The obstacles faced by location-based services in South Africa

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Abstract


Since then we have seen the uptake and acceptance of location based products and services skyrocket. The possibilities are endless, and consumers and corporations grabbed the new opportunities with both hands.

In South Africa the growth has been steady. In certain market segments we have seen radical growth whereas other areas did not perform to potential.

We have to investigate the reasons behind the lack of traction and we have to determine what the problems are in order to facilitate lasting solutions. This paper will address five possible reasons for this trend, namely:

- Smartphone penetration
- Availability of spatial information (base data is not free)
- Technological disadvantages (Vodacom and MTN)
- Privacy issues (gender-based call centre)
- Education

We have to investigate these problems and find solutions to each one that is practical and based on a set timeline, and from there draw up a plan of action.

Location-based services are integrated into the future of technology. We have incredible potential knocking at our door if we can only address the possible obstacles and find workable solutions.

The first step on this exciting journey will be to understand where we are today in terms of corporate and individual acceptance of location-based services as an alliance to daily living.

Keywords

location-based services, education, POPI Act, technology, smartphone

Introduction

Location-based services (LBS) have added new direction and focus to various sectors of industry, service delivery and the daily life of all individuals. Advertising agencies can cut through the clutter and direct their marketing efforts straight to their specific target market. The world has become a village. Individuals can navigate any city and area in the world with the familiarity of their hometown. Cellular technology changed the face of the world and since the eruption of location-based services to the realm, the sky has become the limit.

However, we do see some dark clouds blocking the sun of location-based services. We know that location-based services in every industry is cost saving and time efficient. It assists in targeting, reaching, navigating, analysing and reporting. But the question is: “Why is South Africa so slow on the uptake of location-based services?” In order to answer this question we have to look at the background of location-based services.

What have been the lessons learned? What have been the challenges faced along the way? What are the obstacles we need to overcome in order to make the inclusion of location-based services in daily life a routine. For the individual – planning your day, your calendar and your route according to the backdrop of LBS. For industry – directing your sales force, aiming your advertising and delivering your services, analysing the trends and reporting on it based on the information gathered by LBS.

Those are the questions we are asking here. We will refer to current LBSs in order to make this relevant and we will attempt to draw conclusions and find solutions to the obstacles faced.
Smartphone penetration

Prior to 2014 feature phones owned a bigger share of the marketplace. In the past twelve months we have seen tremendous growth. According to research conducted by Device Research, the penetration of smartphones has grown by 133%. There could be any of a number of reasons for this – not only cost, as cheaper smartphones have only recently entered the market. Users may be more open to smartphones, or the younger generation may be more exposed and used to smartphones than feature phones.

At the beginning of July, Facebook appointed an Africa Head. One of the reasons listed, aside from data cost, infrastructure and other essentials, is the precedence feature phones have above smart phones which is one of the key reasons Africa is trailing the mobility move. However with growth of 133%, it can be safely said that this is one of the obstacles that will soon be a distant memory.

Device difficulties have been named culprit in many LBS-based projects and studies.

Availability of spatial information

South Africa does not have ready access to spatial information because we do not have a central, reliable and informative spatial dataset that is freely available. Data is not centrally governed and therefore comes at a great cost to those who want to utilise and access the data.

Spatial information must be a true and representative reflection of the world we live in. We have to be able to rely on the infrastructural and demographical information we are presented with. The fact that spatial data is not centralised results in disparate datasets that are not up to date and do not support each other, minimising trust in the data available.

In order for services to function properly they have to be able to do so against the backdrop of accurate data. Location-based services are used to:

- Deliver a service
- Locate
- Navigate
- Report
- Analyse

None of these functions can be trusted if the data on which the information is based is flawed.

There are few companies in South Africa that have spatial information available for sale. The investment for small business becomes a burden. The solution that we have seen to alleviate this obstacle is the birth of user driven data at commercial level. We have GIS companies that make services available that provide access to spatial data at a fraction of the cost of creating and maintaining the data.

