Location-based marketing in low-income markets

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ABSTRACT

This study explored the use of location-based marketing to minimise the effect of poverty penalty often experienced by the low-income consumers. Poverty penalty is a phenomenon that explains why the low-income consumer pay relatively more than middle- an upper-income consumers. The low-income consumer is normally situated in areas that are far from retailers, thus has to incur a considerable amount on transport costs, which in effect leads to an increased cost to acquire goods and services, and means that this consumer is restricted by location. Location-based marketing is the use of location to broadcast marketing information to the consumer relevant to their location and preferences. Low-income consumers can use this location-specific information to optimise their location by taking advantage of the goods and services around them to save on further travel costs.

The study was a quantitative survey that asked low-income consumers about their perceptions on what location-based marketing could offer them. The key findings of the study were that consumers value personalisation of the content, access to information would lead to access to more goods and services, and finally that access to information optimise the location of the consumer and lead to reduced transport costs. The study contributed academically by establishing that for the low-income consumer, mobile marketing needs to be focussed at optimising the current location, and not transacting anywhere and anytime as the existing literature suggests.

KEYWORDS

Location-based marketing

Mobile marketing

Bottom of the pyramid

Low-income markets

Poverty penalty

DECLARATION

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

Sibongile Ndlovu

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11 November 2013

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Location-based marketing in low-income markets

1.2 Research problem

Hamilton and Catterall (2005) stated that the exchange relationship between marketers and low-income consumers is prejudiced against consumers through price discrimination. This price discrimination occurred mainly because of the physical location (Hamilton & Catterall, 2005). In some instances, the lower-priced retailer is far from the consumer and leads to higher transportation costs, which increase the price of obtaining goods and services even further (Balasubramanian, Peterson, & Jarvenpaa, 2002).

Location-based marketing was identified as one of the recent innovations in mobile marketing, using the mobile device (mainly cellular phones) location to attract local (whether by residence or at a specific time) potential customers (Hopkins & Turner, 2012). Location-based marketing would therefore provide the consumer with marketing information relevant to their proximity (Krum, 2010). Location was therefore the common denominator between these two key subjects, because low-income consumers were considered to be restricted by location while, location-based marketing optimised location by providing information based on it.

Therefore, the research problem this study undertook to solve was finding a link between location-based marketing and the higher price paid by the low-income consumers. The study would then ratify if the link found could assist reduce the relatively higher price paid by the low-income consumers.

1.3 Background to the research problem

According to Index Mundi (2013), half of South Africa's population lives below the poverty line. One of the factors that contributed to this is the high unemployment rate, estimated at 24.7 percent for quarter three in 2013 (Statistics South Africa, 2013). Also, the income inequalities were evident in South Africa. South Africa is characterised by a relatively high Gini index figure, last measured as 63.1 in 2009, with 68.2 percent of income held by the top 20 percent earners (World Bank, 2009).

The numbers presented here reflected that South Africa had a significant number of people that potentially fell into the low-income market. Moreover, all human beings are bound to consume goods and services regardless of income level and income source (for example, wages, salaries, and social grants), thus the unemployed will also fall into the low-income market (Subrahmanyan & Gomez-Arias, 2008).

The low-income market was not unique to South Africa, but a worldwide phenomenon. Prahalad and Hammond (2002) stated that 65 percent of the world's population earns less than $2,000 annually. The significance of the low-income market and its collective economic potential, attracted a lot of attention as an untapped market, (Prahalad & Hammond, 2002). It was for this reason that this study looked at low-income market as a context for exploring location-based services.

Interest in the mobile commerce field had grown due to the common use of mobile technologies, especially internet-enabled mobile phones, which are embedded in everyday life (Balasubramanian et al., 2002; Shankar, Venkatesh, Hofacker, & Naik, 2010) For this reason, the number of people using, and usage of, these mobile devices grew dramatically, making the devices a more popular channel for delivering marketing and executing transactions (Shankar et al., 2010)

In the South African context, half of its 50 million people live below the poverty line in 2013, yet more than 75 percent of people who were 15 years of age and above in low-income groups owned a mobile phone (Peyper, 2013). Peyper (2013) defined low-income as people with an income of less than R432 per month.

As mentioned, the low-cost consumer price was found to be sometimes higher because of the transportation costs enabling the consumer to access goods and services. Transportation costs should therefore, be considered in the same breath as the price of the good or service, as they also influence the consumers' buying decisions (Balasubramanian et al., 2002).

The key selling point of mobile commerce is its ability to allow the mobile phone user to access mobile services 'anywhere' using the internet through mobile technology (Balasubramanian et al., 2002). Shankar *et al.* (2010) added that mobile devices were particularly useful as the user carried them everywhere they go and the personal nature of the device captured the user's personal and social experiences.

Location-based services combined mobile device functionality with the user location to provide a personalised service to the user at the right time (Ho, 2012). Location-based services have been defined as applications that can use the position of a device and its owner to offer a value-added service to a consumer (Abbas, 2011).

This therefore affirms the case for location-based services such as what mobile commerce offers. If the consumer is paying a higher price because they are bound by location and transportation costs, amongst other factors, and location-based services offer customers services that are tailored to the consumers's location (that is, removing location as a restriction), then location-based

services could be a potential a solution to reduce the price paid by the low-income consumers (Balasubramanian et al., 2002).

1.4 Purpose of the research

The purpose of the research was to explore location-based marketing and the value proposition it could offer to low-income market, given the challenges that they face. In particular, the study aimed to prove that location-based marketing can reduce the effects of the higher price paid by the poor.

1.5 Research objectives

The research was aimed at establishing and supporting the notion that location-based marketing and services can help reduce the cost of acquiring goods and services borne by the low-income consumer. Thus, the objectives of this research were:

- to establish the rationale behind low-income consumers paying relatively more for goods and services;
- to understand location-based marketing and its features;
- to establish a link between location-based marketing and low-income consumers purchasing undertakings;
- to establish if location-based marketing can provide the low-income consumers with marketing information that will help then make effective purchasing decisions;
- to confirm and explain if location-based marketing can reduce the effects of the higher price paid by low-income consumers.

1.6 Research scope

The scope of this research was limited to the consideration of location-based marketing in the context of low-income market. The study did not explain the technical details behind location-based services; but looked at location-based services that are utilised to provide marketing content. The study did not consider other forms or tools of mobile marketing, but considered location-based marketing. The study was restricted to the low-income consumers defined by the South African Living Standards Measure (Chipp, Corder, & Kapelianis, 2009)

2. Chapter 2: Literature review

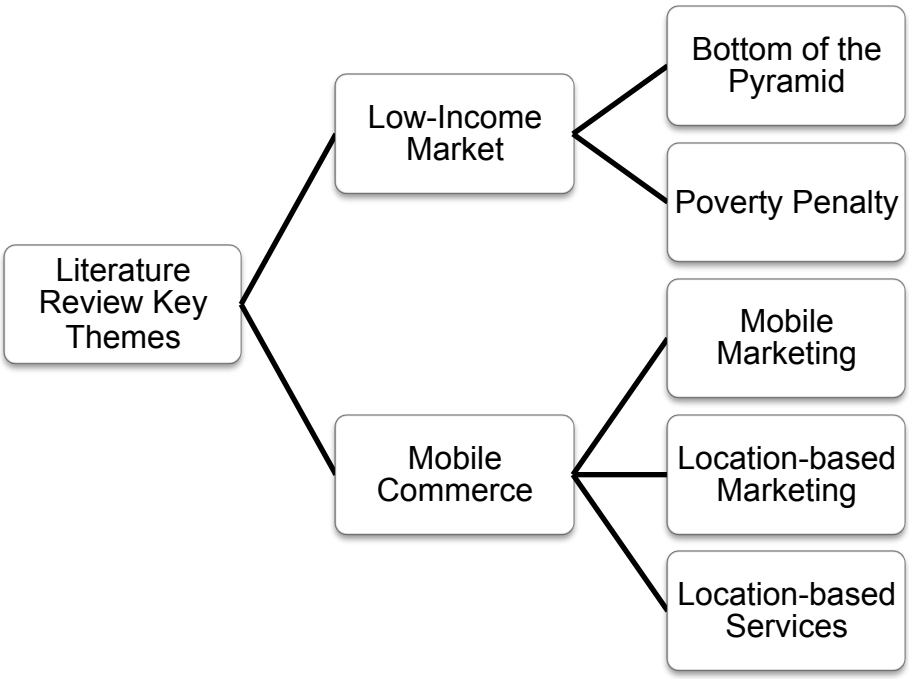
2.1 Introduction

In line with the research objectives outlined in Chapter 1, various concepts and principles needed to be understood and established before launching into the collection of empirical data to fulfil the research purpose. Thus, this chapter intends to establish the theoretical base for the study by understanding the existing body of knowledge in the relevant fields of study.

As stated in the research objectives, the first port of call would be to understand and establish the rationale behind the higher price paid by the poor; then understand location-based marketing (as a mobile commerce and marketing tool) and its features, and establish the linkages between these two subjects. Finally, conclusions should then be drawn to form a theoretical base from which the study would be conducted.

The theory discussed in this chapter touched two main fields of study namely: 1) Low-income Market, and 2) Mobile Commerce, as reflected in below. Although the low-income market was merely a context in which location-based marketing was studied, low-income market was reviewed first to provide a background and identify some of the gaps that location-based marketing can fill.

Figure 1 - Key themes in the literature review



2.2 Low-income market

2.2.1 Definition

Hamilton and Catterall (2005) defined low-income consumers as individuals whose financial resources limited them from accessing goods and services to afford them an “adequate” and “socially acceptable” standard of living. The low-income market was coined the “bottom of the pyramid” in the early 2000s and attracted attention as an untapped market (Prahalad & Hammond, 2002).

2.2.2 Bottom of the pyramid (BOP) market

The bottom of the pyramid market was found to have unique features compared to other markets, in that its consumers were normally distant, dispersed, poor, and illiterate (Ireland, 2008). The bottom of the pyramid market was also

characterised by a younger age demographic, gender discrimination, and lack of infrastructure (Chikweche & Fletcher, 2012). Ireland (2008) differentiated between rural and urban poor, because the urban poor were normally located near major cities and therefore had access to facilities like the shopping malls or supermarkets. The distinct features of the bottom of the pyramid market mentioned above should be kept top of mind when doing business in that market (Chikweche, Stanton, & Fletcher, 2012; Ireland, 2008).

The features such as those discussed above led to a historical minimal focus on the low-income market by marketers, and also an assumption that the consumers in this market were unable to afford goods and services, and therefore were risky and unprofitable (Akter & Kondo, 2007; Hamilton & Catterall, 2005; Martinez & Carbonell, 2007; Prahalad & Hammond, 2002). On the contrary, it was established that as individual consumers, the low-income consumers might have limited purchasing power, but their collective or aggregate purchasing power provided profitable opportunities for businesses (Martinez & Carbonell, 2007; Prahalad & Hammond, 2002; Prahalad, 2012).

Prahalad and Hammond (2002) estimated the aggregate bottom of the pyramid market to be four billion people (65 percent of world population in 2002), while Subrahmanyan and Gomez-Arias (2008) estimated the purchasing power of the bottom of the pyramid at $5 trillion. The estimate was challenged and revised down to $3 trillion, which was still perceived as an overestimate because not all the bottom of the pyramid markets were accessible or suitable for entry (Agnihotri, 2012; Karnani, 2009). It was clear that although the size of the bottom of the pyramid market was controversial, there was an untapped market that existed in the bottom of the pyramid.

Various authors in the literature agreed that there were common misconceptions about the low-income market, which deterred businesses from taking advantage of the opportunities in it (Hamilton & Catterall, 2005; Martinez & Carbonell, 2007; Prahalad & Hammond, 2002). The first misconception was

that the poor only spent on basic needs; when it has been shown that the poor spent on some “luxury” items that improved their quality of life (Martinez & Carbonell, 2007). For example, 85 percent of household had a television in Mumbai and, some people from Indian and African slums had sent their children to private schools, which were relatively expensive (Prahalad & Hammond, 2002; Subrahmanyan & Gomez-Arias, 2008).

A common misconception was also that the poor only buy cheaper goods and services in order to pay lower prices (Martinez & Carbonell, 2007). This misconception could be refuted, as the poor were normally unable to buy in bulk; and hence could not take advantage of the bulk discounts and pay cheaper prices (Martinez & Carbonell, 2007). In opposition to the misconception, the poor were found to end up paying higher prices (Martinez & Carbonell, 2007). This point was explored further as it was at the heart of the study to establish why the poor paid relatively higher prices. However, in some cases, the poor had been observed to prefer products of an inferior quality that were offered to them at lower prices (Agnihotri, 2012; Mendoza, 2011).

The next subsection examines the issue of the relatively high prices sometimes paid by the low-income consumers in the bottom of pyramid market; a concept called the ‘poverty penalty’ was used to explain this occurrence (Mendoza, 2011).

2.2.3 Poverty penalty

Poverty penalty was defined as the higher cost incurred by the poor consumers to acquire goods and services, relative to their non-poor counterparts (Mendoza, 2011). The poverty penalty had sometimes also been referred to as the ‘poverty premium’ (Agnihotri, 2012). The poverty penalty could manifest itself in five different ways, namely: poor quality goods and services, higher price, non-access to goods and services, non-usage of goods and services, and the catastrophic spending burden (such as healthcare) resulting from living in

poor conditions (Mendoza, 2011). The study did not examine all five manifestations of poverty penalty, but only considered those that were pertinent to the study.

2.2.3.1 Factors that lead to the poverty penalty

The theory reviewed offered a number of causes of the poverty penalty, i.e. why the low-income consumers pay more; these causes were considered in detail in this subsection. This first cause of poverty penalty was, as already mentioned, the poor were unable to buy in bulk, obtain bulk discounts, and thus pay lower prices; instead they bought frequently in lower quantities, which often resulted in higher prices (Hamilton & Catterall, 2005; Martinez & Carbonell, 2007). Mendoza (2011) corroborated this argument by explaining a concept called 'the size effect'.

