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The impact of social media engagement on a city's brand: Social networking sites' influence on citizen satisfaction

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Abstract

Local government faces a challenge of servicing a wide range of customers with different backgrounds, varying access to income, information and privileges. Yet they are expected to meet each constituencies needs. The private sector has found success in servicing their customers whilst improving their brand through social media campaigns. Social media does not promise to resolve this conundrum, but rather to afford local government a different avenue to deliver the appropriate service to their constituencies, whilst affording them a platform to engage with their City. Literature suggests that through active social media engagement, and in particular social networking sites, local governments can positively influence their citizens' perceptions of the local governments. Whilst studies exist around City Branding and Social Media engagement, these fall short of understanding how engagement on Social Networking Sites interplay with a resident's or visitor's perception of a City. Thus using engagement on the social networking sites, Facebook and Twitter, an explanatory study was conducted using Factor Analysis and Kruskal-Wallis to test the relationship, which revealed that a relationship does exist between SNS engagement and a City's brand, but the variables influenced, whilst expected, did not have the strongest influence on the citizen's satisfaction.

Keywords: Social Networking Sites, Engagement, City Brand, Citizen Satisfaction

Declaration

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Masters 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 authorization and consent to carry out this research.

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Chapter 1 – Introduction to the Research Problem

Introduction

We are living in a time of instant messaging and social media has had a tremendous impact on how news is broken globally, disrupting the news and media industry as well as other industries. Social Media has also empowered citizens (Shim and Eom, 2008; Tolbert and Mossberger, 2006; Yang and Rho, 2007; Warren, Sulaiman, and Jaafar, 2014) and in particular protestors (Tufekci, 2014). In 2011, we saw digital activism (Warren et al., 2014) brought about the Arab Spring in North Africa and the Middle East, which activated citizenry in that region in a phenomenal manner; similar was seen in the 2012 London riots in England, and in 2015 the Ferguson and Baltimore protests in the U.S.; and most recently the #FeesMustFall campaign by tertiary students that saw city centres through South Africa come to a standstill and even extended its reach globally in places such as London (Wesi, 2015).

Social media can also empower the public sector, by providing tools with which they can take advantage (Tufekci, 2014) to either promote transparency, openness and democratization (Picazo-Vela, Gutierrez-Martinez, and Luna-Reyes, 2012) or encourage interactive communication (Bonsón, Torres, Royo, and Flores, 2012; Hofmann, Beverungen, Räckers, and Becker, 2013).

The impact of Social Media engagement on product brands is not lost to the private sector, so why hasn't the public sector adopted it en masse? A successful campaign within the private sector was Hewlett Packard's (HP) #BendTheRules 2014 campaign – utilising Vine, Twitter and TV as platforms for Vine Stars to share the content created by them around HP's products (Olenski, 2015). HP's campaign went beyond social media networks and created means for them to interact with consumers on multiple mediums (Olenski, 2015). HP have noted that they success was not merely that the platforms used, but that it was a medium to spoke to their targeted audience – younger demographic – noting that the usage of influencers was an effective strategy (Olenski, 2015)

Such advanced campaigns may not work as well for local government given that traditionally, social media has been used for its static capabilities of sharing information and enabling consumers to pay for bills (Zavattaro, 2014). However, social media offers an interactive communication unlike the offline communications (Hofmann et al., 2013; Zavattaro, 2014) found in email and static (Shareef, Kumar, Kumar and Dwivedi, 2011) websites; and public sector's usage of these platforms has advanced in recent years towards more interactive services that enable citizen participation (Zavattaro, 2014). Social Media is quick and easy to use; and has seen continuous growth in terms of registered and active users, with social networking sites (SNS) like Facebook boasting over one billion registered users in 2015 (Statista, 2015). In South Africa 62% of Internet users were found to engage in social networking, with Twitter and Facebook being the most popular SNS (PEW Global, 2014). Therefore targeting these two SNS will likely yield the most telling information about user engagement, as well as any changes in users' perceptions of local government.

Globalisation through social media not only brings information to all corners of the earth rapidly, but it introduces competition in that Cities are no longer competing with neighbours, but with Cities with similar or alternative offerings anywhere on the globe with access to internet (Goodson, 2015). This increased competition has increased the desire for Cities to brand themselves in efforts to attract residents, investors and visitors (Goodson, 2015; as, 2005; Kavaratzis and Ashworth, 2005; Sevin, 2014).

