ETHEKWINI MUNICIPALITY

LEARNING NOTES

MILE

MUNICIPAL INSTITUTE OF LEARNING

Learning Notes

WHAT DOES THE TECHNOLOGICAL REVOLUTION MEAN FOR LOCAL GOVERNMENT PRACTITIONERS?

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Acronyms and Abbreviations

CEGIPO	Geographical Information and Policy Office
ICT	Information and Communications Technology
MILE	Municipal Institute of Learning

About MILE Learning Notes

The Learning Notes (LN) are part of the knowledge products and services of MILE. They are intended to serve as reminders of issues, discussions and key lessons learnt that emanated from the management seminar on technological revolution and what it means for local government. The seminar was hosted by MILE in partnership with the Smart Exchange on 22 September 2011 at the Botanical Gardens in Durban.

They are solely based on presentations undertaken during the session by Simon Dingle and Arthur Goldstuck. The LNs are intended for management and decision makers within the sphere of local government. In each presentation discussed, we highlight issues to be considered; 'lessons learnt' and 'sources of information and examples of good practice', that directs users to some relevant examples drawn from elsewhere in the world. The LNs aim to assist to generate the information required to prepare and enhance technological development within the municipality. These LNs also aim to guide and support practitioners to enhance technological development by providing reminders of issues and recommendations which will help them in dealing with important decisions during the design, execution and evaluation of ICT programmes. It is, therefore, hoped that the session will go a long way in assisting municipalities to technological advancement in the delivery of basic services.

In this document we attempt to crystallize knowledge and lessons learnt, drawing on the Speakers' experiences. It is assumed that LN users have had some exposure to technology related matters, but for those less familiar, links will also be provided to sources of more detailed information and examples of good practice. The LN themes are grouped under the domains to which they relate. Comments and suggestions for the improvement of these LNs are welcome. This is an open ended series of LN updated and improved on an ongoing basis. More will be added as necessary. These, together with requests for further

information, should be addressed to mile@durban.gov.za.

1 The Definition of ICT

Information and communications technology or information and communication technology, usually abbreviated as ICT, is often used as an extended synonym for information technology (IT), but is usually a more general term that stresses the role of unified communications and the integration of telecommunications (telephone lines and wireless signals), computers, middleware as well as necessary software, storage- and audio-visual systems, which enable users to create, access, store, transmit, and manipulate information. In other words, ICT consists of IT as well as telecommunication, broadcast media, all types of audio and video processing and transmission and network based control and monitoring functions.

The term ICT is also used to refer to the convergence of audio-visual and telephone networks with computer networks through a cabling or link system. There are large economic incentives to merge the audio-visual, building management and telephone network with the computer network system using a unified system of cabling, signal distribution and management. This in turn has spurred the growth of organizations with the term ICT in their names to indicate their specialization in the process of merging the different network systems. Although there are some dangers of ICTs such as cyber bullying, phishing and masquerading, organisations need to develop "ICT roadmaps" to indicate the path that an organization will take with their ICT needs.

In an increasingly interconnected world, the interactions among devices, systems, and people are growing rapidly. Government also need to meet the demands of their employees and customers

to allow for greater access to systems and information. All of these communications needs must be delivered in a unified way. By offering a scalable infrastructure, computing models enable organisations to work smarter through more agile and cost-effective access to technology and information. This unified platform reduces costs and boosts productivity across an organisation and beyond. Part of an information and communications technology roadmap should involve consolidating infrastructures, while providing added benefits to users in collaboration, messaging, calendaring, instant messaging, audio, video, and Web conferencing. Municipalities should drive more efficient IT consumption and delivery and take ICT to the next level.

Standards are very important for ICT, since they define the language that enables the technologies to understand each other. This is especially relevant because the key idea behind ICT is that information storage devices can communicate in media-frictionless manner with communication networks and computing systems. Open standards play a special role, as well as standards organizations. Recently, government has given attention to using ICT to enhance service delivery. As a result of this, it became imperative to organise this seminar with a view to gear up local government practitioners for the technological revolution.

