

GETTING A PIECE OF THE CLOUD

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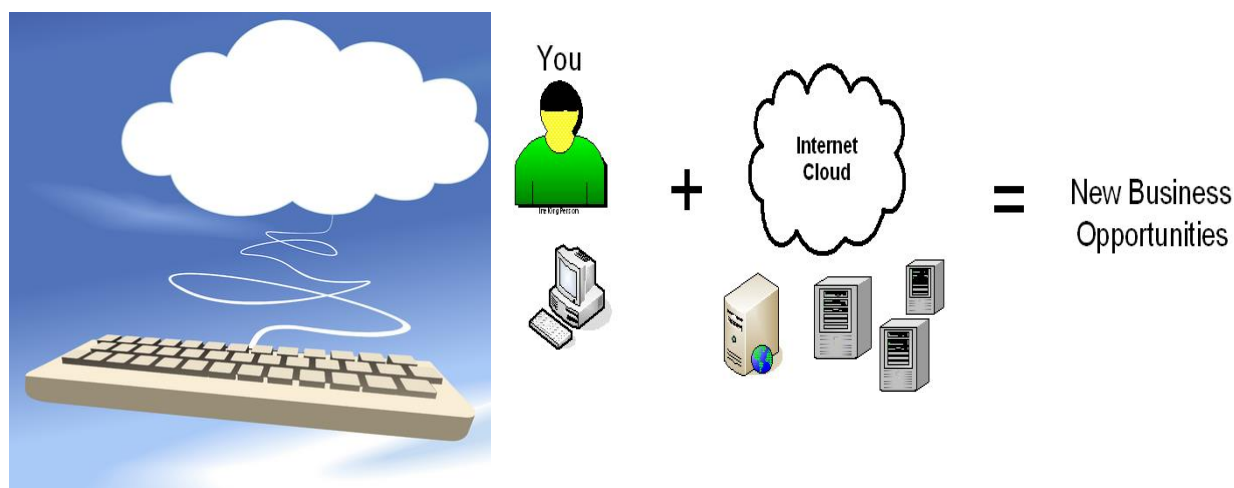
Introduction

When it comes to sustainable economic development, it is hard to go past the thought of investment in information technology (IT). The foundation of sustainable economic development is sustainable infrastructure. This situation means that investment in IT is about developing sustainable IT infrastructure. An IT infrastructure is a set of IT tools on which organisations could develop applications to manage their varying business processes. At a national economic level, this is all about developing a national IT infrastructure to provide social and economic services to the various stakeholders.

Current troubling economic times call for collaboration and centrality in IT infrastructure development. This notion has led to the idea of national broadband networks, sustainable telecommunication platforms, and national IT development plans and goals. However, these thoughts and actions do not directly impact the critical social and economic processes of organisations. That is, these thoughts set the tone and direction of actions for an economy, but lack the related consequences on individual macro-level processes.

Cloud-based Opportunities

The Cloud IT [Computing] infrastructure presents opportunities for timely investment in IT that would swiftly meet the requirements of essential processes. Cloud computing entails providing IT resources, and IT services to organisations as a utility. That is, cloud computing converts organisations IT exposure to an operational commitment rather than a capital commitment. It is a pay-per-use consumption and delivery model that enables real-time delivery of configurable computing resources (for example, networks, servers, storage, applications, services). It is a computing model providing web-based software, middleware and computing resources on demand.



Opportunities in the Cloud (source: Google)

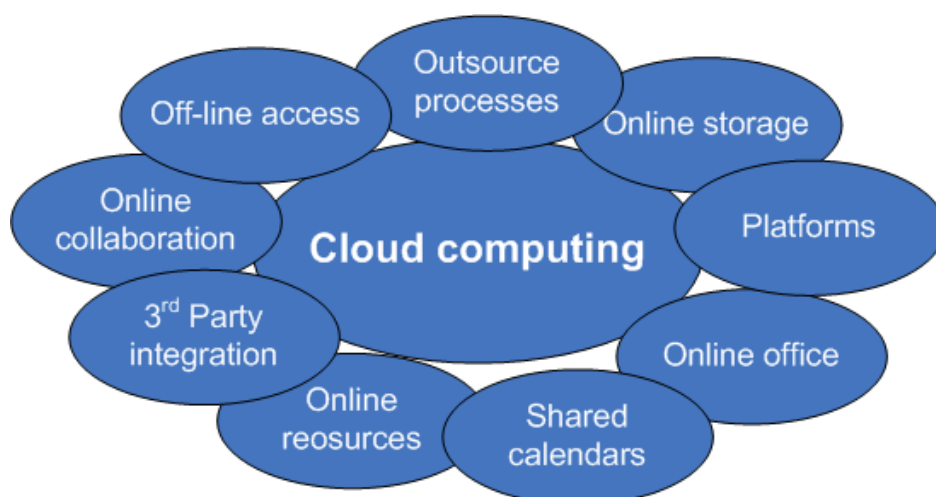
For developing economics, survival calls for modernisation and improvement of business processes. In most cases IT is the “go to” resource to achieve this outcome. However, IT infrastructure development at an organisational level is expensive and time consuming, especially for small organisations. There are issues of vendor selection and dependency, and

in many cases, obtaining off the shelf IT resources that provide little avenues to innovate. Aside, the current economic times does not warrant organisations to be liberal about their upfront investment in IT.