Through the growing demand for place branding, several place branding indices have risen such as: Anholt-GfK Roper City Brands Index, FutureBrand Country Brand Index, and East-West Nation Brand Perception Index (Sevin, 2014); and global surveys such as "World Cities with the Most Powerful brands" (Goodson, 2015). From South Africa, only Cape Town made it onto the survey and was ranked 56th, second from last, beating only Nairobi (Zukin, 2014). The report measures a city's brand in two ways, through its assets (attractions, infrastructure, safety, economic prosperity and climate), as well as its "buzz" – which was determined by an analysis of sentiment on social media (Facebook and Twitter) and media mentions (Goodson, 2015). What this report found was that there was a clear correlation between asset strength and brand reputation (Goodson, 2015) – indicating that whilst "buzz" may play a role in brand reputation, actual offerings from a City needed to correlate to the message being spread.

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Research Scope

The scope of this research is limited to the definitions of the following terms:

Social media: Is a group of internet-based applications that build on the ideological and technological foundations of Web 2.0 and User Generated Content (UGC) (Kaplan and Haenlein, 2010).

Social Networking Sites (SNS): Is one of six types of social media that is depicted by its moderate level of social presence (acoustic, visual and physical contact) and a high level of self-presentation / self-disclosure (Kaplan and Haenlein, 2010).

City Brand: Attributes and perceptions associated with a City

Residents: People who have settled within a City on at least a temporary basis and at most, a permanent basis.

Visitors: People who are visiting a City for a short-term period, with no immediate intentions of settling on either a temporary or permanent basis.

Engagement: A level of perceived value co-creation through specific engagement processes (Brodie, Juric, Ilic and Hollebeek, 2011)

Citizen Satisfaction: A Citizen's summative judgement regarding the performance of his or her local government (Van Ryzin, 2004) with respect to their associations with their City.

Research Motivation

The South African government has committed itself to improving its service by embracing open access to technology for its citizens, and using digital platforms to affect efficient, transparent and cost-saving service. The National Development Plan (NDP) envisions that through ICT, a more inclusive and prosperous knowledge economy and informed society can be developed in South Africa (National Planning Commission, 2013). However, despite

the government's clear move towards e-Government, successful implementation can only be guaranteed by the citizens' willingness to adopt the platform (Evans and Yen, 2006; Shareef, Kumar, Kumar and Dwivedi, 2009) which is linked to the behaviour and attitude of citizens towards e-Governance (Shareef et al., 2011). In a world where citizens want to contribute to government policy (Bonsón, Royo, & Ratkai, 2015), understanding the impact of social media engagement on a citizen's perceptions of a City could impact decisions made around Social Media policy.

There have been numerous studies on the adoption of e-Government (Lee, Kim, and Ahn, 2011; Purón-Cid, 2013; Shareef et al., 2011) the benefits and challenges of e-Government (Dwivedi, Weerakkody, and Janssen, 2012; Gil-Garcia, 2012; Khalil, 2011; Purón-Cid, 2013), e-Readiness of countries utilizing e-Government (Achieng and Ruhode, 2013; Ayanso et al., 2011; Khalil, 2011; Thakur and Singh, 2012), as well as e-Participation of citizens (Ayanso et al., 2011). There has been limited research done on engagement of citizens using e-Government (Agostino, 2013; Bonsón et al., 2012) and in particular its impact on the relationship between local government and their constituencies (Bonsón et al., 2015).

Research Problem

In this study, an attempt will be made to further understand the impact that social media engagement has on a City's brand, along with understanding which aspects of service delivery have the strongest influence on a citizen's perceptions of a City and which factors are impacted the most through social media engagement.

The overarching question to be answered through this study is:
- *What is the impact of social media engagement on a City's brand – social networking sites' influence on citizen satisfaction?*

An attempt to answer this overarching question will be conducted through the following questions:
- Are citizens of a City engaged on their City's SNS account?
- What factor has the largest impact on how a citizen perceives their City?

- What factor is impacted the most through SNS engagement?

Research Objectives

There are two fundamental questions that need to be addressed:
- To ascertain if citizens who are following the Social Media accounts of their metropolitan City are engaged.
- To evaluate if this engagement has had an impact on their perception of their City.

The main objectives of the research will be:
- Research Question One: Is there a relationship between social media engagement on the City's SNS account and the City's brand?
- Research Question Two: Which citizen satisfaction variable has the strongest relationship with a citizen's satisfaction?
- Research Question Three: Do the variables with the greatest influence on Citizen Satisfaction have a relationship with social media engagement?

