

Cloud-burst in Covid Times

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Abstract

This paper discusses the changes and transformation witnessed on the digital platform due to the outbreak of pandemic. Fluctuating strategies and techniques are required to be competitive in this new commercial and economic environment. Most executives perceive technology's strategic value as a crucial component of the business, not only a source of cost reductions. Data from various companies was observed and mentioned that have dealt in the crisis showing a variety of technology capabilities in comparison with other businesses, including reaching technology talent gaps during the crisis, using advanced technologies, and experimenting and innovating quickly in accordance with the demands.

Keywords

Cloud computing, Digital transformation, Covid-19, Software as a Service(SaaS), Platform as a Service(PaaS), Infrastructure as a Service(IaaS).

1. Introduction

Pre covid scenario included the digital transformations of entities in a defined and set pace with its own specific journey. Each and every organization was working on its vision and missions and techniques to achieve those at their own particular speed. However, the outbreak of the pandemic in late 2019 and early 2020 accelerated the growth and outreach of digital revolution in ways that were unimaginable earlier. Social distancing, lockdowns, quarantines, rising covid cases, all of it acted as a catalyst in the digital learning and transformation. Advent of demand of digital channels in every sector made people realize the core importance and use of such facilities when all the other traditional things were not functional. The years of change that were yet to be observed were witnessed within a short span of time due to the rising need and requirement.

There was already a shift from physical marketing channels to the digital channel in view of the customers, however the dramatic movement in covid times paved way for new and emerging opportunities and trends in the market. Not only at an organizational level but the shift was seen on an industrial level as well. The health crisis proved to be a prospect for the cloud market, in accordance with the reports of Gartner, following the Covid-19 issue, global end-user spending on public cloud services is expected to rise 18.4 percent to \$304.9 billion in 2021. (Aggarwal, 2021).

2. Emergence of Cloud

Cloud computing is the availability of computing resources which are accessible on- demand without the direct involvement and management of the user. Different kinds of services are distributed and delivered through the internet via tools like servers, networking, databases, software, etc. Organizations began using the cloud for data backup, virtual desktops, software development, and big data analytics from the year 2006 as it was then that the concept newly emerged in an industry conference. (Regalado, 2011). However, today this concept and approach has transformed the entire outlook of every sector around the globe, from business and education to healthcare and medicine, the essence has been explored and utilized universally. Following types of cloud computing are observed in industries:

2.1 Infrastructure as a service (IaaS)

The basic infrastructure of the information technology is included in this in the form of storage, servers, and resources for networking. As the name suggests it is the form of basic structure i.e., the infrastructure of an entity (IT). A provider hosts and provides the components which are otherwise present in any data centres. According to the reports of Gartner spending on the infrastructure as a service increased to approximately 41 percent in 2020 which was worth \$64.3 billion. (Saran, 2021). The largest IAAS provider in recent times is Amazon, followed by other organizations like Microsoft, Alibaba, and Google. The revenue garnered by Amazon due to its business in IAAS in the year 2020 was \$26.2 billion, the second-largest grosser in this context was Microsoft which earned a revenue of \$12.7 billion in the year 2020, this increase was 60 percent of the company as compared to the previous year. The

major reason for the increment was the pandemic that drove people to opt for the digital replacement for every workload possible. The customers of Microsoft Azure chose options assisted by Artificial intelligence along with the retail and manufacturing in the healthcare and other sectors. In China, Alibaba remained as the prime IaaS provider pre and post covid era.

2.2 Platform as a Service (PaaS)

The management of the underlying infrastructure of hardware and software is replaced by deployment and usage of applications. The difference with IaaS lies in the fact that PaaS offers flexibility with the usage of operations more easily and conveniently. The requirement for remote workers to have access to high-accomplishment, content-rich, and scalable infrastructure to fulfil their jobs, which primarily takes the shape of reorganized and cloud-native applications, is driving the rising use of PaaS. (Gartner, 2020) PaaS is expected to grow with a margin of 26.6 percent due to the abovementioned reasons.

2.3. Software as a Service (SaaS)

It is a cloud model where users connect and pay for the services, they use on cloud-based applications. These applications offer solutions on the as pay as you go basis from the various service providers. The user only is concerned with the application and its features rather than with the underlying infrastructure, middleware, etc. SaaS has witnessed the largest digital transformation in post covid times. Here are several reasons for the same:

2.3.1 Companies living in the future

Applications like Zoom, Slack, and others have understood the requirements of the customers and business approach. Management is trying to evolve and produce better results which augments sales and customer satisfaction. Start-ups and other new business ventures are trying to bring forth the best SaaS providing platforms so that the customers adopt and use the same.

2.3.2 Expectations of the customers

There is too much pressure on the companies to produce a product and service that is chosen by the customer amongst the available options. Whatever new things that technology

is offering is being accepted without contemplating the use of the same in the present scenario. There is too much competition in the market which is blurring the lines between understanding and using a certain application.

2.3.3 Shift in focus from short term priorities to long term priorities

Businesses are discovering that increasing their client base is the most cost-effective way to expand. Many companies are refocusing their sales teams to focus on account expansion and account health. To increase Net Retention, they are collaborating even more closely with Customer Success. They're even redeploying Account Executives as temporary Customer Success Managers in some circumstances. They will recognise that these tactics are more effective than the previous model. They'll also become addicted to this new manner of working.

