# Unit 2 Assignment – Strategic Innovation

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BU 620-8 Technology and Innovation

Within the last five years, “the cloud” has had a major impact on the Information Technology industry. “The Cloud” is usage of remote information technology resources over the internet. Those resources include, but are not limited to, storage, applications, computing, networking, security. In simple terms, the cloud is the use of someone’s equipment and software via the internet. The three main cloud service models: Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS).

1. Infrastructure as a Service (IaaS) offers the underlying infrastructure that administrators utilize in their day-to-day operations such as storage, servers, and networking.
2. Platform as a Service (PaaS) is a service model for developers and offers the tools and programming languages that developers require to build applications. Elastic Beanstalk is an Amazon Web Services Platform as a Service.
3. Software as a Service (SaaS) is software available to end-users. Office 365, Gmail, Dropbox, Google Drive, Microsoft Onedrive and Google Docs are examples of Software as a Service.

There are additional cloud service models such as Database as a Service (DBaas), Connectivity as a Service (CaaS), Business Process as a Service (BPaaS), Anything as a Service (Xaas).

Life before the cloud in the information technology industry consisted of companies having to purchase expensive equipment. If companies did not have the budget for such purchases then they were without. This reality places smaller companies at a disadvantage. Companies that can afford the equipment have huge upfront cost, cooling and electrical bills that accompany the operation of such equipment, and the security of such equipment. Along with the purchase of hardware comes firmware updates, equipment replacement when hardware goes bad. If a company wants to have a backup equipment location in order to continue business continuity, it requires additional money and a lot of it. When a company discovers that the bandwidth to the equipment is being overused and equipment is unable to handle heavy access loads for users, they face a long process of spending more money to purchase additional equipment and services to accommodate the heavy workload. With the cloud all the troubles that most companies face with hardware and software purchases have been transfer to cloud service providers.

The Benefits of using the cloud:

* Avoiding the cost purchasing equipment
* Elimination of equipment maintenance
* Elimination of equipment disposal at the end-of-life
* Elimination of equipment disposal
* Elimination Disposal and cooling costs
* Accessible anywhere there is an internet connection
* Pay for what you use much like utility services
* Saves money
* Smaller companies can have access to the recourses that larger companies use.
* Redundancy in case loss of functionality is provided
* Services are available on demand
* Services can be located near users
* Additional resources can be available on the fly in case of heavy workloads
* If resources scaled up or down on the fly as needed.

The technology of virtualization has made all of this possible. “Virtualization is the key building block to cloud computing and it is used by cloud providers to offer services to cloud consumers. Virtualization is the component that makes it possible for cloud services to provide a scalable, elastic, and on-demand environment.” (Lachance, 2018)

In categorizing the innovation of the application of virtualization technology to create what is now known as the cloud, a new structure in the configuration section of the Keely model was created in which large companies that owned datacenters filled with equipment began to allow other companies to use their extra computing resources. The ability virtualization to take a single piece of equipment and divide the resources in a way to be shared by different companies created a new profit model in which to generate additional income from assets. The customer experience in the channel of delivery of the cloud, offers convenience that cannot be surpassed. The channel is the internet and just as clouds in the sky are everywhere, the internet is everywhere thus making “the cloud” accessible everywhere.

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