Research Aim

The aim of this research is to understand what impact social media engagement has on the relationship between local government and their constituencies and how it can in turn affect a City's brand.

Chapter 2 – Literature Review

Introduction

The literature reviewed, resulted in four main themes in which social media engagement and its impact on a city's brand was analysed. The four themes being:

- Citizens' perceptions of local government
- Local government's influence,
- Citizens' social media engagement, and
- A city's branding strategy.

By understanding how perception and social media interact, the researcher can build a hypothesis on the potential impact that engagement has on a city's influence over their brand. Through the review of how citizens' participate on e-Government platforms, the researcher can build a hypothesis on whether citizens are engaged on their city's SNS; and by identifying matrices with which to test social media engagement, the researcher can develop the research and data analyses methodology.

Citizens perception of local government

When a City / local government is interested in how their constituencies / citizens perceive them, this is generally linked to one of three things:

- Votes,
- Revenue collection, and / or
- Meeting their mandate.

The three categories are interchangeable, and are not mutually exclusive, but they require different approaches from local government officials in how they engage their citizens.

Trust is viewed as key component developing positive perceptions of public institutions (Hong, 2013; Warren et al., 2014), with the trust propensity including honesty, commitment, reliability and trustworthiness (Pavlou and Gefen, 2004). Trust was found to be a pertinent aspect of e-Government adoption, from institutional based to characteristics and process

trust (Kim, 2013; Shareef et al., 2011) and security was considered very important in the developing of trust (Kim, 2013; Shareef et al., 2011).

Warren et al. (2014) found that citizens' trust in the public sector was decreasing due to perceived corruption, a lack of engagement and no faith in the process. By enhancing service delivery, improving access to information and engaging citizens actively online, public sector can improve on citizens' negative perceptions of them (Morgeson, VanAmburg and Mithas, 2010). When testing the impact of social media engagement on a City's brand, there should be a positive correlation between a citizen's perception of their City and their City's active social network presence and response rate.

There are three broad levels of e-Governance maturity are the Static Stage – the ability to view and collect government information as well as the ability to download forms; the Interactive Stage – two-way communication such as using emails, and chat-rooms; and the Transaction Stage (Shareef et al., 2011). The different stages of e-Government offer different modes of service (Shareef et al., 2011), however the critical factors for adoption - attitude to use, ability to use and adherence to use are critical factors for adoption are the same for both the static and interactive stages (Shareef et al., 2011).

Looking at the critical factors for adopting e-Government at the Interactive level, as social media is an interactive e-Government tool (Hoffman et al., 2013), attitude to usage will be used to measure the impact that social media engagement has on a citizen's perception of their City, based on citizens' attitude towards their City and their behaviour on their City's SNS account. Their behaviour will be their engagement on their City's SNS account (the matrices for testing this are discussed below). As engagement is indicated by activity and commitment, it will measure citizens' ability to interact with their City's SNS accounts, as well as their adherence.

Glaser and Hildreth (2004) argues that overall citizen satisfaction is a key criterion for identifying what aspects of service delivery are of most importance to a citizen. Zenker and Seigis (2012) found that respect played a huge role in how a citizen viewed a city and local government i.e. their satisfaction with the service received had a positive correlation with the perception that they were involved with the decisions made with regards to their city. The real time capabilities of SNS allows for local government to create a platform whereby

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citizens can feel included in decisions made that affect their City and thereby building trust and ownership in the City's brand. With respect being defined as a feeling of deep admiration for someone or something being elicited by their abilities, qualities, or achievements (Oxford, 2015).

Van de Walle and Van Ryzin (2011) believe that citizens may have a higher salience for a certain public service in direct correspondence with how often they utilise or come into contact with those services. Zenker, Petersen and Aholt (2013) found four basic factors for measuring citizen satisfaction namely: Urbanity & Diversity, Job Opportunities, Cost Efficiency and Nature & recreation. Of the four, Urbanity & Diversity had the strongest impact on citizens' satisfaction, indicating that a City with a high rating of Urbanity and Diversity was most likely a metropolitan City. They found that citizens in Germany preferred a city that had wide spaces, a variety of opportunities and cultural events, but also offered nature and recreational facilities that offered a tranquillity (Zenker et al., 2013). Zenker et al. (2013) found that whilst the other two factors, Job Opportunities and Cost Efficiency, did not have much of an impact individually, they influenced a citizen's perception of the other two factors. How satisfied a citizen is with public services can be influenced by how questions are structured, with Van de Walle and Van Ryzin (2011) finding that placing specific questions at the beginning of the questionnaire resulted in lower ratings of satisfaction – finding that questions around police protection, police-community relations, fire protection and ease of travel in a car rated higher when they followed general satisfaction questions. Thus indicating that satisfaction with public services was not strictly linked to the actual service received but was influenced by other factors outside of government's control (Van de Walle and Van Ryzin, 2011). Importantly, Van de Walle and Van Ryzin (2011) point out that policy makers often make decisions based on the face value of responses to how satisfied citizens are with the service delivered, not taking into account the influence of such factors as media coverage, past experience, peer influence etc.