The size effect referred to a difference in price per unit for various sizes of a specific product in different stores. Size effect was often caused by factors like budget, and storage constraints (Mendoza, 2011). It was evident that the size effect concept resonated with the cause stated above, as it meant that consumers were unable to buy in bulk because of budget constraints; and also did not have sufficient space at home to store goods bought in bulk (Mendoza, 2011). The storage constraint could also manifest itself in the form of insecure home environments, which would also lead to frequent purchases in lower quantities (Mendoza, 2011).

The second reason behind poverty penalty was the imperfect information or no access to information about products and services (Hamilton & Catterall, 2005; Mendoza, 2011). This was attributable to the lack of marketing information sent to the low-income consumers, as a result of bottom of the pyramid market not seen as an economically viable market (Hamilton & Catterall, 2005). The lack of access to information on goods and services also meant that the search

costs would be higher if the consumers were to search for the information themselves (Mendoza, 2011). The literature then pointed out that in simple economic terms, imperfect information as well as high search costs in the market hindered perfect competition and hence resulted in higher prices (Mendoza, 2011).

The third cause of poverty penalty, which is linked to the previous one, was that low-income consumers were often subjected to limited product availability (Hamilton & Catterall, 2005). The limited access to goods and services resulted from the lack of marketing information and switching costs (Hamilton & Catterall, 2005; Mendoza, 2011). Switching costs could manifest itself in transaction costs of switching products (for example, closing a bank account), cost of learning a new brand, discount coupons from existing supplier could be forgone, and so on (Mendoza, 2011). The theory maintained that switching costs and imperfect (or lack of access to) information were interrelated and potential determinants of poverty penalty (Mendoza, 2011). Hamilton and Catterall (2005) suggested that this limited product range availability was also exacerbated by the consumers' limited access to locations with wide ranges of goods and services.

Low-income consumers paid more because they were often located far from the lower-priced, larger supermarkets (Hamilton & Catterall, 2005; Mendoza, 2011). Two main factors were found to play a part in increasing the price when it comes to the remote location of low-income consumers namely: the consumers incurred high transportation costs to access the larger retailer and also that the local smaller retailer charged relatively higher prices (Balasubramanian et al., 2002; Ireland, 2008). As afore-mentioned, one of the characteristics that typify the bottom of the pyramid market was that its people were dispersed and often secluded from the cities, thus this consumer would have to expend a considerable amount in transport to get to the desired location (Balasubramanian et al., 2002; Ireland, 2008). In contrast, the urban poor who were defined as located nearer to the major cities often work in formal sectors;

and thus spend two to three hours commuting while spending a considerable amount of their income on transport costs (Ireland, 2008). Thus, it was clear that the high transport cost matter was problematic regardless of whether the low-income consumer was in rural or urban area.

The local stores were found to be expensive as they acted more like 'convenience stores' to the low-income consumers (Ireland, 2008; Mendoza, 2011). Mendoza (2011) offered the 'store effect' concept to explain poverty penalty from a retailer perspective. The store effect was defined as the difference in pricing noted between small and large stores for the same quantity and quality (Mendoza, 2011). The store effect could be attributed to the different types of services offered, for example a large-sized store might offer credit, and thus charge higher prices or a smaller store could be a convenience store and hence charge higher prices (Mendoza, 2011).

Moreover, in a market characterised by imperfect information and high search costs, a retailer in close proximity to a consumer's location could set and dictate a price to the consumer, as the consumer would be bound by their location (Balasubramanian et al., 2002). The consumer was bound by their location because they would have to incur transport costs to access the cheaper store (Balasubramanian et al., 2002). Therefore, the local store could charge higher prices because of their close proximity to the consumer (Hamilton & Catterall, 2005; Mendoza, 2011).

Further to the price-setting position, the local store was often impacted by some factors that increase the cost base (Mendoza, 2011). The local stores in poor communities often lacked equipment, which would transport or even store more products to enable economies of scale (Hamilton & Catterall, 2005). In the rural areas or informal urban settings, where the poor are normally located, there is a lack of transportation, regulatory and legal infrastructure (Mendoza, 2011). This leads to more risk and higher prices or even the possibility of exploitation (Mendoza, 2011). This would then increase the cost of providing goods and

services to the poor, and thus added to the poverty penalty situation (Mendoza, 2011). Similar to low-income consumers, the local retailers were unable to buy in bulk because of the lack of bigger storage facilities, which in turn limited the goods and services available to the consumers (Hamilton & Catterall, 2005; Mendoza, 2011).

In summation, this subsection established that the low-income pay relatively more because of: inability to buy in bulk, lack of access to information or imperfect information, lack of access to goods and services; and higher transport costs incurred to acquire goods and services. Table 1 illustrates the poverty penalty phenomenon by showing a comparison between low-income and high-income groups using a shantytown (Dharavi) and an upmarket suburb (Warden Road) (Prahalad & Hammond, 2002).

Table 1 - The high cost economy of the poor (Prahalad & Hammond, 2002, p.7)

Cost	Dharavi	Warden Road	Poverty Premium
Credit (annual interest)	600 – 1 000%	12-18%	53x
Municipal-grade water (per cubic meter)	$1,12	$0.03	37x
Phone call (per minute)	$0.04 – $0.05	$0.025	1.8x
Diarrhea medication	$20	$2	10x
Rice (per kilogram)	$0.28	$0.24	1.2x

2.2.4 Opportunities in the bottom of pyramid market

Proponents of the bottom of the pyramid market and those who supported the poverty penalty suggested a number of opportunities for larger businesses to penetrate the low-income market and rescue the poor from the price discrimination (Martinez & Carbonell, 2007; Prahalad & Hammond, 2002).

Firstly, the increased availability of more low-cost wireless networks, especially mobile technology, could allow business to access the consumers in the poor areas (Prahalad & Hammond, 2002). This opportunity was at the heart of the study as it could be used to easily connect businesses with low-income consumers.

The second opportunity, aimed more at retailers, was that there could be an opportunity for larger companies to use economies of scale to produce higher quality goods and avail them to this market at lower prices (Martinez & Carbonell, 2007; Prahalad & Hammond, 2002). It was believed that with their existing resources and access to capital and equipment, big businesses would be well positioned to produce higher quality goods and services at a lower cost and thus pass the savings to the low-income consumers (Martinez & Carbonell, 2007).

The last opportunity is presented by new technologies becoming relatively inexpensive, thus allowing for innovative marketing channels in the low-cost market (Martinez & Carbonell, 2007; Prahalad & Hammond, 2002). The current literature explored did not provide much empirical evidence of the linkage between the new technologies (including location-based services, which are explored in this study) and the low-income market; and their potential to bridge the gap in access to information on goods and services in the low-income market. Akter and Kondo (2007) briefly stated without empirical evidence that the mobile platform could enable rural customers to access information regardless of time and location.

The mobile channels could also assist in reducing transaction costs and replace slow, unreliable transport and postal systems, M-Pesa being a timely example (Agnihotri, 2012; Akter & Kondo, 2007). M-Pesa is a mobile money service that enables the low-income consumers to receive money instantly without having to pay for postage or transportation (Agnihotri, 2012). It was noted that M-Pesa lacked the exchange of physical goods and services and thus offered minimal

comparison basis to this study and its focus on fast moving consumer goods, however it was worth mentioning to illustrate the point regarding mobile channels for exchange of goods and services.

It was established that the low-income market was generally receptive to new technologies, provided that they increased income, lowered the cost of living or improved their standard of living (Agnihotri, 2012). New technologies could enable the poor to access some upmarket goods and services, resulting in more access to goods and service that was identified as one of the poverty penalty causes (Mendoza, 2011; Agnihotri, 2012). The point made here would be relevant in assessing whether location-based marketing has the potential to reduce the effects or minimise the causes of poverty penalty. Challenges were identified in communicating with low-income consumers because of low literacy levels; and often limited access to conventional advertising media, but mobile phones could be used to create an interactive form of communication (Subrahmanyan & Gomez-Arias, 2008).

2.3 Mobile commerce

Although, this study is intended to focus on location-based marketing through location-based services, the subject of mobile commerce could not be avoided as it represents the broader field from which location-based services emanates. Ho (2012) stated that location-based services resulted from generic mobile messages, which were irrelevant to the consumer, to a more customised service. Thus, this subsection looked at the concept of mobile commerce.

Benou, Vassilakis, and Vrechopoulos (2012) defined mobile commerce as a transaction, commercial in nature that is performed using wireless and mobile devices as an interface. The 'commercial in nature' aspect of was important to this study as well as to the context of low-market communities as they had limited disposable income (Benou, Vassilakis, & Vrechopoulos, 2012). A simpler definition characterised mobile commerce as a version of electronic commerce that used a mobile device over wireless networks (Xu & Gutiérrez, 2006).

In addition, Balasubramanian *et al.* (2002) stated that the concept of mobile commerce could include any form of wireless technologies, and hence proposed that the concept of mobile commerce should be restricted to the following five features:

- one-way or interactive communication between two or more human beings, between one or more human being(s) and object(s) or between two or more objects;
- at least one of the parties needs to be mobile, that is, the ability to communicate is not limited by physical location;
- the ability to communicate must not be affected by one party moving from one location to another;
- communication signals between parties must be through electromagnetic current;

- communication must be in an attempt to achieve economic benefits.

The second and third points of the definition above made reference to the ability to take away location restriction of the mobile user (Balasubramanian et al., 2002). In line with the focus of the study, mobile commerce was proven to enable conversion of activities currently bound by space and time, to be flexible, that is, can occur anywhere and anytime (Balasubramanian *et al.*, 2002).

The last point in Balasubramanian et al. (2002) definition, was more relevant to this study, because of the research purpose to minimise the effects of poverty penalty and reduce the relatively higher price paid by the low-income consumers. The reduction in the price for low-income markets was assumed to be an economic benefit. The retailer would also receive economic benefits by securing more sales, as well as decreasing their cost to serve and increase profitability.

2.4 Mobile marketing

Mobile marketing was defined as communication and promotion of an offer to customer using the mobile platform as a channel (Akter & Kondo, 2007; Shankar & Balasubramanian, 2009). It has also been viewed as a set of marketing initiatives using mobile devices and media to communicate with customers (Shankar & Balasubramanian, 2009). Mobile marketing enabled a personalised and interactive marketing channel that is current as it can be updated quickly and messages can be tailored to the owner's needs (Akter & Kondo, 2007). These definitions all highlighted communication and interaction, which involve information exchange between the marketer and the consumers, which might somewhat help address the lack of access to information in low-income market.

Mobile Marketing presented an opportunity to directly correspond with customers regardless of the time and their location (Scharl, Dickinger, & Murphy, 2005). The ability to disregard location and time was of particular interest in the context of low-income market since this market was characterised by location-bound consumers (Hamilton & Catterall, 2005). By contrast, mobile advertising took advantage of the mobile devices' attributes that are different to the other media (Dhar & Varshney, 2011). Marketing through mobile devices was also found to be cost-effective from the business perspective, which meant mutual benefit for the consumer and business (Scharl et al., 2005). Table 2 below summarises the attributes of a mobile device useful for mobile marketing:

Table 2 - Mobile devices' attributes and linkages to the low-income markets

Attribute	Description of the attribute	In the context of low-income markets	Supporting Literature
Portability	The mobile devices are often small in size and can be carried everywhere by the owner. The mobile device user uses it on a continual basis, and that makes communication quicker.	The mobile phone would enable location-based services to track the location of the consumer. The location information would be used to send the consumer relevant information.	Balasubramanian (2009) Dhar and Varshney (2011) Krum (2010) Shankar and Balasubramanian (2009) Subrahmanyan and Gomez-Arias (2008)
Location-specificity	The majority of mobile devices have built-in navigational systems that enable location tracking.	The low-income consumer pay more because of transport costs to travel to store, which makes them bound by location. The ability of mobile phones to track location could assist in providing the consumers with information relevant to their location.	Balasubramanian (2009) Ireland (2008) Shankar and Balasubramanian (2009)
Context-aware	The mobile devices often have information that can determine user preferences.	The low-income consumer is bound by location and the need for limited income to spend on goods and services, thus context-sensitive marketing might provide consumers with goods and services that are appropriate to them. This might result in an improvement to the consumers' quality of life and optimise the use of their purchasing power.	Martinez and Carbonell (2007)

Attribute	Description of the attribute	In the context of low-income markets	Supporting Literature
Personalisation	The devices are used frequently for various uses by their owners and therefore are personal in nature.	This feature of the mobile device ensures that the consumer receives information on goods and services that are relevant to their current location.	Dhar and Varshney (2011)

The attributes in the above table make it possible for mobile devices to be used as a personalised marketing platform (Dhar & Varshney, 2011). Location-based services together with context-aware marketing enable opportunities for individualised and targeted marketing (Dhar & Varshney, 2011). This presented an opportunity for retailers in bottom of pyramid markets to easily communicate with consumers that are often dispersed and remote (Ireland, 2008).

Scharl *et al.* (2005) concurred with Dhar & Varshney (2011) by asserting that mobile devices can enable personalised marketing based on three attributes: 1) time, 2) location, and 3) preferences. The time attribute meant that the mobile content could be retrieved at any time, whilst location and preferences enhances the context of the marketing content while also increasing relevance of the content (Scharl et al., 2005). The ability to transact anytime and anywhere posed a new set of challenges as the user interaction and experience could be impacted by environmental and situational factors, thus context is also an important factor (Gummerus & Pihlström, 2011). Environmental and situational factors had relevance in the low-income markets typified by distinct features outlined by Ireland (2008), and need to be understood when marketing to the bottom of the pyramid consumers. For example, the urban poor were identified as working in the formal sector and make frequent purchases on their way home, thus it would be useful to inform them about promotions closer to the time when they leave work or lunchtime, rather than other times of the day.

