market, better service levels cloud is empowering in the digital business and there is still a lot of sectors that are struggling to capture those benefits. Companies may consider options of leveraging a qualified third-party to manage their cloud services because cloud computing is a complex business model to model. Cloud computing is reliable because information can be copied at multiple redundant sites on the cloud provider's network. However, there are setbacks of confidentiality and security concerns especially in public cloud due to a widespread accessibility to almost everyone. It invites opportunities for hackers. Technical support can become costly in events where one incurs problems on the cloud. The only way to cloud computing is through the internet. Quality of cloud computing servers needs to be on par with a good internet connection for efficient functions and capacity use.

References

Courie, E. 2019. *Cloud Interview South Africa*.
<https://www.bizcommunity.com/Article/199/994/> Date of access: 25 Aug. 2019

Farahani, B., Firouzi, F., Chang, V., Badaroglu, M., Constant, N., Mankodiya, K. 2018. Towards fog-driven IoT eHealth: Promises and challenges of IoT in medicine and healthcare, *Future Generation Computer Systems*, 78, pp. 659-676.

Frankel, D. 2019. *Media giants chase Netflix in the cloud*.
<https://www.nexttv.com/news/media-giants-chase-netflix-in-the-cloud> Date of access: 26 Aug. 2020

Google Cloud's Thomas Kurian on the future of cloud and Google. 2019. <https://www.msn.com/en-us/money/topstocks/google-clouds-thomas-kurian-on-the-future-of-cloud-and-google/vi-BBYUBbl> Date of access: 25 August 2020

Khayer, A., Bao, Y., Nguyen, B. 2020. "Understanding cloud computing success and its impact on firm performance: an integrated approach." *Industrial Management & Data Systems* 120(5): 963-985.