Alternatively, Zenker et al. (2013) believe that by regularly testing Citizens' satisfaction using their Citizen Satisfaction Index (CSI), local government / Cities can identify changes and problems in how their City has developed from the Citizen's point of view. Given Van de Walle and Van Ryzin's (2011) findings, the changes and new problems identified by local government may not be reflective of citizens' actual perceptions, but rather a result of other factors which could include the frequency of the questionnaires taken.

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As robust as their Index is, taking into account different backgrounds and disciplines – excluding items that are of low importance to citizens; it does however exclude other possible influencers such as private reasons for satisfaction, such as family bonds, relationships and other private SNS factors which can play a key role in why a person chooses to reside in a city – excluded due to a lack of access (Zenker et al., 2013). Zenker et al. (2013) also noted that their Index measured Citizen's perceptions and that in order to change them, local government would not need to necessarily change the characteristics of their City, but would need to change their Citizen's prejudices and stereotypes of their City and / or their local government.

Sallot, Porter, and Acosta-Alzuru (2004) found that through the Web, individuals could manage to improve the reputation of their organization through management of customers' requests. Through SNS, local government can theoretically improve the service that they offer their widely spread constituents or at the very least improve how they are perceived in cases where their service level is appropriate but their constituencies are unaware of this due to a lack of engagement or awareness.

Local government influence

When it comes to e-Government, a whole e-Government approach is suggested, given the complexities that arise in a globally connected environment such as environmental issues, terrorism, public health epidemics such as the recent Ebola incident, national security such as the recent Xenophobic attacks and economic crises (Gil-Garcia, 2012). This whole e-Government would entail more collaboration and co-ordination within and between government agencies, as well as other social entities (Gil-Garcia, 2012). Gil-Garcia (2012) identifies this inter-agency collaboration and the potential for efficiencies through Information Technology (IT) as government inter-organizational information integration (GIII) which is comprised of four parts, trusted social networks; shared information; integrated data; and interoperable technical infrastructure. With GIII, IT is used to facilitate collaboration across organizational boundaries whilst sharing critical information to solve complex public issues (Gil-Garcia, 2012).

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This smart state will not only enhance the services offered from government, but will also positively affect the interactions that citizens have with their government representatives, enabling active citizenry through the identification of problems and the crowd-sourced development of solutions (Gil-Garcia, 2012). However for this to be realized, it would require incorporation of all elements of the state, from people, to territory and government (Gil-Garcia, 2012), and given the diversity of nations such as South Africa, this can prove to be both technically and politically difficult to achieve (Gil-Garcia, 2012).

There are people who assert that this has already been achieved in part at local levels of government, and that in future this would become more pervasive and would become an expectation of governments globally (Criado, Sandoval-Almazan, and Gil-Garcia, 2013). What needs to be understood is if this is what society wants or needs (Gil-Garcia, 2012)? What are the risks to state security, privacy and confidentiality of citizens' personal data (Gil-Garcia, 2012)? Will this give government unparalleled power, and how will this power be monitored and kept in check (Gil-Garcia, 2012)? Will this create a database for criminals and other elements to access in order to affect their own selfish end-goal (Gil-Garcia, 2012)?

E-government initiatives tend to be interdisciplinary due to the different manners in which adoption takes form as a result of the professional and organizational diversity of the participants (Purón-Cid, 2013). Multicasting and instant online translation, digitization and ICT applications will be key elements that will permit citizens to use e-Government services, encouraging communication and dissemination of information in a language of their choice (National Planning Commission, 2013). Countries that are multicultural and multilingual like South Africa, will require extra facilities to be developed that cater to the differing ethnic backgrounds, and researchers found a relation between the usage of native language on a website, and the adoption of that website by the user (Shareef et al., 2011). When citizens are not highly educated, single language usage creates a significant barrier (Shareef et al., 2011). This could be an inhibitor for citizens to fully engage with their City's social media accounts, which use English as a means of communicating.