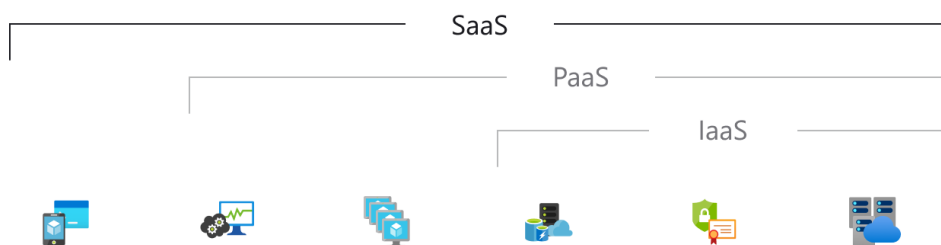


Figure 1: The Model of Cloud Computing

3. Trends observed in Cloud Computing (Luxner, 2021)

3.1 92 percent of enterprises consist of multi-cloud strategy, whereas 82 percent of the enterprise now consists of hybrid cloud strategy. Multi-cloud refers to a heterogeneous construction where there are multiple cloud computing services, it includes applications, software which are distributed and delivered across various hosting platforms. Hybrid cloud refers to the mixture of the public and private cloud systems.

- 3.2 36 percent of businesses spend more than \$12 million on public clouds each year.
- 3.3 Due to COVID-19, 90 percent of businesses expect cloud usage to exceed previous projections.
- 3.4 For the fifth year now, 61 percent of firms expect to optimize existing cloud usage (cost savings), making it the most important endeavor. The top providers are Amazon, Azure, and Google.
- 3.5 The system of multi-cloud has almost universally been adopted by businesses, with 92 percent of users claiming to have a multi-cloud strategy. Eighty-two percent of users are using a hybrid approach, combining public and private clouds. (Luxner, 2021).

COVID-19 had a substantial impact on cloud adoption in 2020, according to the Flexera 2021 State of the Cloud Report. Multi-cloud continues to be the most popular strategy, with nearly all of the companies polled using it. A mix of numerous public and private clouds is the most popular multi-cloud strategy used by businesses. According to the survey, businesses are getting more comfortable storing even critical data on the cloud.

In multiple companies, the use of public clouds is rapidly increasing. This expansion has resulted in a huge increase in public cloud spending, which may have been boosted even further by the COVID-19 outbreak. For the seventh year in a row, as cloud spending continues to rise, optimizing existing cloud usage (cost reductions) remains the top cloud goal for all enterprises. Organizations are using automated processes to scan and optimize their cloud expenditures on a regular basis. The front, middle, and back-offices automation help businesses save money and increase productivity by supplementing human talents. They can also allow certain occupations to perform with little or no human touch, which is important in an age when health is a priority.

4. Report by various Organizations (KPMG, 2020)

Organizations identified eight fundamental competencies that are inherent in a 'connected enterprise,' where functional boundaries are torn down and every component of the company is focused on meeting customer expectations, creating economic value, and driving long-term success. Developing into a digitally linked business may help organizations become more resilient to future shocks and disruptions, as well as provide them the speed and agility to respond to changing client

needs. According to research, companies who invest moderately or significantly in all eight capabilities are 2.1 times more likely to create a superior customer experience and achieve ROI on one or more metrics. (KPMG, 2020). The eight capabilities are as follows: responsive operations, insight-driven strategies and operations, innovative deals in the form of products and services, integrated ecosystem, empowered workforce of the organization, digital technology and architecture, experience, and interactions with the customers.

4.1 Steps are to be taken in the future for digital transformation

- **Operations:** To boost innovation and flexibility, invest in real-time, predictive models, rethink the roles of each participant in the supply chain, and establish a more collaborative relationship with suppliers.
- **Customers:** The customer should be treated as a priority, their preferences should be chosen and worked upon in the first and foremost manner.
- **Digital transformation:** If companies don't align with the digital transformation, they will be left behind. To quickly adapt to the new technologies and flexible, modular — and in some cases virtual, organizational structures, the digital aspect should be integrated with a broader approach
- **Working mannerisms:** The working of the organization should be in accordance with the need and plans of the enterprise. Partnerships of the firm with other businesses, digital thinking skills, the balance between human resources, and digital skills are also maintained in working mannerisms.
- **Flexibility:** The technology that can bring the organization closer to the customers while also assisting in managing a continual, high-risk environment, such as cyber security, governance, and ethics, etc. The IT investments should be in line with the overall strategic goal of customer priority, which involves focusing on the eight connected enterprise capabilities.

5. Conclusion

Whatever happens in the aftermath of the crisis, there is no doubt that digital technology will continue to change the way we live and work. The rise of 5G and the Internet of Things will amplify data generation, making ongoing policy concerns about data governance, privacy, and security even more urgent. These challenges may become even more serious as businesses assess the costs and advantages of increased automation – particularly in manufacturing facilities – to improve the stubbornness against future health crises while also increasing the relevance of data flows between businesses. (OECD, 2020)

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