Mobile devices are embedded in the consumers' everyday lives, and thus context is an important factor to ensure that the service offered is relevant and customised to the consumer's needs (Gummerus & Pihlström, 2011). A number of authors explicitly mentioned location as an integral part of the consumers' context (Benou *et al*., 2012; Gummerus & Pihlström, 2011; Ho, 2012; Xu & Gutiérrez, 2006). According to Xu and Gutiérrez (2006) localisation along with personalisation and other factors, are critical success factors for mobile commerce.

Mobile marketing could be delivered through various media, examples of which were text messaging, games, mobile websites, ringtones, and so on (Shankar & Balasubramanian, 2009). In the retail environment, consumers have used the mobile devices to create shopping lists, search for product and price information, find retailers and compare different products amongst other uses (Shankar et al., 2010). Mobile marketing could provide access to information on goods and services to the low-income consumers. One of the characteristics of the bottom of the pyramid market identified was its younger age demographic, which meant more familiarity with mobile technology making mobile marketing particularly appropriate to this market (Ireland, 2008; Shankar et al., 2010).

2.5 Location-based Marketing

The growth of internet access through cellular phones contributed to the emergence of location-based services (Molitor, Reichhart, & Spann, 2012). Location-based marketing was defined as the use of location information on mobile devices to customise marketing content to their users (Swaminatha & Elden, 2002). This type of marketing relies on the location of a mobile device to geographically locate the owner of the device and provide relevant marketing information to them (Beldona, Lin, & Yoo, 2012; Martin, 2011).

Location and timing factors utilised by location-based marketing can create worthwhile opportunities for customers, as they enable the marketing content sent to the customer to be personalised (Scharl *et al.*, 2005; Weaver, 2013). Location is one of the important factors in personalising the mobile services (Ho, 2012). Ho (2012 p.803) defines personalisation as "... the process of generating and presenting the right content in the right format to an individual at the right time in the right location". This article identified location as a key consideration for personalisation because a mobile user can be anywhere, and what the user can do or access is dependent on the location.

Table 3 details the three categories of Location-based services (Ho, 2012; Rao & Minakakis, 2003).

Table 3 - Location-based services and categories

Category	Description
"Where am I?" services	The location of the user is detected and then information relevant to that location is sent to the user. The services offered here are often maps, driving directions, and directory and yellow pages listings. Location is an important factor in this category.
Point-of-need services	This category requires user location as well as user preferences or profile. Using these two aspects, the user is provided with personalised information at a point of need.
Niche Consumer Application	This category offers applications that are targeted and suitable for specific segments of the market.
Industrial and corporate applications	Services in this category are aimed at business consumers, and enable them to track material, people, and projects.

The study focussed mainly on the second category: point-of-need services. Point-of-need services would typically provide information to consumers on new or interesting goods and services or promotions, and this information is based on knowledge of the consumer's profile and preferences (Rao & Minakakis, 2003). Point-of-need services could provide access to information for low-income consumers, and if the consumers knew the goods and services available around them, they could gain access to more goods and services (Hamilton & Catterall, 2005). The urban poor consumers spent a considerable amount of time commuting and made purchases on their way home (Ireland, 2008). The point-of-need services could be particularly useful to provide timely and location-specific marketing information to this consumer in transit. In contrast, the unemployed low-income consumer restrained by the transport costs could use the point-of-need services to optimise his/her surroundings and even reduce trips to the store.

It is essential that marketers provided the location-based targeted consumers with relevant and accurate marketing information (Hopkins & Turner, 2012). The mobile content needs to be timely, relevant, and actionable, in order for the consumer to take utilise it (Shankar & Balasubramanian, 2009; Watson,

McCarthy, & Rowley, 2013; Wuebben, 2012). Once again, the relevance and simplicity of the content is critical when dealing with illiterate and semi-illiterate consumers with limited purchasing power, as this provides them with timely information to assist them in quicker and appropriate purchasing decisions in a specific location.

Relevance of the content impacts the perceived value of the interaction or communication, if it is timely and related to location (Watson et al., 2013). The information provided through location-based services should be personalised to users' preferences and profile to be useful (Dhar & Varshney, 2011).

Marketers can set up location-based broadcasts (via Bluetooth, wireless, infrared, and so on) that send marketing information to consumers in a specific area, which is vital for low-income consumers who are often restricted by their location (Dhar & Varshney, 2011; Krum, 2010; Wuebben, 2012). The mobile devices can provide the customer with context-sensitive information on goods and services; and price discounts (Molitor et al., 2012). This information will enable consumer to make informed decision on how far they will travel for a particular price discount (Molitor et al., 2012). For the low-income consumer who spent a portion of the income on transport, timely discount information whilst at a specific location could prove useful, and potentially lead to savings in transport costs.

Consumers are strongly influenced by price discounts (Molitor et al., 2012). Thus, the location feature of the location-based marketing enables marketers to send location-sensitive and promotional offers to the mobile device users (Shankar & Balasubramanian, 2009). Location-based marketing can be used to offer promotions to consumers who are physically in the store, and might even get customers talking to one another about the promotions (Hopkins & Turner, 2012). The in-store promotional information would raise awareness of the low-income consumers with regards to the goods and services in their current vicinity, and potentially enable consumers to optimise their location and consolidate their purchases into fewer trips to the store.

Location-based marketing necessitate that businesses access to consumer information, which sometimes raises privacy concerns (Rao & Minakakis, 2003). Some of this information has been made available through social networks (Ho, 2012). Various authors have asserted that customers might consider location-based marketing intrusive and an invasion of their privacy (Dhar & Varshney, 2011; Shankar et al., 2010; Shankar & Balasubramanian, 2009; Watson et al., 2013; Wuebben, 2012).

The use of location-based services exposes personal data of the customer, thus the firm or service provider should manage and secure this information adequately (Dhar & Varshney, 2011). The service provider also needs to obtain permission (through 'opt-in') from the consumer to access their information, particularly their location (Dhar & Varshney, 2011). The customer should also be provided with an opportunity to 'opt out' should they no longer wish to receive location-based content (Watson et al., 2013).

2.6 Conclusion

It was evident in the literature that despite the different views on the size of the market, the low-income market cannot be ignored as an economically viable market. The low-income market has potential as a collective market, and organisations and marketers should look beyond common misconceptions into ways of reaching out to consumers in this market. It has been proven that low-income consumers do not only consume cheaper goods and services, but also occasionally purchase higher priced and luxury goods and services to improve their quality of life.

The poverty penalty phenomenon explained why the poor pay more than middle and high income-earning consumers. The literature cited several reasons why the poverty penalty exists. Firstly, low-income consumers are bound by location and incur transport costs, to travel to purchase goods and services. Secondly, they are unable to buy in bulk and hence buy more often. Thirdly, the local retailer is normally in a quasi-monopolistic position to charge higher prices capitalising on consumers bound by location. Finally, the low-income consumer generally has limited or no access to information on goods and services; as well as limited access to the goods and services.

The key selling point of mobile commerce lies in its ability to remove the restrictions of location and time, that is, allow communication or interaction at any time and any place (Balasubramanian et al., 2002). The seminal article by Balasubramanian et al. (2002) defined mobile commerce in relation to this selling point. Mobile marketing emerged as an extension of mobile commerce, intended to communicate and interact with consumers using the mobile platform. Mobile marketing facilitates personalisation of marketing messages.

Location-based marketing allows mobile marketing to be individualised based on the consumer's location. This essentially means that the low-income consumer can receive marketing information relevant to their current location. This would raise awareness of low-income consumers on goods and services in

their current location, enabling them to capitalise on their location and potentially save transport costs as well. Access to personalised information gained through location-based marketing would mean that consumers could gain access to a wider range goods and services, thus be able to compare prices.

This study is then aimed at testing the assertions made above, and proving that location-based marketing can address the causes of the poverty penalty and indeed reduce the effects of the poverty penalty in the low-income market.

3. Chapter 3: Research propositions

The above literature review makes a case for further investigation into the use of location-based marketing in the low-income market to reduce the impact of the poverty penalty phenomenon.

The aim of this study is to therefore to test the following propositions:

Research Proposition 1: Low-income consumers are likely to take up or sign up to receive location-based marketing

This proposition aims to test if the targeted consumer would sign up to receive location-based marketing if the content was personalised to their needs. Personalisation would be measured by considering whether the location-based marketing content is useful, relevant, and timely. The willingness to sign up for location-based marketing would be measured explicitly by asking the consumer if they would provide their cellular phone number to receive location-based marketing content. Current marketing behaviours were ascertained to gauge if the low-income consumers are receptive to marketing content in general.

Research Proposition 2: Location-based marketing enables the low-income consumers to gain access to information on goods and services

The targeted consumer would like to receive information on goods and services that will assist them in making effective purchasing decisions. The information provided to consumers should be timely and location-specific for the consumer to use it. Information on promotions and discounts available was the focus of this proposition.

Research Proposition 3: Location-based marketing enables the low-income consumers to gain access to more goods and services

Location-based marketing can be used to inform consumers about new products available, and the targeted customer would be interested in the new products to widen the range of products available to them. Location-based marketing can also use consumer preferences to expose them to goods and services that they have never used.

Research Proposition 4: Location-based marketing enables consumers to save on transportation costs

Location-based marketing can provide information about goods and services in the consumer's current location to prevent them from travelling further to obtain goods and services. Low-income consumers can therefore use this information to optimise their current location and save on transport costs. The location-based information can also enable the customer to decide how far to travel to obtain goods and services.

4. Chapter 4: Research methodology

4.1 Introduction

This chapter sets out the research methodology followed in conducting this study. The methodology entailed selecting the appropriate design and methods, and then providing the rationale behind the decisions made.

4.2 Research design

The earlier chapters examined existing theory relating to the main concepts of this study. The evaluation of existing literature led to certain inferences drawn using the inductive research approach (Saunders & Lewis, 2012). The inferences drawn were then set out as research propositions, upon which data was collected in order to test these propositions (Hair, Babin, Money, & Samouel, 2003).

The literature revealed that the field of mobile commerce had been the subject of study since the early 2000s. Previous studies have primarily focused on exploring the concepts and the factors or features involved in mobile commerce. This study sought to move the research forward to a more explanatory arena, in line with the maturity of the field (Hair et al., 2003; Saunders & Lewis, 2012). Furthermore, having put forth research propositions that needed to be tested to fulfil the research objectives, an explanatory study was more appropriate (Hair et al., 2003).

Explanatory studies are aimed at explaining the relationship(s) between dependent variable(s) and several independent variables; and could be quantitative or qualitative (Saunders & Lewis, 2012; Tharenou, Donohue, & Cooper, 2007). In this light, this study set out to understand and explain how location-based marketing can augment the location restrictions placed on low-income consumers to lessen the effects of the poverty penalty phenomenon.

The study was of a quantitative nature, and to this end metric data was collected.

The research method employed was a cross-sectional survey, which is a common strategy used to collect data from a sizeable population (Saunders & Lewis, 2012). Surveys are recommended where there is a concrete theoretical base and are useful in studying real-life settings with the people experiencing those situations (Tharenou et al., 2007). The preceding chapters elicited the key constructs that formed a theoretical base, and hence the decision to use a survey for this study. Surveys are easy to understand from a respondent's point of view and because they are common, people feel at ease participating (Saunders & Lewis, 2012). The ease of use was vital since this study focused on the low-income market where literacy levels might be lower.

4.3 Unit of analysis

The unit of analysis for this study is the individual that own a mobile device.

4.4 Population

In this study, the context was clearly defined as low-income market consumers, and the literature review linked low-income market to the bottom of the pyramid concept pioneered by Prahalad and Hammond (2002). Chipp, Corder and Kapelianis (2009) extended the bottom of the pyramid theory by relating the concepts to South African low-income markets, and also provided a definition for segmenting consumers according to their living standards, thereby providing a clear guideline of who falls into bottom of the pyramid market. The 29 questions suggested by Chipp, Corder and Kapelianis (2009) identified the consumers that fell into this market as Living Standards Measures (LSMs) one to four, and to this end, this study followed that definition. Living Standards Measure (LSM®) is a South African consumer segmentation mechanism based on selected household variables (Chipp et al., 2009). The instrument used to collect data for this study incorporated seven household-related questions (of

the 29 in total) from Chipp, Corder and Kapelianis (2009) to categorise respondents into appropriate LSMs.

In line with the above definitions, this study targeted consumers who fall within LSM one to four in South Africa, particularly in areas surrounding Johannesburg, although a smaller portion of the sample was drawn in Durban. The respondents were required to be over the age of 16.

4.5 Sampling

Sampling entailed selecting units of analysis from a broader population such that they were representative, to allow for extrapolation of the results to the population (Tharenou et al., 2007).

4.5.1 Sampling techniques

Combinations of non-probability methods were employed in this study, as the sampling frame could not be defined fully. To this end, several levels of sampling were applied to get to the sample; using various sampling techniques. The primary sampling technique was the judgement sampling method, while the secondary sampling methods were convenience and snowballing techniques.

The primary level of sampling was the judgement sampling method because the sample was based on the researcher's judgement; that an informal settlement could potentially have low-income consumers as determined by the seven household questions adapted from Chipp, Corder and Kapelianis (2009) (Saunders & Lewis, 2012). Using the convenience sampling technique as secondary level of sampling, the sample was narrowed down to Princess informal settlement located in Roodepoort, west of Johannesburg, from which the researcher had acquaintances. By virtue of being an informal settlement in South Africa, the Princess informal settlement is a shantytown with limited amenities like electricity, sanitary facilities, and running hot water. The residents in this settlement have access via public transport to the Westgate

and Princess Crossing shopping malls, which means that they have access to large retailers.

The snowballing sampling technique was then used to identify participants of the survey in Princess informal settlement. This means that one individual who resides in an informal settlement was identified, and then she led to the identification of the informal settlement used, resulting in more research subjects being identified (Tharenou et al., 2007).