2 Introduction

Jaquie Subban remarks:

Jaquie Subban, the Head: GIPO and also responsible for ICT in the eThekwini Municipality welcomed the participants to the seminar. She mentioned that it was important for senior management to meet occasionally in a non-boardroom fashion. MILE in partnership with Smart Exchange felt the need to organize the seminar because, simply put, ICT is changing our lives. Departments across the municipality need to understand this. Looking at trends across the world, ICT is the driver for social, economic and even political development. The municipality, in her view, has an opportunity to develop into this industry. It is therefore important for management to meet from time to time to have a conversation and think about ICT related issues. Jacquie extended a word of welcome to Simon Dingle and Arthur Goldstuck.

Robynne Erwin remarks:

Robynne Erwin, the CEO of Smart Exchange took the stage and alluded to the fact that ICT is an exicting area. She echoed Jacquie's words that ICT is indeed changing our lives. Gone are the days of tele-machines, and in with email and cellphones. Robynne made an important point that local government needs to view ICT in the long term. She made an example of Malaysia, India and Korea where they had 20 year plans and strategies. ICT will improve the quality of life and service delivery in general. Software development in Argentina contributes at least 20% of their GDP. Elsewhere in Latin America (i.e. Mexico), ICT is contributing significantly to improvements in agriculture, health and education.

With advancements in technological innovations, it is critical to reflect on what it means for developmental local government, improvement in service delivery and deepening local democracy. Robynne expressed hope that the seminar would cover issues around the pace of technology in Africa; cutting edge innovations; e-governance; as well as ideas on how to bridge the digital divide.

Robynne introduced Simon Dingle as an authoritative voice on technology. Simon is a technology journalist, writer, broadcaster and professional speaker by profession. He compiles technology content for Finweek Magazine and Fin24.com and hosts a technology show on 5fm and the ZA Technology Show Podcast.

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Presentation made by Simon Dingle

From the onset, it is worth admitting that Simon Dingle's presentation does indeed take the audience on a whirlwind tour of the latest and greatest technology on earth. With his passion for ICT, Simon's presentation was packed with the latest breakthroughs. Instead of just presentation slides, Simon fills projector screens with running applications, browsers windows and videos. A menagerie of gadgets is worked into his talks as he simplifies subjects with live demonstrations of what is possible.

Simon informed us that he owns a company called Massive Gap and hosts a show on 5fm. Steaming ahead with his presentation he noted that there are amazing things happening with technology. Organisations need to capitalize on these trends. But in order to be competitive, technology requires that we have the necessary tools. Technology is so critical in the sense that it helps us master our surroundings, create a civilization and improve our lives. The digital world is highly complex and complicated. Moore's Law looks at progress with regards to the development of computer processes. It concludes that technology development is highly progressive. Nielsen's law tracks internet connectivity whilst Kryder's law looks at hard drives and storage space. All of these laws concludes that technological improvement is rapid. Simon makes some observations that the world is becoming instrumented and highly interconnected. The new NFC technology, for example, is replacing cards with chips. Erickson predicts that there will 5 billion devices by 2020 and "everything will be connected to the internet". Withings in USA have developed a scale connected

to the internet. As you lose weight it's linked to Facebook and twitter and all your friends can know how much progress you are making.

The topology has changed new tools are being developed and published on the internet. Libraries are an old way of storing information. There has been a shift to portal development. We now have seen the emergence of content curators' blogging in social networks. Simon referred us to a front cover of a Time Magazine where they depicted the person of the year as us the people because we have taken control of the information age. Technology is so amazing and is rapidly changing our lives. People are becoming librarians and reporters for each other using cellphones and taking pictures of events and incidents. Using the four square hunch technologies through your phone can trace exactly and locate where you are stationed.

People are permanently online and this is changing the way we work and live. There is an opportunity for organizations to improve communication. Organizations are using communication systems to maintain their brands. The website is constantly updating itself. Simon pointed to the fact that we cannot sensor information in the 20th century. People will always find a way around it. The late Steve Jobs once said, people are creative animals and will always figure out something. Computers are highly intelligent and are continuously improving. Computer interfaces are also becoming user friendly and information becoming highly contextual. However, it is not about the computer but the people using it.

Africa is becoming rapidly online and progress is being made. In terms of uploads and downloads South Africa compares favourably with Ghana, Kenya and Rwanda. In countries such as Kenya, African technology has been developed such as Ushahidi and Mpesa. However, South Africa needs cheaper devise to cover everyone.

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Presentation by Arthur Goldstuck – The Tornado that will change the way we work.