But the concept establishing a national and regional cloud infrastructure is promising. Some telecommunication providers are planning to diversify their offerings to include this service. However, a dedicated cloud infrastructure presents much promise to developing organisations. For organisations in developing economies, doing business in a shared and connected environment, especially with IT, is synonymous with poor business and IT security. To some extent, this concern is justified. With cloud computing, the location of the service provider, and the channel of resource delivery are key determinants of information, application, and data security. A local cloud infrastructure (provider) means control of these aspects of perceived Internet security. The channel of delivery of resources and services will be localised, meaning greater control on some aspects of sharing data and applications. Of course, the desire to access and manage operations and process from anywhere in a cloud environment would mean that there will always be a component of residual Internet security risk.

Economic Benefits of the Cloud

A more prevailing reason for a national cloud infrastructure is its associated economic benefits. A local cloud infrastructure will provide impetus for organisations to modernise their business processes by using localised utilities at reasonable rents. At times, awareness creates appreciation, and a small step in renting small applications from the cloud could form the basis for sustainable appreciation of IT resources and applications to support and manage various business processes. For organisations in the developing economies, a difficult feat has been to move away from a vault-oriented data and information approach to current convention of sharing and collaborating on and with data. Basing data in the cloud provides immediate avenues to make data accessible to various external stakeholders like the costumers and suppliers. In fact, this effort is the first step in making organisational applications accessible to external interacting stakeholders. Much of the efforts to narrow the digital divide are stalled by organisations inability to integrate their process-related applications with other stakeholders. A primary reason for this state is the inability of organisation's IT infrastructure to provide this level of assimilation with other organisations. With cloud technologies, this feat could be easily achieved.



Benefits of Cloud Computing

Various aspects of businesses could benefit from cloud computing technologies. For accounting operations, it is about getting modern accounting systems and endless ways to

use business intelligence tools to slice and dice accounting data to generate knowledge and manage risks. To sales and marketing, it is about multiple avenues of maintaining contact with the customers, and having a unified view of the customers' interactions. For procurement, it is about pooling and leveraging the resources providers, and setting a collaborative cohort to innovate and control value chains. Cloud technologies offer much to the service sector, which is an area of economic strength for developing economies. Much of the service delivery today takes place on a digital platform. A digital platform is one where some form of network infrastructure, primarily the Internet, is relied upon to communicate, collaborate, and complete processes. This platform becomes especially important when organisations interact significantly with international customers and stakeholders. Tourism, our major service industry, relies heavily on real-time interactions with its international partners and customers. While the major players have developed capacities that are in par with required standards, the small and medium providers (SMP) often are unable to have their required digital presence in the market. Consequently, the vicious divide between large and SMP remains and these SMP's concentrate on the recycled and local market. The SMPs also get left out by the intermediaries who pool and sell services because they are unable to access their products and services. This situation results in significant leakage of revenue out of the country.

Pacific Issues of Cloud Adoption

Concentrating on the IT needs of SMPs is crucial given their centrality as a driver of industrialization. In the Pacific, SMPs comprise the majority services providers. SMPs contribute immensely to economic development via job creation as well as social development via human development mainly of the poor and the disadvantaged in society. It is for these reasons why SMPs are considered the backbone of economies. Cloud computing serves as an avenue for promoting growth and the efficient functioning of SMPs. Cloud computing offers cost effective means of acquiring up to date information systems that drive improvement in business processes. It also allows for greater cost savings in terms of eliminating risks in IT investments, time, skills and IT staffing. As more organizational resources are freed up, SMPs can now actually effectively harness the power of IT as a source of strategic and competitive advantage. Cloud computing allows SMPs to do things they can't do in a traditional productivity application. For instance SMPs can now effectively reach a larger market for their products and services thus improving market share which contributes to overall improvements in performance. Cloud computing can bring about economic and social transformations via the creation of technical and economic values. As such cloud computing is an ideal IT strategy that can bridge the digital divide.

SMPs also benefit immensely from the cloud from secure, reliable and cost effective data storage and data recovery systems. The Pacific is a volatile environment prone to natural disasters such as cyclones, earthquakes and tsunamis. These threats are being intensified with the effects of climate change. Data recovery is crucial in the event of disasters. The loss of data can significantly debilitate SMPs. Prolonged periods attempting to recover lost data lead to significant costs and also lost sales. Possessing a resilient information system that mitigates the effects of threats to data security both natural and man-made is critical for SMP's survival. This level of security is provided as SMP's data are stored on the internet by their cloud service providers. These cloud service providers make significant investments to ensure their client's data are protected and can be recovered in the event of a disaster. Thus cloud based technologies provide a secure and agile infrastructure to SMPs in the Pacific.