Online platforms encourage communication amongst users, facilitate the organization of events and help build a sense of community (Hong, 2013). SNS offers government the opportunity to crowd-source information to aid in decision making processes, or to measure impact; comparatively the private sector currently uses SNS to co-create or co-produce

goods or services (Hofmann et al., 2013). E-Government matures from providing simple information, to providing interactive services (Kim, 2013) and the differences at each stage are viewed more as improvements on levels of interactions rather than improvements of e-Governance (Shareef et al., 2011).

Ayanso et al. (2011) also point out that the design of e-Governance platforms should not concentrate on the supply-side, push factors such as online features and functionalities over the demand side, pull factors of users' (citizens') ability to use the services available as well as the infrastructure availing those services widely. Knowledge in its varying forms (Information Systems, professional, formal, technical and previous experience) can influence the adoption and usage rates of e-Governance (Purón-Cid, 2013). Shareef et al. (2011) also found that if the information supplied was reliable and of high quality, there was no need for a Static stage to advance to an Interactive stage, as it did not bear much value to the end user. Conversely, a lack of sufficient information results in negative participation by active users (Picazo-Vela et al., 2012).

Social media enables citizens to participate in civic duties (Warren et al., 2014), however there is a risk of this civic engagement being slacktivism with individuals engaging online but do not take part in any real life action (Tufekci, 2014; Warren et al., 2014). The likelihood for an individual to participate in social media civic engagement is increased if there was a pre-existing interest in social issues (Warren et al., 2014), with social network users being more likely to engage in civic duties than general Internet users (Levenshus, 2010). This and other research provide compelling evidence against the notion that social network engagement breeds civic apathy (Warren et al., 2014).

Digital division is deemed to be one of the largest barriers for the successful transition of a community to an information society (Çapar and Vural, 2013) and an area of concern for creating a smart society (Kim, 2013). Digital division arises when different sectors of society, receive access to information and communication technology at differing rates (Çapar and Vural, 2013). More specifically, it is the inequality to access and use of information technology experienced by different socio-economic levels of people, corporations and countries (Çapar and Vural, 2013). There is a strong correlation between citizens who are economically poor, less educated, unaware of modern technology, socially and culturally; and the unavailability of computers, access to Internet and modern ICT (Shareef et al.,

2011). Kaplan and Haenlein (2010) have found that for social media to be successful, that access to social media platforms is paramount, not only for "customers" but for staff as well. There are of course risks associated with having employees using social media, however policy and procedural controls should mitigate that risk to a level whereby the benefits gained from having and giving the appearance of buy-in into a City's social media strategy by a City's staff on Citizen's perception are worth the integration (Kaplan and Haenlein, 2010).

The NDP defines it as "the gap between those who have access to services and the demand from those who are excluded by unavailability prohibitive costs" (National Planning Commission, 2013). The separation of citizens per economic levels Defining middle class can be complex, given its subjective and value-laden nature (Visagie, 2013). The two popular forms of identifying the middle class are either taking a statistical approach

E-Government's primary tool is ICT facilitated by the Internet and web technology (Thakur and Singh, 2012). Mobile Government (m-Government) is a dynamic sub-classification of e-Government, using a mobile phone or handheld mobile device to interact with government systems (Shareef et al., 2011). This new trend is gaining traction in Europe and Asia (Shareef et al., 2011) and the NDP envisions that m-Government services are a key ingredient in growing the uptake of e-Government services (National Planning Commission, 2013). M-Government is viewed as an alternative solution to e-Government when a digital divide exists, delivering services and facilitating interactions (Dwivedi et al., 2012). Thakur and Singh (2012) suggests that South Africa needs to consider developing a new m-Government strategy to take advantage of the ubiquity of mobile phones in the country. With some researchers stating that the enhancements achieved with web 2.0 technology allowing ease of access to web content using any device being the game changer in e-Government advances and adoption (Thakur and Singh, 2012).