In recognition that data collected from one informal settlement would be homogenous, a smaller proportion of the sample was selected using a combination of convenience and judgement sampling methods. A judgement call was made to sample people that are employed in domestic services (including gardening), construction or agricultural sectors. This portion of the sample was conveniently sampled using the family and friendship networks.

Figure 2 – Children playing in the street of Princess informal settlement (Bester, 2011)

4.5.2 Sample Size

The theoretical guideline on sample size is that a large size is generally required for quantitative studies as well as studies aimed at determining relationships between variables (Tharenou et al., 2007). Larger samples are required to ensure validity of the results of the study (Saunders & Lewis, 2012). Moreover, the central limit theorem prescribes a minimum sample size of 30 to enable the use of principles of normal distribution when analysing the data (Hair et al., 2003). In this light, a target sample size of 120 was set to strike a balance between the requirement of a large sample and the realities of research timelines. A sample size of 120 meant 30 subjects for each proposition, although each subject was required to answer questions relating to all propositions. The sample size of 120 was conservative and therefore the study would have low statistical power leading to a possible type II error in the results (Hair et al., 2003). Type II error refers to the risk that a null hypothesis might not be rejected, when in fact it is false (Tharenou et al., 2007).

4.6 Research instrument

The research instrument used to collect data for this study was a questionnaire, comprised of questions intended to test the propositions (Saunders & Lewis, 2012). The questionnaire was administered by hand while assisting the respondents, as some questions could not be simplified further. Questionnaires administered in person offer an opportunity for the data collector to clarify questions from the respondents promptly (Hair et al., 2003). One limitation of this type of questionnaire administration is that it might lead to interviewer bias (Hair et al., 2003).

Considering the lower literacy levels characteristic of the envisaged respondents (low-income consumers), the questionnaire was simplified and written in easy English to ensure that all respondents understood the questions (Saunders & Lewis, 2012). However, the language bias was noteable as bulk of

the respondents did not have English as a home language. The questionnaire set out in Figure 4 in the Appendices section, was structured as follows:

- Classification questions – this initial set of questions intended to establish if the respondent fell into targeted population and unit of analysis (Hair et al., 2003)
- Demographic information – the next section aimed at ascertaining the demographic information of the respondents.
- Research Topic Questions – this set of questions was designed to gather the required information from respondents to test the specified research propositions (Hair et al., 2003).

Classification and demographic information questions were measured on a nominal scale, while the research topic questions were rated on a five-point Likert scale. Research topic questions were posed as statements (as opposed to questions), to avoid leading the respondents (Saunders & Lewis, 2012).

4.6.1 Questionnaire pre-testing

Prior to distribution, the questionnaire was pre-tested amongst selected individuals. The individuals who participated in the pre-test were conveniently chosen as accessible individuals who interacted with the targeted population often. The questionnaire was tested for simplicity, ease of use, and completeness (for example, where nominal scales were used, that all categories were incorporated). The following changes were made after pre-testing:

- the grammar errors that were identified were corrected;
- questions that were found to be ambiguous and unclear, were rectified;
- some questions were shortened and simplified;
- more line spacing was used to allow for readability.

4.7 Data collection

The data was collected over a period of three weeks. A total of 60 questionnaires were handed to two data collectors, who were briefed after having filled in the questionnaire themselves. Questions were explained to the data collectors, as well as instructions on how the questionnaires should be completed were also given to the collectors. The instructions served to explain the consent page to the respondents and obtain their signatures before completing the questionnaire. The questionnaire was also sent via email to a network of friends, colleagues and family to administer to people known to them, who would fall within the targeted occupations. The email contained the same instructions given to the data collectors, along with an attached questionnaire.

Once the completed questionnaires were received back from the collectors, data was initially captured into Excel using defined codes. The data was then inserted into the SPSS statistical software tool in preparation for analysis. The total number of completed questionnaires received was 107, which was slightly less than the targeted sample size of 120.

4.8 Data analysis

The following statistical techniques were used to analyse the data gathered.

4.8.1 Factor analysis

The research propositions defined for this study are related and collectively fulfil the objectives of the study. The survey instrument consisted of 47 questions (excluding the qualifying, classification and demographic questions). For this reason, the questions were grouped to form fewer measurement scales. The factor analysis tool was used to determine the underlying structure as well as group the questions into fewer measurement scales (Hair et al., 2003). The factor analysis technique is a multivariate statistical technique that simplifies a

large number of variables into smaller number of scales, to enable ease in understanding of the data (J. Hair et al., 2003).

4.8.2 Cronbach's alpha coefficient

An instrument is said to be reliable if its repeated application yields consistent results (J. F. Hair et al., 2003). The Cronbach's alpha coefficient is one of the most common measures of reliability (Tharenou et al., 2007). All measurements scales were tested for acceptable reliability scores, characterised by a score of 0.60 and above (Tharenou et al., 2007).

4.8.3 One-sample t-test

The data collected was coded numerically to enable ease of analysis, which meant that all data was metric data. Once the filters had been applied, the data constituted a single sample of consumers who have cellular phones and fall within the low-income market. The measurement scales defined reflected perceptions of consumers that were measured and grouped together to form fewer scales with interdependence. The scales resulting from the factor analysis then formed certain attributes, characteristics and assertions that needed to be tested. One-sample t-test was used to test if there was statistical significance in the measurement scales.

One-sample t-test statistical technique is suited for one-sample testing on metric data. A t-test is typically used to ascertain the significance differences between two sample means (J. Hair, Black, Babin, & Anderson, 2010). This study consisted of sample, thus the sample was compared to the population median (3, because a five-point Likert scale was used) as the population mean was unknown. A t-test has also been used because the sample size was small and the population standard deviation was unknown (Hair et al., 2003).

4.8.4 Correlation analysis

Pearson correlation measures the strength and direction of the linear relationship using a correlation coefficient (Tharenou et al., 2007). The correlation coefficient can be from -1 to 1, with 1 depicting a stronger relationship on both sides; and the sign illustrating the direction of the relationship (Tharenou et al., 2007). This technique was used in the study to determine the significance and strength of the relationships between measurement scales. The guidelines for classifying the strength of the correlation coefficient are presented in Table 4.

4.8.5 Regression analysis

Regression analysis enables the measurement of a relationship between a dependent variable and an independent variable (J. F. Hair et al., 2003). Regression goes one step further from correlation analysis, and determine the extent of the relationship, as well as explain which variable can be explained by which one (Tharenou et al., 2007).

Multiple regression analysis is used when there is more than one independent variable to be tested (Tharenou et al., 2007). In some cases, the statistically insignificant the variables affect the model, and thus might need be excluded in the model. Stepwise regression analysis technique sequentially examines all the independent variables and eliminates the variables that will make the model insignificant (J. F. Hair et al., 2003). As with correlation analysis, regression analysis will be used where needed. Table 4 below sets out the rules for establishing the strength of association.

Table 4 – Guidelines for evaluating the correlation coefficient size (Hair et al., 2003, p282)

Coefficient range	Strength of association
±0.91 - ±1.00	Very strong
±0.71 - ±0.90	High
±0.41 - ±0.70	Moderate
±0.21 - ±0.40	Small but definite relationship
±0.01 - ±0.20	Slight, almost negligible

In addition to the correlation coefficient, a p-value (of the regression model and individual independent variables) will render the relationship significant if it is less than 0.05.

4.8.6 Significance level

The significance level (α) refers to the probability of rejecting a true null hypothesis, commonly known as the Type I error (Tharenou et al., 2007). The most common significance level used is 0.05, and therefore this study will also follow α of 0.05. Thus, significance would be deemed if p-value is less than 0.05 (J. Hair et al., 2010).

4.9 Research limitations

This study had the following limitations:

- The data was collected in accessible areas to maximise time-efficiency and minimise costs. The areas in consideration were reasonably urban and therefore consisted of the 'urban poor' who possibly have access to the facilities used to determine the living standards measures defined by Chipp, Corder and Kapelianis (2009). In this light, the research was limited in reflecting the realities of the consumers in the rural areas (Ireland, 2008).

- The study tested the research propositions by allowing the respondents to hypothesise on their interest in location-based marketing. In a real-life situation where the consumer has an opportunity to interact with location-based services, the results could be more diverse. An experiment method might have mitigated the effect of this limitation, however the cost thereof precluded this option.

- The study could exhibit a response bias data was collected mostly around Johannesburg, from one informal settlement. The results could therefore reflect groupthink and community-held norms and values, which might not hold in a different area. An attempt was made to minimise this effect by collecting a small sample outside the Princess informal settlement.

- The sample size achieved was small, and consisted of some respondents that did not fall within the low-income market as defined by Chipp, Corder and Kapelianis (2009). A large sample size would yield more concrete results.

5. Chapter 5: Results

5.1 Introduction

The data collected was put through various statistical tests, the results of which were presented in this section. The results are presented under the following key subjects:

- Sample description
- Scale definition
- Scale reliability
- Descriptive statistics
- Research propositions testing - this section was structured using the propositions laid out in chapter 3.

5.2 Sample description

Once received from the respondents, the data was captured using the codes set out in Table 23 in the Appendices section. In total, 107 completed questionnaires were received back from the respondents.

5.2.1 Qualifying and classification questions

Table 5 - Qualifying and classification questions results

Question	Response count	Response percentage
Do you have a cellphone?		
Yes	104	97.2%
No	3	2.8%
Do you have the following in your home? Personal computer / laptop, Vacuum cleaner		
No personal computer / laptop and vacuum cleaner	67	64.4%
Personal computer / laptop only	18	17.3%
Vacuum cleaner only	14	13.5%
Personal computer / laptop and vacuum cleaner	4	3.8%
Missing information	1	1.0%

Table 5 above shows how results were filtered and classified. The results were filtered in order to match the sample to the targeted population and ensure that all cases qualified. Firstly, three cases were excluded because the respondents thereof did not have a cellular phone, resulting in a sample of 104. The second question was used to classify respondents into whether they were low-income consumers or not, as this was the context of the study. The classification involved using a combination of two household items (personal computer / laptop and vacuum cleaner) to determine the low-income market consumers. The outcome was then a sample of 67 cases falling within the low-income market (i.e. had neither a vacuum cleaner nor personal computer / laptop in their households) and the remainder of 37 cases, which did not fall into the low-income market.

Table 6 below presents the responses to the remainder of items in the classification question:

Table 6 - Results of the classification question items

Do you have the following in your home?	Response count	Response percentage
Hot running water		
Yes	12	17.9%
No	55	82.1%
Motor vehicle		
Yes	2	3.0%
No	65	97.0%
Electric stove		
Yes	25	37.3%
No	42	62.7%
Microwave oven		
Yes	16	23.9%
No	51	76.1%
Flush toilet inside or outside		
Yes	25	37.3%
No	42	62.7%

The results in Table 6 show that the “No” responses were above 60 percent for all the household items surveyed. The running hot water and motor vehicle were higher than others, and this reflected a high rate of sampling the targeted population (low-income consumers). The high percentage of respondents that did not have a motor vehicle in their household was aligned with the targeted low-income consumer that spent money on transport to obtain goods and services. This means that the consumers surveyed would be bound by location.

5.2.2 Demographic information

Table 7 - Demographic results

Qualifying question	Response count	Response percentage
Age		
16-24	9	13.4%
25-34	26	38.8%
35-49	24	35.8%
50 and above	8	11.9%
Gender		
Male	25	37.3%
Female	42	62.7%

As set out in Table 7, the sample was skewed towards women over 70 percent of the sample between the ages of 24 and 50. This might be because the data collector that collected majority of the questionnaire is a female and within the 24 to 50 age group. Technology and frequent mobile device is often associated with the younger age group and thus, it was interesting to get older age groups completing the questionnaire, and would be interesting to review the results.

5.3 Scale Definition

To determine the underlying structure as well as group the questions into scales, factor analysis was applied. The factor analysis technique is a multivariate statistical technique that simplifies a large number of variables into smaller number of scales, to enable ease in understanding of the data (Hair et al., 2003).

The minimum sample size of 50, required for factor analysis was met (Hair, Black, Babin, & Anderson, 2010). In deriving and selecting the individual factors, the following guidelines were considered:

- the measure of sampling adequacy (MSA) had to exceed 0.50 (Hair et al., 2010);
- the Bartlett test of sphericity had to be statistically significant, i.e. less than 0.05 (Hair et al., 2010);
- only factors with Eigenvalues greater than 1.0 were extracted (Hair et al., 2003);
- the Varimax rotation method was used to clearly identify the components (Hair et al., 2003)
- factors with a loading less than 0.30 have been omitted to allow for ease of factor identification (Hair et al., 2003);
    - the guidelines with regards to factor loadings are: over 0.30 and less than 0.50 are considered acceptable, between 0.50 and 0.70 are moderately important, whilst 0.70 and more are considered very important (Hair et al., 2010)
- a minimum of 60 percent of the total variance should be achieved by the factor solution (J. F. Hair et al., 2003)

The results of the factor analysis are set out below in Table 8. The 11 resulting scales will then be used to test the research propositions.