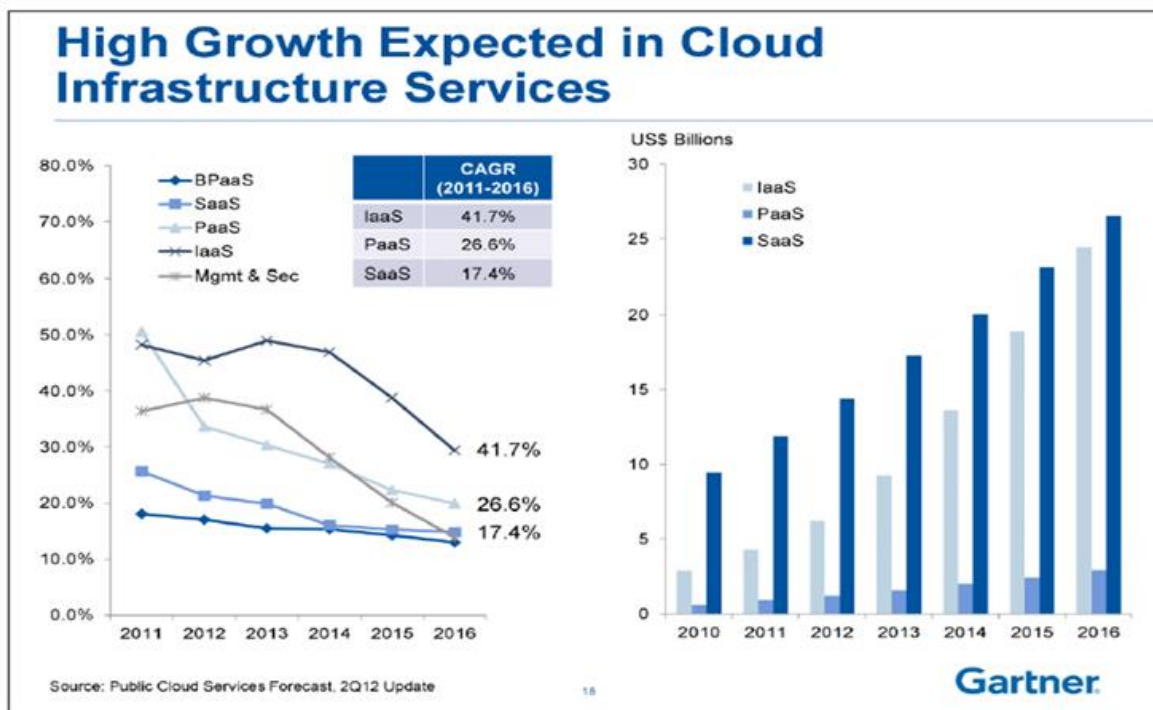
For developing markets, the presence of local cloud infrastructure is timely. Investment to develop this infrastructure is mandated. There is significant capacity to develop this infrastructure in developing markets. Investment essentially entails pooling and organising essential existing competencies. Our telecommunications infrastructure is stable, but could benefit from further liberalisation. Local connectivity is significant, but digital connectivity requires improvement. We have promising human IT capital to manage the cloud

infrastructure. Our investment requires focus on building data centres, and facilities to share applications and manage the business processes.

The government and other related IT organisations have a crucial role to develop national IT polices that drive the pervasive use of IT in society. The *e-Government Strategic Plan* of 2000 is the first step towards the right direction. This 10 year plan involves three main themes: (1) the establishment of government policies in all IT development areas in Fiji (2) e-government (infrastructure development of the civil services) and e-business (IT development involving the private sector). In addition the establishment of the ICT Council in 2001 with a vision of “*Developing Fiji into a Vibrant and Dynamic ICT capital with a thriving Digital economy and IT empowered Citizens*” indicates the government’s commitment to improve the ICT infrastructure in Fiji (Manager IT Services 2002). A strong governmental commitment to IT is a major impetus for the business community to invest in innovative IT technologies such as cloud computing.

Conclusion

Another development that will facilitate the migration towards cloud based technology in the Pacific is the laying of underwater submarine cables in the Pacific. A recent example is a contract funded by the World Bank and Asian Development Bank to connect Tonga to the Southern Cross Cable (Moceica, 2011). Other Pacific Island Countries within the proximity of this cable will also be able to benefit by connecting to this cable. Improving the affordability, accessibility and applicability of cloud based technologies in the Pacific, this infrastructure will also offer secure and reliable internet connections to the Pacific. Thus enabling greater participation in cloud based services. Once the synergy between these aspects of cloud infrastructure is achieved, it would form the catalyst for much required business transformations to improve the business processes and increase to the richness and reach of service delivery to various stakeholders.



Expected Growth in Cloud Infrastructure Services. Source: Gartner

REFERENCES

Manager ITC Services to WSIS Executive Secretariat, Geneva (2002) Retrieved October 22, 2012, www.itc.gov.fj/docs/wsis_prepcom2.doc

Moceica, S. (2011), “Tonga to benefit from FINTEL agreement”, *Fiji Times*, Wednesday, December 7, 2011.