The data that we use also have to adhere to standards that opens itself up to sharing, connecting and including it across the boundaries of not just South Africa, but also into the rest of Africa and the world.

Spatial data is the foundation of location-based data. It provides the platform from which we locate, navigate and analyse. In South Africa we still have a long road to reach our destination in terms of quality, up-to-date spatial data to support LBS.

Technological and economical disadvantages

South Africa currently has six active mobile carriers. Two of these carriers have the network coverage and infrastructure to support LBS. This results in large gaps in terms of the provision of location-based services, which negatively impacts on the uptake of a very powerful supportive tool for not only individuals, but also businesses at large.

Another crucial factor is that South Africa is divided between urban and rural. Urban areas enjoy an environment of connectivity and technology. The options are countless with expendable income to facilitate a vast range of opportunities.
In rural areas the landscape is different. The options are limited by basic needs. The provision of basic services such as water and electricity, trumps the need for network coverage and WiFi connections. The reason translates very simply to expendable income. The economic activity does not warrant the same investment from commercial entities that it enjoys in the urban areas.

From a demographic perspective the analysis of such areas very quickly excludes them from development and growth. The solution to that problem can be seen in a variety of ways. We see networks striving towards coverage across the urban/rural divide. The reason could be any number of things, from tourism to education. Service delivery on a network and mobile data level has made a vast difference not only in terms of accessibility but also in terms of providing data that drive investment and growth in these areas.

Commercial companies have utilised the new landscape and have introduced vouchers and free data in exchange for information. This is positive not only on a mobile growth platform but also in terms of economic growth across the spectrum. Closing the gap from rural and urban and including them in the national village where the answer is a “locate and navigate” button away.

The additional challenge to the introduction and adoption of location-based services is that of availability of mobile data on a user’s phone. There is still a huge portion that only access data via WiFi and desktop applications and do not have the economic means to access location based services through their mobile devices. Over the past few years we have seen drastic reductions in the cost of mobile data and a tremendous effort in expanding on the availability of WiFi, both bidding well for easier access to location-based service.

**Privacy regulation (The POPI Act and WASPA Code of Conduct)**

POPI refers to South Africa’s Protection of Personal Information Act which seeks to regulate the processing of personal information. Personal information broadly means any information relating to an identifiable, living natural person or juristic person (companies, CCs etc.) and includes, but is not limited to:

- Contact details: email, telephone, address etc.
- Demographic information: age, gender, race, birth date, ethnicity etc.
- History: employment, financial, educational, criminal, medical.
- Biometric information: blood type etc.
- Opinions of and about the person.
- Private correspondence, etc.

Processing broadly means anything done with the personal information, including collection, usage, storage, dissemination, modification or destruction (whether such processing is automated or not).

Some of the obligations under POPI are to:

- Only collect information that you need for a specific purpose.
- Apply reasonable security measures to protect it.
- Ensure it is relevant and up to date.
- Only hold as much as you need, and only for as long as you need it.
- Allow the subject of the information to see it upon request.

POPI in a nutshell governs the storage of person information. In terms of location-based services, it restricts that gathering and storage of personal information linked to a specific location. Data gathered through location-based services can be summarised and used for analyses and interpretation.

WASPA Code of Conduct was adopted on 30 June 2005, and has been revised several times since then. The primary objective of the WASPA Code of Conduct is to ensure that members of the public can use mobile services with confidence, assured that they will be provided with accurate information about all services and the pricing associated with those services.
The WASP requirements in terms of LBS are:

- The privacy of the customer must be protected at all times, and under no circumstances may the customer’s location or details be provided to any third party, entity or application without that customer’s specific and express consent.
- The customer’s location may not be used or divulged to third parties, unless the customer gives his/her prior specific authorisation/consent – either in writing (subscription services) or electronically (via website, SMS, IVR, USSD etc.) subject to the condition that the customer can be successfully authenticated.
- Consent always needs to be specific in that the customer has to know exactly what s/he is consenting to. Consent must be on a service-by-service basis.
- In the case of active LBS and passive LBSs, discrete authorisations can be done each time a LBS is requested and there is no issue with an on-going consent, as in the case of tracking services. In the case of certain proposed emergency LBSs (which display a combination of features of active LBS and tracking LBSs) discrete authorisations can be obtained using an interactive voice system so as to fall within the ECT Act.
- In order for consent to be extended an “opt-out” reminder must be sent on a 30-day basis to the target/B-party.