Table 8 – Factor analysis results

Scale name	Scale composition (survey questions)	MSA	Bartlett's test of sphericity significance	Total variance explained
Content	• I would be willing to receive adverts on my phone about competitions from a store near my home/work only when I am near that store • I would be willing to receive specials and promotion information from a store near my home/work only when I am near that store • I would be willing to receive discount coupons or vouchers on my phone from a store near my home/work only when I am near that store	0.59	0.000*	61.29%
Sign up	• I would provide my phone number to the stores near my home in order to win a competition • I would provide my phone number to the stores near my home in order to receive discount information • I would like to have an option to stop receiving the advert whenever I want to • I would tell my family, friends and neighbours about an sms advert that I found useful	0.64	0.000*	56.56%

Scale name	Scale composition (survey questions)	MSA	Bartlett's test of sphericity significance	Total variance explained
Current marketing	• I currently receive sms adverts but they don't give me information about products in my area • I have received advertising or promotions on my phone • I use adverts to buy cheaper products • I normally buy products that are on special or promotion • I already receive adverts on SMS but don't find them useful	0.75	0.000*	46.75%
Personalisation	• I like to take pictures with my phone • I like to change ringtones on my phone • I like to listen to music on my phone • I like to change wallpaper pictures on my phone	0.67	0.000*	69.38%
Location- and time-specific	• It would be good if the big supermarkets sms'ed me their specials when I am in the township • I would be willing to receive adverts on my phone from a store near my home/work • I would be willing to receive adverts on my phone if it is sent at a suitable time • The big supermarkets in the townships have specials but I don't know about them at the right time • The big supermarkets in the townships have specials but I am away at work so I can't buy then	0.75	0.000*	50.13%

Scale name	Scale composition (survey questions)	MSA	Bartlett's test of sphericity significance	Total variance explained
Access to information	• It would be useful to know about specials if I'm near the store • It would be good to know about specials when they are available • I would like stores near my home to sent me information on specials during the weekend • If the stores near my home sent me information on specials during the weekend, I would buy the products on special	0.58	0.000*	49.91%
Information leads to buying	• I would like to know about new products and services in a store near my home/work only when I am near that store • I would buy products from a store near my home/work, if I received adverts on my phone when I am near that store • Information on new products in my area would lead me to buy more products	0.57	0.001*	52.84%
Buying more products	• I wish I knew about more products so that I can try them • I would buy a product that I have never bought but need, if I have information that it is available in a store near my home/work • It would be good to know about specials in stores near my home/work at the right time	0.52	0.000*	53.35%

Scale name	Scale composition (survey questions)	MSA	Bartlett's test of sphericity significance	Total variance explained
Dissatisfaction with local shopping	• My neighbourhood shops are all very expensive • The local spaza shops are very expensive • The local spaza shop does not have all the products I need and I have to travel to town/shopping malls to buy other products • The local spaza shops keep things past their expiry date	0.69	0.000*	51.90%
Local shopping	• I cannot make a trip to a store when they have promotions because travelling costs a lot of money • I would make less trips to the shops if I could • I would buy more products near my home/work to save money • I generally buy most of my shopping from shops that are close to my home	0.70	0.000*	51.68%
Transport costs	• It is good that the bigger supermarkets (Shoprite, Boxer, Spar, Pick n Pay) are coming into the townships so things can get cheaper • I would like to save some of the money that I spend on transport • It is good to have big supermarkets (Checkers, Shoprite, Spar, etc.) near my home because I save on taxi fare to town	0.62	0.000*	61.42%

Scale name	Scale composition (survey questions)	MSA	Bartlett's test of sphericity significance	Total variance explained
Questions that couldn't fit into any scale	• I read adverts that come with "Please call me" messages • There are no big supermarkets near my home • I prefer to shop locally (in my neighbourhood) as it costs too much to take taxis/buses to and from town or shopping malls • I trust smses from the big supermarkets • I would be willing to receive adverts on my phone if the information is simple and useful	-	-	-

All scales were found to have significant interdependence, as p-values (significance) were all below 0.05. None of the components had an MSA below 0.50, while there were a couple with total variance explained below 60 percent. Although, some components were below the required 60 percent threshold of total variance explained, they were still used as all other criteria were met.

5.4 Scale Reliability

All measurement scales were put through the Cronbach alpha test to determine if the scales can be collectively used to explain a certain attribute (Hair et al., 2010). The guidelines for applying the Cronbach's alpha were provided in Table 9 below:

Table 9 - Guidelines for the Cronbach's alpha coefficient size (Hair et al., 2003, p172)

Alpha coefficient	Strength of association
< 0.61	Poor
0.61 to 0.70	Moderate
0.71 to 0.80	Good
0.81 to 0.90	Very good
> 0.90	Excellent

The Cronbach's alpha coefficients for all the scales are detailed below in Table 10:

Table 10 - Summary of the Cronbach's alpha results

Scale name	Cronbach's alpha coefficient	Strength of association
Content	0.69	Moderate
Sign up	0.75	Good
Current marketing	0.69	Moderate
Personalisation	0.85	Very good
Location- and time-specific	0.73	Good
Access to information	0.66	Moderate
Information leads to buying	0.54	Poor
Buying more products	0.56	Poor
Dissatisfaction with local shopping	0.68	Moderate
Local shopping	0.68	Moderate
Transport costs	0.68	Moderate

Two scales (Information leads to buying and More buying) showed a poor strength of association.

Table 11 – Cronbach's alpha breakdown for the 'information leads to buying' scale

Scale items	Cronbach's alpha if Item deleted
I would like to know about new products and services in a store near my home/work only when I am near that store	0.49
I would buy products from a store near my home/work, if I received adverts on my phone when I am near that store	0.27
Information on new products in my area would lead me to buy more products	0.53

Table 11 showed that the coefficient for the 'information leads to buying' scale could not be improved further, thus was not changed and used because of the significance interdependence proven by the factor analysis results in Table 8.

Table 12 - Cronbach's alpha breakdown for the 'buying more products' scale

Scale Components	Cronbach's alpha if Item deleted
I wish I knew about more products so that I can try them	0.51
I would buy a product that I have never bought but need, if I have information that it is available in a store near my home/work	0.20
It would be good to know about specials in stores near my home/work at the right time	0.58

Table 12 shows that the coefficient for 'buying more products' scale could have been improved from 0.56 to 0.58, but would still be poor, and could not have been improved further as there would have been only two items left in the scale. Thus, this scale was also left unchanged because an improvement of 0.02 was not sufficient to lift the scale from a poor to moderate association. Thus, the results of the factor analysis were relied upon.

5.5 Descriptive statistics

Table 13 below summarises the descriptive statistics results. The common mode of 4.00 reflects that the respondents tended to agree with the statements posed more often. This is also supported by the evidently negative skewness showing that the data was skewed to the left, and hence most values peaked on

the right (Hair et al., 2003). In contrast, the Kurtosis scores were mainly positive indicating less variance in the data, which was also supported by the lower standard deviation (Hair et al., 2003).

The results in Table 13 showed that the most common response was “Agree” (which was coded as a “4.00”). Transport costs scale had the highest average, which somewhat meant that the respondents resonated more with the statements posed, which circled around saving on transport costs. Table 24 in the Appendices section shows descriptive results broken by age groups. The younger age related more with personalisation than saving on transport costs, which could be as a result of their parents paying for their expenses. Table 25 in the Appendices section, showed that men had higher averages than women in most scales; except for the awareness in current marketing as well as personalisation.

Table 13 – Descriptive results for averaged scales

Scale	Mean	Median	Mode	Standard deviation	Variance	Skewness	Kurtosis	Valid entries	Missing entries
Content	3.704	4.00	4.00	0.769	0.592	-0.457	-0.377	63	4
Sign up	3.691	4.00	4.00	0.754	0.568	-1.398	3.631	63	4
Current marketing	3.513	3.70	4.00	0.701	0.491	-0.962	0.450	62	5
Personalisation	3.837	4.00	4.00	0.761	0.579	-1.865	5.143	63	4
Location- and time-specific	3.669	4.00	4.00	0.630	0.396	-1.538	3.090	64	3
Access to information	3.844	4.00	4.00	0.575	0.330	-1.335	3.546	64	3
Information leads to buying	3.556	4.00	4.00	0.711	0.505	-0.588	-0.375	63	4
Buying more products	3.903	4.00	4.00	0.485	0.235	-1.291	6.781	65	2
Dissatisfaction with local shopping	3.621	4.00	4.00	0.754	0.568	-0.967	0.628	66	1
Local shopping	3.762	4.00	4.00	0.605	0.366	-1.652	3.260	65	2
Transport costs	4.122	4.00	4.00	0.506	0.256	-0.880	3.919	63	4

5.6 Research propositions testing

Research proposition 1 - Low-income consumers are likely to take up or sign up to receive location-based marketing if the content is useful and relevant to them.

For this proposition, four measurement scales were considered as reflected in Table 14. For each of the scales, a one-sample t-test was used to test that the mean of the sample was not equal to the population median of three. The t-test undertaken was a two-tail test to prove that for each of the scales the respondents' perceptions were not neutral (that is, a value of 3 in the Likert scale). The scales used to test proposition 1 were tested as follows:

Table 14 - One-sample t-test results proposition 1 scales

	t-statistic	Degrees of freedom	Significance (p-value)
Personalisation	8.734	62	0.000*
Content	7.261	62	0.000*
Sign up	7.272	62	0.000*
Current marketing	5.762	61	0.000*

The results of the t-tests as shown in Table 14 showed statistically significant results for all scales, as the p-values were less than the set significance level (0.05).

Proposition 1 required proof that low-income consumers were likely to take up location-based marketing based on useful and relevant content. Usefulness and relevance were associated with the personalisation, current marketing and content measurement scales, and sign up would measure the willingness to take up the services. Therefore, there was a need to establish whether the three scales would influence the sign up scale. Multiple regression analysis was appropriate because of its ability to establish relationships between a dependent variable and multiple independent variables (Saunders & Lewis, 2012). This technique would also reflect how much change in the dependent variable could be explained by changes in the independent variables (Hair et al., 2010).

Table 15 – Multiple regression analysis results for proposition 1

Dependent variable	Independent variables	R	R square	Significance (individual)	Significance (model)
Sign up	Personalisation	0.483	0.234	0.029*	
	Current marketing			0.001*	
	Content			0.206	0.003*

Table 15 shows that consumer willingness to sign up for location-based marketing can be partially explained by the consumers' current trends in personalising their phones as well as their responses to the marketing they currently receive. The relationship is moderate but significant. The regression results also show that changes in personalisation and current marketing would explain 23 percent of the changes in willingness to sign up. Table 15 shows that no relationship was found between the willingness to sign up and relevance of the content sent.

Research proposition 2 - Location-based marketing enables the low-income consumer to gain access to information on goods and services

The measurement scales reflected in Table 16 were used in this proposition. The proposition asserted that consumers would gain access to information through location-based marketing. The items that made up the measurement scale related to the consumer gaining access and therefore, consumer responses need to be tested. One-sample t-test was utilised since there was a single sample where the population standard deviation was unknown. One-sample t-test aimed to establish if there was a significant difference between the perceptions (reflected in the survey responses) and the population median of three ("Neutral" in Likert scale). The scales used to test proposition 2 were tested as follows:

Table 16 - One-sample t-test results for proposition 2 scales

	t-statistic	Degrees of freedom	Significance (p-value)
Location- and time-specific information	8.497	63	0.000*
Access to information	11.744	63	0.000*

The results showed in Table 16 reflected statistically significant results, as both p-values were less than the specified significance level (0.05).

The willingness to sign up for location-based marketing had been established as a dependent variable, and it was pertinent to the study to ascertain the scales that influenced it. This would help validate whether reasons put forward by the study on how location-based marketing could be useful to low-income markets; are in fact congruent with the consumer perceptions reflected in the survey. Thus, multiple regression analysis was used to ascertain whether changes to the two scales in Table 17 could explain some changes in sign up.

Table 17 - Multiple regression analysis results for proposition 2

Dependent variable	Independent variables	R	R square	Significance (individual)	Significance (model)
Sign up	Location- and time-specific new	0.473	0.224	0.018*	
	Access to information			0.021*	0.001*

Table 17 shows that both scales used in proposition 2 have a moderate and small (respectively) relationship with the consumer's willingness to sign up for location-based marketing. Changes in proposition 2 scales would explain 22 percent changes in location-based marketing sign up.

Research proposition 3 - Location-based marketing enables the low-income consumer to gain access to more products and services

As with proposition 1 and 2, the measurement scales used here had to be tested to establish whether they are significantly different to the population median. T-test is often used to compare means of two samples to determine whether the means are equal in order to establish significance. This study has one sample and thus one-sample t-test used and compared to the population median. The following scales were used to test proposition 3:

Table 18 - One-sample t-test results for proposition 3 scales

	t-statistic	Degrees of freedom	Significance (p-value)
Information leads to buying	6.203	62	0.000*
Buying more products	15.006	64	0.000*

The results shown in Table 18 showed statistically significant results, as the p-values were less than the specified significance level (0.05).

Research proposition 4 - Location-based marketing enables consumers to save on transport costs

Proposition 4 seek to establish whether location-based marketing could afford the low-income consumers a savings on transport costs. This assertion involves the three measurement scales mentioned in Table 19, and therefore these scales were tested for significance difference to the population median using the one-sample t-test. The t-test enables comparison between sample means or comparison of a sample mean to a defined value (Hair et al., 2003). In this case, the defined value was the population median of three. The following scales were used to test proposition 4:

Table 19 - One-sample t-test results for proposition 4 scales

	t-statistic	Degrees of freedom	Significance (p-value)
Dissatisfaction with local shopping	6.698	65	0.000*
Local shopping	10.148	64	0.000*
Transport costs	17.612	62	0.000*

The results in Table 19 showed statistically significant results, as the p-values were all less than the specified significance level (0.05).

The literature reviewed suggested that a potential relationship existed between shopping locally and the transport costs. Proposition 4 aimed to prove that location-based marketing can reduce the transport costs by optimising the consumer location. In order to test proposition 4, there was a need to explore if a relationship existed between the scales used. Pearson correlation measures the strength and direction of the linear relationship using a correlation coefficient, and therefore was a suitable test to be used (Tharenou et al., 2007).

Table 20 – Correlation analysis results for proposition 4

		Dissatisfaction with local shopping	Local shopping	Transport costs
Dissatisfaction with local shopping	Pearson correlation coefficient	1	0.007	0.077
	Significance		0.959	0.546
Local shopping	Pearson correlation coefficient	0.007	1	0.392
	Significance	0.959		0.001*
Transport costs	Pearson correlation coefficient	0.077	0.392	1
	Significance	0.546	0.001*	

Table 20 reflected a lower but significant positive relationship between the transport costs and local shopping. The results suggest that an increase in transport costs would result in an increase to local shopping.