In South Africa, more than 60% of citizens with mobile phones use them as a means to access the Internet, with 30% of mobile users active on Facebook and 50% of South African Facebook users accessing it via mobile (Smith, 2013). Of 57 large brands surveyed in South Africa, 55% had planned to increase in-house training on social media, with 44% increasing their budgets for social media in 2013 (Moodie, 2013). The NDP has noted that despite the large adoption of mobile phones in South Africa, there is a gap in terms of universal access to the full range of communication services due to affordability (National Planning

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Commission, 2013). Despite the various projects initiated by the Department of Communication, this gap has not reduced and South Africa has even lost its top spot as continental leader for Internet and broadband connectivity (National Planning Commission, 2013).

Bond, Fariss, Jones, Kramer, Marlow, Settle & Fowler (2012) find in their studies of social influence via social media and political mobilization that messages can influence political self-expression directly as well as information seeking and voting. Interestingly, the effect of social transmission was more effective than the message itself, most likely due to the strong ties held both in real life and online relationships of the recipients of the messages and the transmitter of the message (Bond et al., 2012). This influence not only improves engagement with an SNS account, but it also effects behavioural changes such as voting (Bond et al., 2012) which could be valuable to a City wanting to influence how its constituencies perceive it.

Booth and Matic (2011) note that companies falsely believe that they own their brand, when in fact it is their customers who control their brand and reputation; similarly local governments ownership of their City's brand is controlled by their citizens. With this in mind, Cities in South Africa can use social media to influence their constituencies, if they are able to influence the right citizens.

For cities to leverage some kind of control over their brand, they would need to identify brand ambassadors to help shape, disseminate and protect their brand (Booth & Matic, 2011). These brand ambassadors would need to be active members of SNS, with both strong and weak ties on and offline – giving credence to the City's messages and SNS accounts (Bond et al., 2012).

Through these brand ambassadors, Cities can enable conversations, amongst constituencies, building relationships and influencing how their brand is perceived (Booth & Matic, 2011).

Analysing the most influential followers of a City's SNS could give insight into the effectiveness of their SNS account in influencing their constituencies' perceptions of their local government / City's services (Booth & Matic, 2011).

When gathering data from respondents, information around ease of access to a City's SNS would aide in the analysis of engagement levels.

Citizen's social media engagement in the public sector

Agostino (2013) postulated that public engagement is made up of two components, participation and communication. With communication playing a static role (Shareef et al., 2011) of one-way flow of information from the public sector to its constituents and participation creating a dialogue (Agostino, 2013); and participation having a positive effect on how respected a citizen felt (Zenker and Seigis, 2012) with the process of being engaged – being asked – having a stronger impact than what was being asked (Zenker and Seigis, 2012). Hays (2007) and Warren et al. (2014) defined civic engagement as individual and collective forms of action that identifies and resolves public matters.

Due to social media's interactive nature (Hofmann et al., 2013) it offers public sector the possibility of changing their communication style with constituencies from mono to bidirectional exchange of information in a matter of seconds (Agostino, 2013) which would increase the likelihood of citizens participating on the social media account. However there is a risk that due to the bureaucratic nature of public sector, responsible employees may not have the skills or information required to answer some of the queries (Picazo-Vela et al., 2012). DiStasio, McCorkindale and Wright (2011) note that due to the nature of constantly improving technology, the platform is not as important as understanding what drives the change – posing the question of whether it is important to understand if citizens are engaged on Twitter and Facebook or why they are engaged on those platforms more than other SNS platforms.

Twitter presently allows five ways to communicate, through a Tweet – which allows the User 140 characters with which you express their message; a Mention – this is when a User Tweets whilst tagging another User in their Tweet; a Direct Message – which allows the User to privately message a User that follows them; a Retweet – this is when a User tweets another user's tweet without editing it; and a Reply – is when a User responds to a tweet. Facebook also has four ways to communicate, which essentially are similar to that of Twitter,

however they are named differently. Posting – is when a User posts a status update or uploads pictures or posts an article or posts on another User's timeline (a timeline is the personal page of a Facebook User), similar to a Tweet, they can also tag another User in their post similar to Twitter's Mention capabilities; Message – this is when a User directly messages another User privately; Sharing – this is when a User shares another User's post; and Comments – this is when Users comment on another User's post. Both Twitter and Facebook allow for hyperlinks to third party sites either websites to read articles in detail or to websites to watch videos such as YouTube or Vimeo. However, Facebook has made a recent update allowing videos to be embedded in a User's post and watched on Facebook directly.