This does have serious implications for business and specifically service delivery via location-based services. In accordance with the aforementioned terms, an individual has to give consent in order to be located. This in terms of emergency situations can mean the difference between life and death. The moment a cellular call is made the nearest tower can immediately translate the estimated location of the caller. However, the caller has to give permission in order to legally locate the caller and dispatch the service required. Without permission, the person or caller may not legally be located.

There is however certain pathways to remain in accordance to the requirements but still provide the relevant services. By calling the number, the caller is automatically informed that the usage of the number will result in the location of the caller, but some form of consent still needs to be given, for instance by selecting the option to “agree”.

**Education**

Aside from device and network challenges, there is also the user acceptance of technology. We see that advertisers still opt for the use of SMS to ensure that the message is received.

The education of users to accept, trust and use the data is the next obstacle to be overcome. There are countless applications and competitions that have ushered in the technology and have introduced users to various aspects of location based services. However, users do not necessarily understand that they are using location based services or what it means and how it can be used to their advantage.

**Opportunities**

The information life cycle is spinning faster and faster. When we started researching and studying the obstacles faced by location based services we have been overwhelmed by the instances of solutions we have found to each and every obstacle we faced. We can look at our list again; we can revisit every instance and list the positives. We can see the remarkable growth on the location-based services platform.

When we look at statistics we see the huge percentage of mobile users with access to mobile advertising. When we see the statistics and experience in business the birth of new location-based service applications, we know that within a matter of months we will be climbing the ranks of mobile enabled countries and lead the way with innovative solutions, applications and ideas to interpret the world around us.

Smart phone devices have grown by 133% within one year. Devices have become more readily and easily accessible. In the same instance we are enjoying data bundles at impressive rates. Large areas within metros and business have given users access to free WiFi.

Advertisers now have access to individuals that are ready to be communicated with and are actively choosing them. This in its own is broadening the base for trade area analyses and reporting on consumer behavior in a way that we have not seen before. Cellular networks are introducing better networks and infrastructure in huge
areas of the country where coverage has historically been insufficient. Users are embracing a new world where the mobile and real world merge to provide access to greater options and ideas.

More institutions realise the importance of location in reporting and apply location-based services within the capturing of field data, such as updating construction projects in the field, linked to the specific location.

Services are provided to the public where a user can search for a specific entity based on their location – utilising location-based services without users knowing.

Location-based services in South Africa was first launched in May 2004 with a handful of services on one network. Since then we have seen growth, sometimes not at the rate that we anticipated, but constant growth. In the past two years we have seen tremendous growth and look forward to countless more possibilities that we initially didn’t expect.

The future of location-based services in South Africa will face more obstacles. Based on what we have seen, we know that the obstacle of today will be the opportunity of tomorrow.

Summary

Location-based services in South Africa have taken its place amongst the services to be watched. It has opened so many doors. Its advantages can be felt across all segments of the economy and government. On a daily basis new implementations are born. Competitions by networks have seen exceptional growth. Individuals use it on a daily basis to find places and navigate to locations.

The obstacles we have faced in the formative years have been many. The obstacles we will face in the future will be met with the same amount of determination that overcame the previous obstacle.

In the past we saw the application to be to report and deliver. In the future we will see location-based services playing a huge role in how we approach our day. It will be the compass that guides business and directs customers to the best possible match to their individual needs and requirements.

Reference


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