It would be interesting to establish whether consumers perceived that potential savings in transport would influence their willingness (or lack thereof) to sign up

for location based marketing. Thus, the multiple regression analysis was used to ascertain if the three scales utilised in proposition 4 would explain changes in sign up of location-based marketing.

Table 21 – Multiple regression analysis results for proposition 4

Dependent variable	Independent variables	R	R square	Significance (individual)	Significance (model)
Sign up	Dissatisfaction with local shopping	0.499	0.249	0.280	0.001*
	Local shopping			0.219	
	Transport costs			0.003*	

The regression analysis results in Table 21 showed a significant relationship between sign up and transport costs. This means that a change in perceived savings in transport would explain 25 percent of the changes in willingness to sign up.

5.7 Conclusion

Statistical analysis of the data was performed on all identified measurement scales, as well as for all propositions put forwards. All tests produced statistically significant results. The results of the statistical tests ran are summarised in Table 22.

Table 22 - Summary of results presented

Proposition	Scale name	p-values	Result
1	Content	0.000*	Statistically significant
	Sign up	0.000*	Statistically significant
	Current marketing	0.000*	Statistically significant
	Personalisation	0.000*	Statistically significant
2	Location- and time-specific new	0.000*	Statistically significant
	Access to information	0.000*	Statistically significant
3	Information leads to buying	0.000*	Statistically significant
	Buying more products	0.000*	Statistically significant
4	Dissatisfaction with local shopping	0.000*	Statistically significant
	Local shopping	0.000*	Statistically significant
	Transport costs	0.000*	Statistically significant

6. Chapter 6: Discussion of results

6.1 Introduction

This chapter examines the results obtained by the study as set out in the previous against the backdrop of the research objectives as well as the theoretical background set out in Chapter 2. The study aimed to support the fundamental proposition that location-based marketing has the potential to reduce the effects of poverty penalty. The data collected aimed to gauge consumer perceptions with regards to location-based marketing and its features that might minimise their poverty penalty. It is against this backdrop that this chapter discusses the results of data analysis while integrating it with the theory to formulate comprehensive findings of this study.

6.1.1 Research proposition 1 - Low-income consumers are likely to take up or sign up to receive location-based marketing if the content is useful and relevant to them.

The results in Table 14 showed significant for all scales affecting proposition 1. Firstly, the personalisation scale proved that surveyed consumers customised their phones by changing ringtones and wallpapers, as well as keep personal items like pictures and music on their phone. The personalisation scale had a fairly high Cronbach's alpha coefficient of 0.85, which meant that the elements of the scale are well suited to collectively measure personalisation. Personalisation was measured because it is an important attribute in mobile marketing and location-based marketing (Dhar & Varshney, 2011).

The second scale (current marketing) looked at establishing whether consumers were generally aware of any marketing content and if they use it to make purchasing decisions. The results established with significance that consumers used their current marketing to make purchasing decisions. The reason for measuring this scale was to establish the level of interest that the

consumers generally have, and understand whether that will influence the willingness to sign up for location-based marketing.

The sign up and content scales were similar in that they both measured the willingness of the low-income consumer to receive location-based marketing. The distinction between the two scales was that the sign up scale was explicit in asking the consumer if they would provide their phone number as well as tell family and friends about the service. On the contrary, the content scale looked at whether the consumer would be willing to receive specific information like promotional information, coupons and so on. It should be noted that the content scale could not measure relevance in its entirety as it made reference to very specific types of content.

The Cronbach's alpha coefficient for the sign up scale was higher than that of the content scale, and thus considered a more reliable measure. Given, the similarity between the two scales it was not surprising to find in **Error! Reference source not found.** that no significant relationship existed between them, as they measure a similar attribute.

The concept of personalisation was supported theoretically and identified as an important feature of mobile technology because of the fact that mobile phones can be carried anywhere (Shankar et al., 2010). Location-based marketing was defined as the use of location information on a mobile device to customize marketing content to the mobile phone owner (Swaminatha & Elden, 2002). The results of the study in conjunction with the theory proved that the low-income consumers indeed viewed their mobile phones as personalised and thus, the services provided through the mobile phone should also be personalised. This is interesting considering that low-income consumers were surveyed and they often use a functional phone rather than a smart phone.

Furthermore, the need for marketing in the low-income markets highlighted in the literature was fully supported by this study, evident in the significant results shown by the current marketing scale (Martinez & Carbonell, 2007; Prahalad & Hammond, 2002). The vast willingness to sign up to location-based marketing

by low-income consumers challenged the opponents of the bottom of the pyramid concept who denied that low-income consumers would be interested in technology (Karnani, 2009). Instead, the study proved the point illustrated using M-Pesa that the low-income consumers were receptive to technology that lowers their cost of living and improve their standard of living, could be applied to goods and services as well.

An interesting theme was apparent in the regression results shown in Table 15, that the content was not as important as personalisation and current marketing patterns in explaining the willingness to sign up for location-based marketing. These results drew a distinction between the content of location-based marketing and the relevance thereof. Thus, it could be concluded that low-income consumers could sign up for location-based marketing based on the relevance of the service to their needs.

6.1.2 Research proposition 2 - Location-based marketing enables the low-income consumer to gain access to information on goods and services

This proposition had two scales of measurements and the results were set out in Table 16. The location- and time-specific scale aimed to demonstrate that consumers would like to receive information on goods and services available in their vicinity and at the right time. The elements of this scale were designed to gauge the consumer interest in receiving location-specific information at the right time, and with a good Cronbach's alpha score presented in Table 10, the scale can be relied upon to produce consistent results.

Similarly, the access to information scale also looked at whether the low-income would like to receive information on goods and services in their location at the right time. Table 10 showed a slightly lower reliability score for the access to information scale than the location- and time-specific scale, and thus can be used more in determining relationships with other scales.

One of the reasons the poor pay more offered by the literature was that they have imperfect or no access at all to information about available products and services (Hamilton & Catterall, 2005). The reason for this is that marketers do not often perceive this market as economically viable and hence pay less attention to it (Hamilton & Catterall, 2005). Location-based marketing was defined as the use of location information on a mobile device to customize marketing content to the mobile phone owner (Swaminatha & Elden, 2002). The scales used in this proposition corresponded to this definition as they measured the disposition of the low-income consumers towards receiving marketing content based on their location, but also included timeliness to ensure that the information could be utilised by the consumer (Shankar & Balasubramanian, 2009).

Location-based services focus on location as the determining factor of who should be marketed to, and therefore shift the focus from which income level the consumer is to where they are located. Thus, this study made a strong case for the low-income consumers to access the information through location-based marketing, because if the marketing content could be targeted based on location, then the barrier of low-income consumers not being marketed to can be removed. The access to information may also enable consumers to optimise their current location and hence minimise the effects of location restrictions. This is because the marketer simply markets to the consumer in a specific location based on relevance and preferences, not on their income level.

Moreover, the survey results showed in Table 5 a negligible percentage of the respondents that did not possess a cellular phone, validating the mobile devices as a viable platform to reach the low-income market. It is thus not surprising that the results of the regression in Table 17 showed that consumers would sign up for location-based marketing with the hope of accessing information on goods and services, as well as highlight a clear need of information by low-income consumers. This conclusion was aligned to the notion that consumers have used mobile devices to search for product and price information, and that mobile platforms could be used to disseminate information in the low-income communities (Akter & Kondo, 2007; Shankar et al., 2010).

6.1.3 Research proposition 3 - Location-based marketing enables the low-income consumer to gain access to more products and services

The scales earmarked to test this proposition were the 'information leads to buying' and 'buying more products' scales. Both these scales were designed to look at if the consumers would have interest in gaining access to more goods and services than they are currently able to access. Therefore, some of the elements of the scales were to determine whether the consumers would like to know about new products, whether if they received the information on available products, it would lead them to buy those products and also that consumers would try products they have never used before. The key connection to be established was that if consumers received information that is contextualised to their location and relevant to their needs, they would act upon it, thus leading them to access more goods and services.

It must be noted that the Cronbach's alpha coefficients for the scales in question, were poor and thus the results might not be consistently achieved. However, the results showed significant results for both scales (see Table 18), which meant that the consumers surveyed felt that information on more products would lead them to buy more goods and services.

The basis for measuring this scale was the assertion by Hamilton & Catterall (2005) that low-income consumers pay relatively higher prices because of limited access to products. Mendoza (2011) also supported this view by asserting that the poor have high searching costs because marketing information is not available to them, and thereby limiting their access to goods and services. The access to information discussed in proposition 2 was also highlighted as an enabler of access to goods and services. The limited access to products was attributable to limited range of goods and services provided by the local stores and limited information on goods and services because of lesser marketing content targeted to low-income consumers (Hamilton & Catterall, 2005).

The results of the study made a strong case for the need of access to more goods and services in the low-income markets. The results demonstrated a clear propensity and intention to buy more goods and services provided the consumers knew about the goods and services in the right location and at the right time. It should also be emphasised that the elements of the scales clearly specified that that the goods and services should be relevant to consumers' needs, and hence the results should also be viewed in the same light. This is aligned to the findings in proposition 1 that determined relevance as an important concept to location-based marketing.

Given the results and the literature reviewed, it was concluded that location-based marketing had the potential to expose low-income consumers to more goods and services.

6.1.4 Research proposition 4 - Location-based marketing enables consumers to save on transport costs

Three scales were measured for this proposition. Firstly, the local shopping scale aimed at validating that the low-income consumers would buy goods and services locally to save on travelling costs. This was premised on the seminal article by Balasubramanian, Peterson, and Jarvenpaa (2002), which highlighted the key concept consumers were bound by location, as it was likely to cost less to buy goods and services nearby because of transport costs. The scale came out healthy with a moderate reliability score of 0.68 as shown in Table 10.

Secondly, the dissatisfaction with local stores scale looked at if the consumers found the local stores pricy, if consumers thought their local stores have a limited range of products, and also looked at the lower quality of the products in the local stores. The Cronbach's alpha for this scale showed an acceptable level of reliability at 0.68. In contrast with the first scale (local shopping), it was clear that although low-income consumers would like to buy goods and services locally, they were not happy about the current local stores offerings. Some of the statements were posed to refer to the location as 'near my home/work', and

the responses were often affirmative as shown by the mode score of 4.00 in Table 13. This was interpreted as supporting that consumers would prefer shopping locally.

Lastly, the transport costs scale looked at whether consumers would like to save on transport costs by shopping locally. The Cronbach's alpha coefficient for this also presented an acceptable level of reliability. All the scales proved statistically significant as reflected in Table 19, which meant that the consumers surveyed predominantly agreed with the assertions made by the scales, in line with the negative skewness shown in the descriptive analysis in Table 13. Table 20 presented a positive relationship between the consumers' need to save on transport and their preference for purchasing from their local stores, although this relationship was small but it was definite. Interestingly, no significant relationship was found between the dissatisfaction with local stores and the desire to buy locally.

Table 21 revealed significant results behind a model that suggested that the low-income consumers' willingness to take up location-based marketing can be explained by their desire to save on transport costs. The relationship was small and the model could only explain 25 percent of the changes in willingness to sign up as being affected by the desire to save on transport costs. This was considered lower than expected and could have been attributable to a smaller sample obtained. Furthermore, no significance in the model was found to stipulate that the preference to shop locally and the dissatisfaction with local stores could explain the willingness to sign up for location-based marketing. This can probably be explained by the significant inclination to buy goods locally, and thus disregard the perceived high local price.

The data results confirmed the notion that low-income consumers were bound by their location, as they incur transport costs to go to the stores, which reduces their limited disposable income even further (Balasubramanian et al., 2002). It was also clear from the literature that the mobile nature of the mobile devices (including cellular phones) supported the ability to transact anywhere and anytime (Balasubramanian et al., 2002). This was aimed at removing the

barriers presented by space and time (Balasubramanian et al., 2002; Shankar & Balasubramanian, 2009). In the low-income communities where consumers have to expend transport costs to access the shopping facilities, the focus should not be on enabling them to transact anywhere and anytime, but it should rather be on exploiting their current location at a specific time to minimise frequent travel. Location-based marketing showed great fit in addressing this oddity by tailoring the marketing content to the location of the consumer at a specific time, and even more relevantly with its ability to send marketing content to consumers while they were physically in a specific store (Hopkins & Turner, 2012).

This makes a strong case for location-based marketing to assist the low-income consumers in exploiting their location restrictions, and optimising their purchase decision. The issue of local shopping was interesting because it was clearly related to the savings on transport costs as shown by the correlation results in Table 20. An argument can be made based on the features of location-based marketing, that if the low-income consumer did not have to spend more on transport costs because they knew what goods and services were around them at a specific location, that location could be deemed 'localised' and hence, in line with the results of the local shopping scale, preferable. This argument could be supported by the regression results in Table 21, which found that savings on transport costs was more a determinant of willingness to sign up for location-based marketing, as opposed to shopping locally. It is on this basis that a conclusion was made that location-based marketing could reduce the effect of transport costs, and hence reduce the price paid by the low-income consumers.

6.2 Conclusion

The findings discussed above answered the fundamental question of how location-based marketing could minimise the effects of poverty penalty in low-income markets. Additionally, there were insights gained from this study that could be applicable to any technological intervention or marketing innovation aimed at low-income markets. For this reason, these insights were then pulled together into a simple model. The model was constructed to look at aspects that are crucial for a marketing intervention intended for low-income markets.

The model looked at the findings that were discussed to support the propositions put forward as well as the theoretical base discussed in the earlier chapters of the study. Establishing the rationale behind the poverty penalty concept formed the basis of this study. Several reasons were identified from the literature, however, key reasons were: the inability to buy in large quantities, high transport costs, local stores that charged higher prices, lack of access to information on goods and services, and lack of access to physical goods and services.