Bonsón & Ratkai (2013) identified metrics for measuring engagement of SNS activity that is suitable to all stakeholders, namely Popularity (number of likes on Facebook post), Commitment (number of comments on Facebook post) and Virality (number of shares of Facebook post) giving insight into the reactivity, dialogues and stakeholder engagement. Agostino (2013) measured engagement by considering the number of actions by a citizen on a page, as actions would constitute all of the variables considered by Bonsón & Ratkai (2013), their metrics shall be used to test if a City's Facebook page has any engagement.

No similar study to Bonsón & Ratkai's (2013) has been conducted to include Twitter, but taking into account the metrics used for Facebook, the researcher can adapt them to suit Twitter as follows: Popularity (number of favourites of Tweet), Commitment (number of mentions as a result of original Tweet and number of replies to Tweet) and Virality (number of retweets). Agostino's (2013) study tested engagement on Twitter using the number of actions represented by number of Tweets. For the purposes of this study, the adapted Bonsón & Ratkai (2013) metrics are considered more exhaustive.

Lovejoy, Waters and Saxton's (2010) research into NGO's usage of Twitter found that one-way communication was the most popular usage of Twitter's 140 characters, with the most savvy organisations best utilized their character limitations with hyperlinks to articles. Kaplan and Haenlain (2010) have also found that followers react well to an active social media account – and that activity should not be limited to responding to queries / negative comments, finding ways to involve citizens in the conversation. They also found that there were other elements that made engagement successful in terms of the content; concluding

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that interesting content, humble interactions, a casual style of language and honesty helped build trust, familiarity and comfort – essentially leading to a more engaged audience (Kaplan and Haenlain, 2010).

Agostino's (2013) research has found that YouTube is best suited for public communication and Facebook for participation, followed by Twitter. He also noted that for social media accounts to be of any value, regular updates and response was key (Agostino, 2013). Bonsón et al. (2015) found that the style of the Public Administration had an effect on the engagement levels and an influence of the topics of engagement. Therefore it is expected that if the relevant City's Facebook page is regularly updated and responds in a timely manner to queries, there should be engagement. The data gathered should also indicate that the rate of engagement would differ between the relevant City's Facebook and Twitter accounts.

In building a positive perception, trust is a key component. Warren et al. (2014) noted that commitment is one of the building blocks of trust and Zenker and Seigis (2012) found that participation had a positive impact on commitment, so it would be interesting to ascertain if increased levels of citizens' commitment shown in engagement with the relevant City's SNS accounts correlate positively with the positive perception of that City.

A City's Branding Strategy

A City / Place Brand is not only the images that are conjured up through the mention of a name, but it is a multi-dimensional representation of the strengths and weaknesses of the place that depicts its competitiveness, intentionally or not (Rojas-Mendez, Murphy and Papadopoulos, 2013; Fan, 2005), that differentiates it from other Cities (Kavaratzis and Ashworth, 2005). Place branding, is a concerted effort to shape the view of residents and visitors alike (Rojas-Mendez et al., 2013; Fan, 2005). Place branding essentially, is the personification of a place utilising human characteristics that can influence how a "consumer" interacts with that place (Rojas-Mendez et al., 2013) and depending on the demarcations of that place, for instance a City, a Province, or a Country, will determine its interpretation (Fan, 2005). With a popular form of place branding for Cities being the promotion of the City as a destination (Fan, 2005). Destination branding, however, is more

than promoting a City as a tourist destination, but seeks to attract investment, job creation and settlement (Fan, 2005).

However, Braun, Kavaratzis and Zenker (2013) argue that City branding has evolved from viewing residents and visitors as a target market for the promotion of the City, and that it should now view them as active participants in the building of the brand. The role of residents in particular, in the branding of their City had a three-fold view, with Residents seen as (a) an integrated part of the place brand, (b) ambassadors for the place brand and (c) as citizens (Braun et al., 2013). By prioritizing residents' role in place branding, not only because they are consumers of the City's services, but also bearing in mind the pivotal role they play in influencing visitors' and new residents' view of the City (Braun et al., 2013). Importantly, Braun et al. (2013) note that the City's residents' perceptions from within different communities should be aligned, as non-alignment leads to conflict and variations of the City's brand, essentially diluting its value.

Branding is more than a catchy slogan and logo that effectively takes consumers mental maps – designed by each individual as a means of navigating complex realities – and linking it to the City's desired brand (Kavaratzis and Ashworth, 2005). The brand essentially becomes an interface between the activities of the City – defining the features of the brand, the beneficial attributes, and the values – and the consumer's perceptions – the quality, values, brand associations and feelings associated with the City's brand (Kavaratzis and Ashworth, 2005).