Arthur Goldstuck is a journalist, media analyst and commentator on Information and Communications Technology (ICT), Internet and mobile communications and technologies. Goldstuck led early research into the size of the Internet user population and the extent of Web commerce in South Africa, which established trend lines for Internet growth in the country. Today Goldstuck heads the World Wide Worx research organization, and has led research into ICT issues. Goldstuck established the first benchmarks for web strategy and web site evaluation in South Africa, and leads a team of usability experts that advises on web site usability and strategy.

Arthur commenced with his presentation and acknowledged the presence of Robynne Erwin author of: The Original Guide on how to use a Computer. Arthur looks at the trend dating back to 2009. He refers to 2009 as the Earthquake, 2010 the Tsunami, 2011 the revolution and 2012 the reinvention. In 2009, we saw the Seacom cable being developed and has created more bandwidth and competition. 2010 saw the re-alignment of strategy, leadership and vision. During the same year, we experienced uncapped ADSL. 2011 is the year of the revolution driven by technology. This revolution is providing a window for change. 2012 is the year of reinvention. Organisations need to rethink how people access social media. People are bringing their own devices to work such as tablets and smartphones.

Arthur referred us to G. Moore's book titled Inside the Tornado. In the book, Moore developed a theory of innovation and the market. In the early market, you get the emergence of Innovators (the Techies) and the early adopters or visionaries. This leads to the tornado stage where the early majority (the pragmatists) gets involved. This is followed by the late majority (the conservatives). And finally the end of life resumes and the laggards/skeptics get involved. As a result of the undersea cable capacity, Africa will grow rapidly in terms of the total capacity in Gbps. Internet and Broadband users will also increase dramatically in South Africa. According to Arthur, the Digital Participation Curve reveals that the average internet user needs to be online for 5 years or more before engaging actively with high level applications like online retail and interactive applications. It emerges as a combination of experience, comfort with using the medium, confidence in the reliability of the medium, and trust in the medium. In 2013, we will see the acceleration inexperienced users.

On other hand, the cellphone takes centre stage. Data is starting to cannabilise voice revenues. Data as a percentage of total mobile spend has grown from 5 – 8% in 2010. Between 16 – 18 years it has almost doubled, but massive increases seen in 35+ age groups. In terms of current usage, Nokia is topping the charts followed by Samsung, LG and Blackberry.

Goldstuck argues that the next big wave of the mobile revolution will be powered by price. Already the cost of calls and data is falling fast throughout Africa. But as the law of economics suggests, every market is different. Goldstuck displayed a Huawei phone that shook Kenya. It is a Smartphone but very reasonably priced but dominated the market share in 2011/2012. Approximately 60 000 units were sold in 4 months and 150 000 were reordered. In South Africa, Blackberry had the same impact as a result of BBM it became the phone of choice.

Social networking is the new sign post. According to Mobility 2011 (World Wide Worx), the digital revolution suggests that in term of phone features used, the internet browser is widely used followed by mixt and facebook. However, in terms of the intention to use, facebook features prominently on top followed by email, internet browser and Google talk.

Goldstuck notes that service delivery has a new channel. Customers are able to make complaints from their phones. In Kenya, when there was political violence following the elections, people were able to communicate hotspots via mobile phones. This is evidence that technology has the potential to overcome social dysfunction. Africa is becoming highly digital. Movie hire and digital accessories stores are widely available. The introduction of M-PESA in Kenya as a convenient way to pay for goods and services was a cutting edge innovation. With MPESA, customers are able to book, pay and walk away with ticket of their choice. They are also able to make travel and hotel bookings to any destination around the world. In fact there is so much more you can do with MPESA from your phone. The people of Kenya are now enjoying a digital lifestyle. In his final words, Goldstuck pointed out to the fact that technology inventions are being augmented into reality and tagged in real life.

In Conclusion

One lesson for local government is that the employees are reinvented and the municipality must follows. As managers it is important to explore how do we think about employees in line with technology. Erwin notes that South Africa is breeding a population of people who are comfortable using technology. Twitter for example can be used for feedback and we can communicate with our constituencies. Social Media needs to be incorporated and aligned in performance measures, productivity, and existing policies.

Subban advised that it was important to develop local applications. In order to develop these applications, we need to develop organisationally. Local government must have its own datasets. We need to listen to people in cyberspace and shape up but this means that the municipality needs to develop a strategy.

Sources of Information and Good Practice

www.worldwideworx.com
@art2gee
www.simon.co.za
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