The study proved that a number of these reasons could be addressed by providing consumers with timely information on goods and services in their vicinity. Thus, it became clear that access to information was a critical ingredient to success. For this reason, the model depicted in Figure 3 started with the access to information. The empirical data proved that consumers value information, which is personalised, location-specific and time-specific. The findings discussed for proposition three showed that if the consumers had access to this information, they would buy more products, including the ones they had never bought before.

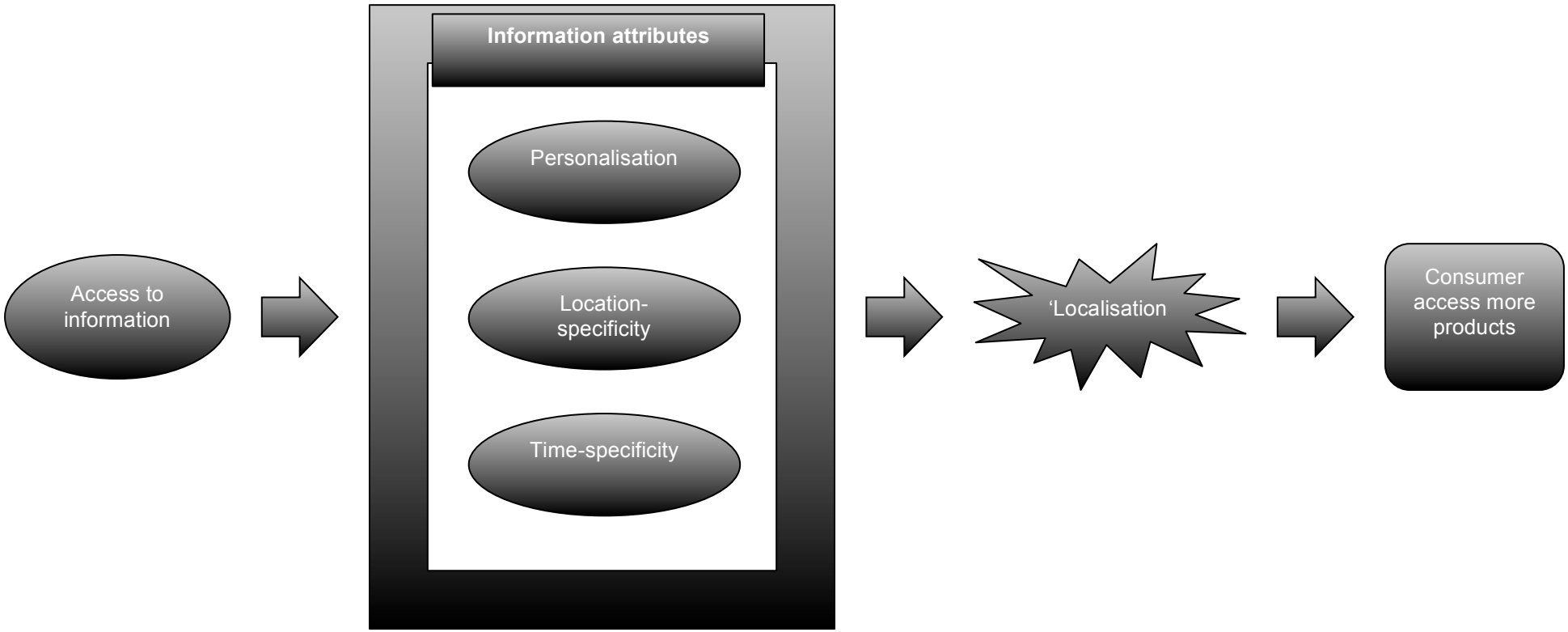
The outcomes in proposition four raised an interesting paradox that low-income consumers prefer to shop locally and yet were not happy about local stores. The literature had already established that local stores were relatively expensive (Hamilton & Catterall, 2005). The main reason for this was the local

stores' close proximity to the consumer (Balasubramanian et al., 2002; Hamilton & Catterall, 2005) and they were able to extort higher prices based on the geographical immobility of their customer base. The findings in proposition four also established that the consumers' preference for shopping locally had a lot to do with the perceived savings in transport costs.

The empirical results also showed that savings in transport costs were one of the factors that could be used to explain their willingness to sign up for location-based marketing. This all led to a conclusion that this was because location-based marketing would have manage to optimise their current location such that it 'felt' like they were shopping 'locally' because no extra transport costs would be incurred. Thus, with this conclusion it became clear that the key to all this was 'localisation' of any location that the consumer was in. Although, the consumer would still pay transport costs to get a certain location, it could be argued that if they have sufficient information about that location they would not need to travel further, and hence save on transport costs. As consumers receive more marketing information in a specific area, they could use that information to plan around future purchases and hence learn to optimise that location especially if is work or home (static). This would eventually lead to savings in transport costs.

In summary, the findings of the study established that the key to reducing the effects of poverty penalty in the low-income communities was access to information (with the specified characteristics). Access to information proved to lead to localisation i.e. bringing the store to close proximity and therefore leading to the consumer taking advantage of the available goods and services. Application of supply and demand economics reflect that, the awareness of more suppliers of a good (through access to information) would eventually lead to lower local prices.

Figure 3 - Assessing marketing in low-income markets



7. Chapter 7: Conclusion

7.1 Introduction

The study aimed to prove that location-based marketing can reduce the effects of poverty penalty or the higher price paid by the poor. This chapter summarised the key findings of the study as well as made recommendations to the relevant stakeholders. Lastly, the chapter concluded by considering the limitations of the study and suggestions for future research.

7.2 Summary of key findings

One of the key findings was that low-income consumers valued personalisation. This was demonstrated by the affirmative responses to statements about personalising their phones. The theory supported this notion by stipulating that cellular phones are personal in nature, because their owners carry them anywhere they go and use them frequently (Dhar & Varshney, 2011). The study also showed that consumers were aware of their current marketing, which reflected undoubtedly an interest in knowing about goods and services that are available to them.

It was therefore not surprising to see these two factors (personalisation and current marketing) influencing the consumers' decision to take up location-based marketing. The view that content is as important as these two factors was challenged by this study as the empirical evidence proved that content would not have a significant influence in the decision to take up location-based marketing.

The interest shown by low-income consumers in current marketing was validated by their significant affirmation to have access to information. The low-income consumers showed substantial interest in receiving information on goods and services from a store near their home and/or work, and also when they are near a particular store.

In addition to the previous finding, the empirical results showed that the low-consumers would use timely location-based information to make purchasing decisions. Furthermore, if the information was personalised according to the consumers' preferences i.e. information on products they need, the low-income consumers consented that they would actually buy those products. This was also found to allow low-income consumers access to more goods and services, and it was alarming to find that it had an influence on their decision to sign up for location-based marketing.

Lastly, a finding that proved vital in clarifying marketing to the low-income consumers was that low-income consumers preferred to buy locally in order to save on transport costs. The study identified an important link that offering location and time-specific information (on available goods and services) to the low-income consumers would enable them to optimise the use (in terms of purchasing decisions) that specific location. Optimising a location then leads to savings on transport costs, which in turn means that the location has been localised and that the consumer would prefer to buy there. This argument then lent itself to the model shown in Figure 3, which summarised and highlighted the fact that access to the right kind of information would lead to localisation and hence result in consumers gaining access to more goods and services.

7.3 Academic contribution

of the context of bottom of the pyramid and mobile commerce have been given great focus since the early 2000s, and because of the evolutionary nature of both fields, the studies have been predominantly exploratory in nature. The study then aimed to use the concepts from existing literature to put forward propositions that integrated the fields in the form of location-based marketing in the context of the low-income markets. Thus, the study was explanatory in nature and meant to extend the body of knowledge in the fields of bottom of the pyramid and mobile commerce. The study also aimed to move the academic studies in these fields from an exploratory stage towards an explanatory stage of research.

The study succeeded in achieving its aims as stipulated above. Firstly, it was able to confirm that location-based marketing can be used as an effective marketing tool in low-income markets. This is premised on the finding that consumers confirmed that they would buy products as a result of the information provided to them through location-based marketing. Secondly, the study successfully confirmed through empirical evidence that location-based marketing could reduce the effects of poverty penalty in low-income markets. Lastly, the study offered a model that can be used as a guideline when designing a marketing intervention aimed at low-income consumers.

7.4 Recommendations

7.4.1 Recommendations for marketers

Following from the findings of the study, the recommendations for marketers are:

- There was a large number of consumers surveyed that owned a cellular phone, in fact only three percent of the respondents did not have a cellular phone. By way of extrapolation, we can assume that this is true in the low-income consumers population and not for the sample only. It is evident that marketers targeting low-income markets need a strong mobile marketing strategy. Marketers further need to explore using location-based marketing as this study proved that consumers would be willing to sign up for it.
- The study showed that access to information is key to getting low-consumers to buy goods and services. Therefore, marketers need to endeavour more to give information access to low-income markets or disseminate this information to consumers. Marketers however, need to be careful of using a blanket approach by broadcasting the same information to all consumers. The results of the study showed clearly that consumers would value personalised information that takes into consideration their preferences. Therefore, marketers will need to use location-based marketing in conjunction with an intuitive customer relationship system to send out relevant information to consumers.
- The study showed that consumers have a high propensity to buy more goods and service, as well as try new products they have never used before. Marketers have a market that is currently untapped where they can increase their sales and perhaps even profits. Marketers need to challenge the dominant logic that low-income consumers are risky and do not have sufficient disposable income, and start viewing low-income markets as an economically viable collective market.
- Lastly, marketers need to start viewing local stores as their strong competition in the low-income markets. This is because of the

preference to local shopping in order to save on transport costs. Therefore, marketers need to focus their marketing efforts towards localising their location to the low-income consumer, in order to attract that consumer.

7.4.2 Recommendations for low-income consumers

The only recommendation that can be made for low-income consumers is for them to use the in-store promotional content like pamphlets more. The interest shown in receiving location- and time-specific information was significant. In the absence of location-based marketing, the closest form of location- and time-specific information source is the pamphlets that are usually found inside the store. These pamphlets usually contain promotions that are currently active in that specific store, and therefore would help the consumers with their purchasing decision. It is noted however, that these pamphlets are limited in that they only have information for a specific store as opposed to a specific location.

7.5 Limitations of the study

The following were identified as limitations of the study:

- The study was conducted by looking at location-based marketing from a consumer perspective, with an inherent assumption that retailers would be willing to offer this service because it would result in consumers buying more and hence more revenue. Thus, the economic implications of offering the location-based services to consumers were not considered.

- The questions in the instruments were noted to have a focus on promotional information. The limited disposable income is an eminent characteristic of the low-income market and thus specials and discounts are bound to catch their attention. This might have introduced a

response bias and affected the results of the study. However, there were questions without reference to promotions.

7.6 Suggestions for future research

The following subjects are recommended for future research:

- This study considered the location-based marketing from a consumer perspective solely, and therefore it would be interesting to look at it from the business point of view to establish if it presents a win-win situation for both consumers and businesses.
- The study was focussed on low-income consumers because of restrictions placed by location resulting from transport costs. It is a well-known fact that higher LSMs (7 to 10) have limited time because of work commitments and therefore might be construed as restricted based on time. It is for this reason that these types of consumers often value convenience and thus the study could look at if location-based marketing can assist in optimising time for these consumers.
- The model developed from the findings of the study has not been tested. Therefore, a study in an experiment form can be used to test the model and ascertain whether it is practical or not.
- A qualitative study could be undertaken to interview a small number of consumers about their experience of using location-based marketing.
- A study could be undertaken to consider at location-based marketing using static and changing location separately. This could perhaps ascertain which locations (home, work, friends, and so on) is the customer likely to be receptive to location-based marketing.

8. Reference list

Abbas, R. (2011). The social implications of location-based services: An observational study of users. *Journal of Location Based Services, 5*(3-4), 156-181. doi:http://dx.doi.org/10.1080/17489725.2011.637970

Agnihotri, A. (2012). Revisiting the debate over the bottom of the pyramid market. *Journal of Macromarketing, 32*(4), 417-423.

Akter, M. S., & Kondo, F. N. (2007). Mobile information services marketing to serve the BOP market. *Asia-Pacific Service Computing Conference, the 2nd IEEE,* 480-487.

Balasubramanian, S., Peterson, R. A., & Jarvenpaa, S. L. (2002). Exploring the implications of M-commerce for markets and marketing. *Journal of the Academy of Marketing Science, 30*(4), 348-361.

Beldona, S., Lin, K., & Yoo, J. (2012). The roles of personal innovativeness and push vs pull delivery methods in travel-oriented location-based marketing services. *Journal of Hospitality and Tourism Technology, 3*(2), 86-95.

Benou, P., Vassilakis, C., & Vrechopoulos, A. (2012). Context management for m-commerce applications: Determinants, methodology and the role of marketing. *Information Technology and Management, 13*(2), 91-111. doi:http://dx.doi.org/10.1007/s10799-012-0120-2

Bester, D. (2011). *Children playing in the street*

Chikweche, T., & Fletcher, R. (2012). Revisiting the marketing mix at the bottom of pyramid (BOP): From theoretical considerations to practical realities. *Journal of Consumer Marketing, 29*(7), 507-520. doi:10.1108/07363761211275018

Chikweche, T., Stanton, J., & Fletcher, R. (2012). Family purchase decision making at the bottom of the pyramid. *Journal of Consumer Marketing, 29*(3), 202-213. doi:10.1108/07363761211221738

Chipp, K., Corder, C., & Kapelianis, D. (2009). Where practice meets theory: Defining and reviewing the bottom of the pyramid for south african marketers. *International Base of the Pyramid Conference, Gordon Institute of Business Science, Johannesburg,*

Dhar, S., & Varshney, U. (2011). Challenges and business models for mobile location-based services and advertising. *Communications of the ACM, 54*(5), 121-128.

Hair, J., Black, W., Babin, B., & Anderson, R. (Eds.). (2010). *Multivariate data analysis. A global perspective* (Seventh edition ed.). New Jersey: Pearson Prentice Hall.

Hair, J., Babin, B., Money, A., & Samoel, P. (2003). *Essentials of business research methods*. Hoboken, NJ: Leyh Publishing.

Hamilton, K., & Catterall, M. (2005). Towards a better understanding of the low income consumer. *Advances in Consumer Research, 32*(1), 627-632.

Ho, S. Y. (2012). The effects of location personalization on individuals' intention to use mobile services. *Decision Support Systems, 53*(4), 802-812. doi:10.1016/j.dss.2012.05.012

Hopkins, J., & Turner, J. (2012). Nine ways businesses are using mobile marketing. *Go mobile: Location-based marketing, apps, mobile optimized ad campaigns, 2D codes and other mobile strategies to grow your business* (pp. 43-52). Hoboken, NJ: John Wiley & Sons.

Ireland, J. (2008). Lessons for successful BOP marketing from caracas' slums. *The Journal of Consumer Marketing, 25*(7), 430-438. doi:http://dx.doi.org/10.1108/07363760810915644

Karnani, A. (2009). Romanticising the poor harms the poor. *Journal of International Development, 21*(1), 76-86.

Krum, C. (2010). *Mobile marketing: Finding your customers no matter where they are* Pearson Education.

Martin, C. (2011). *The third screen: Marketing to your customers in a world gone mobile* Nicholas Brealey Publishing.

Martinez, J. L., & Carbonell, M. (2007). Value at the bottom of the pyramid. *Business Strategy Review, 18*(3), 50-55. doi:10.1111/j.1467-8616.2007.00485.x

Mendoza, R. U. (2011). Why do the poor pay more? exploring the poverty penalty concept. *Journal of International Development, 23*(1), 1-28.

Molitor, D., Reichhart, P., & Spann, M. (2012). Location-based advertising: What is the value of physical distance on the mobile internet? *Available at SSRN 2116359,*

Peyper, L. (2013, 2013, January 22). Mobile phone usage in SA. *Finweek*

Prahalad, C. K., & Hammond, A. (2002). Serving the world's poor, profitably. *Harvard Business Review, 80*(9), 48-59.

Prahalad, C. K. (2012). Bottom of the pyramid as a source of breakthrough innovations. *Journal of Product Innovation Management, 29*(1), 6-12. doi:10.1111/j.1540-5885.2011.00874.x

Rao, B., & Minakakis, L. (2003). EVOLUTION of mobile location-based services. *Communications of the ACM, 46*(12), 61-65.

Saunders, M., & Lewis, P. (2012). Doing research in business and management. *An Essential Guide to Planning Your Project.Harlow: Prentice Hall,*

Scharl, A., Dickinger, A., & Murphy, J. (2005). Diffusion and success factors of mobile marketing. *Electronic Commerce Research and Applications, 4*(2), 159-173. doi:http://dx.doi.org/10.1016/j.elerap.2004.10.006

Shankar, V., Venkatesh, A., Hofacker, C., & Naik, P. (2010). Mobile marketing in the retailing environment: Current insights and future research avenues. *The Journal of Interactive Marketing, 24*, 111.

Shankar, V., & Balasubramanian, S. (2009). Mobile marketing: A synthesis and prognosis. *Journal of Interactive Marketing, 23*(2), 118-129. doi:10.1016/j.intmar.2009.02.002

Statistics South Africa. (2013). Latest key indicators. Retrieved November, 9, 2013, from http://beta2.statssa.gov.za

Subrahmanyan, S., & Gomez-Arias, J. T. (2008). Integrated approach to understanding consumer behavior at bottom of pyramid. *Journal of Consumer Marketing, 25*(7), 402-412.

Swaminatha, T. M., & Elden, C. R. (2002). *Wireless security and privacy: Best practices and design techniques* Addison-Wesley Longman Publishing Co., Inc.

Tharenou, P., Donohue, R., & Cooper, B. (2007). *Management research methods*. New York: Cambridge University Press.

Watson, C., McCarthy, J., & Rowley, J. (2013). Consumer attitudes towards mobile marketing in the smart phone era. *International Journal of Information Management, 33*(5), 840-849.

World Bank. (2009). Poverty. Retrieved May, 1, 2013, from http://data.worldbank.org/topic/povertyl

Wuebben, J. (2012). *Content is currency: Developing powerful content for web and mobile* Nicholas Brealey Pub.

Xu, G., & Gutiérrez, J. A. (2006). An exploratory study of killer applications and critical success factors in M-commerce. *Journal of Electronic Commerce in Organizations, 4*(3), 63-79.

9. Appendices

Table 23 – Data codes

Selection	Code
Yes	1
No	0
Age group: 16 - 24	1
Age group: 25 - 34	2
Age group: 35 – 49	3
Age group: 50 and above	4
Female	1
Male	0
Strongly disagree	1
Disagree	2
Neutral	3
Agree	4
Strongly agree	5

Table 24 – Descriptive analysis of averaged scales per age group

	Age = 16-24		Age = 25-34		Age = 35-49		Age = 50 and above	
Scale	**Mean**	**Mode**	**Mean**	**Mode**	**Mean**	**Mode**	**Mean**	**Mode**
Content	3,852	4,00	3,577	4,00	3,905	4,00	3,381	2,67
Sign up	3,406	4,00	3,590	4,00	3,920	4,00	3,656	3,50
Current marketing	3,222	3,60	3,583	4,00	3,522	4,00	3,629	4,00
Personalisation	4,111	4,00	3,840	4,00	3,750	4,00	3,750	4,00
Location- and time-specific	3,333	3,20	3,546	4,00	3,873	4,00	3,914	4,00
Access to information	3,556	4,25	3,720	4,00	4,091	4,00	3,875	4,00
Information leads to buying	3,370	4,00	3,600	4,00	3,714	4,00	3,208	2,67
Buying more products	3,815	3,67	3,773	4,00	4,043	4,00	4,000	4,00
Dissatisfaction with local shopping	3,806	4,00	3,570	3,50	3,573	4,00	3,719	4,00
Local shopping	3,167	4,00	3,760	4,00	4,022	4,00	3,688	4,00
Transport costs	3,667	4,00	4,116	4,00	4,290	4,00	4,167	4,00

Table 25 - Descriptive analysis of averaged scales per gender

	Female		M
	Mean	**Mode**	**Mean**
Content	3,615	4,00	3,847
Sign up	3,609	4,00	3,823
Current marketing	3,532	4,00	3,483
Personalisation	3,842	4,00	3,830
Location- and time-specific	3,640	4,00	3,717
Access to information	3,821	4,00	3,880
Information leads to buying	3,474	4,00	3,680
Buying more products	3,858	4,00	3,973
Dissatisfaction with local shopping	3,732	4,00	3,440
Local shopping	3,688	4,00	3,880
Transport costs	4,114	4,00	4,133

Figure 4 - Survey instrument

Informed Consent Letter (English)

Dear Participant,

I am doing research on advertising through phones and SMS. The research looks at people's location and other factors and sending SMS adverts based on location. The questions asked here will help me understand if SMS adverts based on where the person is, could lead to the person paying a lesser price. The questionnaire has questions about you, your buying patterns and also has statements about SMS advertising.

I would appreciate your participation in this survey, and it should not take you longer than 20 minutes. Please feel free to ask questions to the person giving you the questionnaire if anything is not clear.

Your participation is by choice and not forced, so you can stop at any time without penalty. Of course, all data will be kept secret. Your signature below indicates that you voluntarily participate in this research. If you have any concerns, please contact me or my supervisor. Our details are provided below.

Sibongile Ndlovu
sibongile.ndlovu@gmail.com
082 422 8619

Kerry Chipp
chippk@gibs.co.za
011 771 4175

Signature of participant: _____

Date: _____

Signature of researcher: _____

Date: _____

Informed Consent Letter (Zulu)

Mhlanganyeli othandekayo,

Lapha senza ucwaningo lokubheka ukukhangiswa nokumakethwa kwezimpahla okusebenzisa i-SMS futhi kubuye kuncikane nendawo umuntu akuyona ngaleso sikhathi nezinye izinto bese umuntu ethunyelwa i-SMS equkethe imininingwane yezimpahla ezisezitolo eziseduze naye ngalesosikhathi. Imibuzo ebuzwa lapha izongisiza kucwaningo lwami ukuba ngiqonde ukuba ukukhangisa okusebenzisa indawo yomuntu ingasiza yini ukwehlisa intengo kakhulukazi ukwehlisa imali esetshenziswa ukugibela izinto zokuthutha (itekisi, ibhasi noma isitimela) eziya edolobheni. Lemibuzo equkethwe lapha imayelana nendlela othenga ngayo, nangokukhangisa nge SMS.

Ngingakuthokozela kakhulu ukuba ungiphendulele lemibuzo, ukuphendula lapha ngeke kuthathe ngaphezu kwemizuzu ewu-20 noma amashumi amabili.

Ukuphendula lemibuzo akuphoqiwe futhi unalo ilungelo lokuyeka noma ngasiphi isikhathi ngaphandle kwenhlawulo. Izimpendulo zonke ezizoqoqwa lapha zizogcinwa ziyimfihlo. Kanti futhi, ukushicilela kwakho lapha ngezansi kuyobe kukhomba ukuvuma ukuphendula imibuzo ngaphandle kokuphoqwa. Uma unemibuzo noma kukhona okungahambi kahle kulemibuzo, ungaxhumana nami noma umphathi wocwaningo kulemininingwane engezansi:

Sibongile Ndlovu sibongile.ndlovu@gmail.com

082 422 8619 chippk@gibs.co.za

Kerry Chipp 011 771 4175

Kushicilela umhlanganyeli: _____

Usuku: _____

Kushicilela umcwaningi: _____

Usuku: _____

QUESTIONNAIRE

Respondent Number				

Section 1: Classification Information

This section has questions that will help me understand more about you and also help us better analyse the data. Please put a cross (X) next to the option that applies to you.

1. Do you have a cellular phone?

Yes	
No	

2. Do you have the following in your home?

	Yes	No
Hot Running Water		
Personal Computer / Laptop		
Motor Vehicle		
Vacuum Cleaner		
Electric Stove		
Microwave Oven		
Flush Toilet Inside or Outside		

3. What is your age group?

16 - 24	
25 - 34	
35 – 49	
50 and above	

4. What is your gender?

Male	
Female	

Section 2: Current Phone Usage and Marketing Patterns

This section has some statements that talk about how you use your phone and to also understand how you respond to advertising and promotions. Please read each statement and put a cross (X) next to the answer that best describes if you agree or disagree.

#	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	I like to change wallpaper pictures on my phone					
2.	I like to change ringtones on my phone					
3.	I like to take pictures with my phone					
4.	I like to listen to music on my phone					
5.	I have received advertising or promotions on my phone					
6.	I use adverts to buy cheaper products					
7.	I read adverts that come with “Please call me” messages					
8.	I normally buy products that are on special or promotion					
9.	I already receive adverts on SMS but don't find them useful					
10.	I prefer to shop locally (in my neighbourhood) as it costs too much to take taxis/buses to and from town or shopping malls					
11.	My neighbourhood shops are all very expensive					
12.	The local spaza shops are very expensive					
13.	The local spaza shops keep things past their expiry date					
14.	There are no big supermarkets near my home					
15.	It is good that the bigger supermarkets (Shoprite, Boxer, Spar, Pick n Pay) are coming into the townships so things can get cheaper					
16.	The big supermarkets in the townships have specials but I don’t know about them at the right time					
17.	The big supermarkets in the townships have specials but I am away at work so I can’t buy then					
18.	It would be good if the big supermarkets sms’ed me their specials when I am in the township					
19.	The local spaza shop does not have all the products I need and I have to travel to town/shopping malls to buy other products					
20.	I trust smses from the big supermarkets					

21.	I currently receive sms adverts but they don't give me information about products in my area					
22.	I cannot make a trip to a store when they have promotions because travelling costs a lot of money					

Section 3: Potential Take-up of Location-Based Marketing

This section has some statements that will help us understand if you would be willing to receive advertising on your phone under certain conditions. Please read each statement and put a cross (X) next to the answer that best describes if you agree or disagree.

#	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
23.	I would be willing to receive adverts on my phone from a store near my home/work					
24.	I would be willing to receive adverts on my phone if it is sent at a suitable time					
25.	I would be willing to receive adverts on my phone if the information is simple and useful					
26.	I would be willing to receive adverts on my phone about competitions from a store near my home/work only when I am near that store					
27.	I would be willing to receive specials and promotion information from a store near my home/work only when I am near that store					
28.	I would be willing to receive discount coupons or vouchers on my phone from a store near my home/work only when I am near that store					
29.	I would like to know about new products and services in a store near my home/work only when I am near that store					
30.	I would buy products from a store near my home/work, if I received adverts on my phone when I am near that store					

Section 4: Additional Information

Please read each statement and put a cross (X) next to the answer that best describes if you agree or disagree.

#	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
31.	I generally buy most of my shopping from shops that are close to my home					
32.	I would make less trips to the shops if I could					
33.	I wish I knew about more products so that I can try them					
34.	I would buy more products near my home/work to save money					
35.	I would like to save some of the money that I spend on transport					
36.	I would buy a product that I have never bought but need, if I have information that it is available in a store near my home/work					
37.	It is good to have big supermarkets (Checkers, Shoprite, Spar, etc.) near my home because I save on taxi fare to town					
38.	It would be useful to know about specials if I'm near the store					
39.	It would be good to know about specials when they are available					
40.	It would be good to know about specials in stores near my home/work at the right time					
41.	I would like stores near my home to sent me information on specials during the weekend					
42.	If the stores near my home sent me information on specials during the weekend, I would buy the products on special					
43.	Information on new products in my area would lead me to buy more products					
44.	I would provide my phone number to the stores near my home in order to win a competition					
45.	I would provide my phone number to the stores near my home in order to receive discount information					
46.	I would like to have an option to stop receiving the advert whenever I want to					
47.	I would tell my family, friends and neighbours about an sms advert that I found useful					

Thank you for taking the time to complete this questionnaire.