Kavaratzis and Ashworth (2005) find that the root cause for a City to successfully brand itself is the lack of understanding and / or incorporation into the branding process, the various ways in which a City can be branded. The three ways in which place branding occurs are:

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Table 1 Types of place branding

Place Brand	Description	Results	Real Life example
Geographical nomenclature	A physical product is named after a geographical location.	Copyright of the product, but no real benefit is transferred to the place	Champagne, Worcestershire Sauce, Black Forest Cake
Product-place-cobranding	A physical product is marketed by association with a place.	The transferring of the positive attributes of the place to product. No real benefit to the place, as its brand is already established.	Swiss Watches, Japanese Cars, French Food, Italian clothes.
Place management	Changing how a place is perceived through civic consciousness.	Can lead to a variety of outcomes: • Generating Political capital • Financial investment • Changes in user behaviour	New York – I heart New York, Chile - ProChile

Source: Adapted from Kavaratzis and Acworth (2005); and Goodson (2015)

Conclusion

City / Place branding is not a simple association of images with a place, and whilst it is concerned with how residents and visitors perceive that City (Rojas-Mendez et al., 2013; Fan, 2005), it is more complex in its execution due to the exhaustive list of stakeholders that can potentially impact its success, as well as the benefits desired from place management (Kavaratzis and Ashworth, 2005). Measuring a City's Brand is not as simple as completing a questionnaire (Zenker et. al., 2013; Van de Walle and Van Ryzin, 2011), questionnaire design (Van de Walle and Van Ryzin, 2011), and frequent testing of citizens (Zenker et. al., 2013) potentially produce greater results.

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Kavaratzis and Ashworth (2005) note that a place needs to be branded as a complete entity for success, utilising stories that are associated with the desired brand through a variety of mechanisms such as personality branding. Brand personality is a set of human personality traits applicable to and relevant for brands, that has grown traction due to celebrity endorsement and influence (Azoulay and Kapferer, 2003), and similarly branding via social media through social media "celebrities" or influencers (Freberg, Graham, McGaughey, and Freberg, 2011).

Social media is not only a platform for relaying information to constituencies, but can be used as an interactive communication tool and essentially a means of delivering a service or at the very least managing the service delivery.

A City's brand requires strong associations to stories (Kavaratzis and Ashworth, 2005) and requires a two-way communication to interface the activities that a City implements to design their brand and how their consumers perceive their brand (Kavaratzis and Ashworth, 2005). Social media if utilised correctly, can be used as a tool to create that two-way communication platform to not only get buy-in from a City's residents and visitors on its brand design, but to bridge any potential gaps between the City's perception of their brand and that of their consumers' (Kavaratzis and Ashworth, 2005). Therefore it would be interesting to ascertain if social media engagement impacts how residents view their City.

Agostino (2013) and Kaplan and Haenlain (2010) found that active SNS accounts can influence perceptions of citizens, and Morgeson et al. (2010) found that engagement reduced negative perceptions. But to be engaged, one needs to follow a City's SNS account, and therefore it would be important to ascertain if citizens who are active on social media, follow their City's SNS account, and if there is a difference in how citizens who follow these accounts view their City when compared to citizens that do not.

As it is noted that the rate of engagement differs between Facebook and Twitter, it would be important to analyse the engagement of citizens on their City's SNS accounts to determine if there is in fact a difference in the engagement levels and if this difference impacted their branding strategy.

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Chapter 3 – Research Hypotheses

Introduction

The aim of this study is to ascertain if there is a relationship between social media engagement and how satisfied a citizen is with their City's service delivery and in effect their City's brand. In the literature review discussed in Chapter Two, it was suggested that there was a correlation between social media engagement on a City's SNS account and how a citizen viewed a City's brand. However, whilst there tends to be consensus over the measurement of a City's brand, it remains unclear of what elements of public service delivery play the greatest role in shaping how a citizen viewed a City. It was also suggested that different SNS accounts produced different engagement levels, and that whilst information was important, two-way communication potentially produced better results.

In order to understand the impact of social media engagement potentially has on a City's brand, the research objectives, combined with the literature review have resulted in the proposal of the following research hypotheses:

Research Question One: Is there a relationship between social media engagement on the City's SNS account and the City's brand?

Social media engagement has proved to play a pivotal role in the branding of products and private organisations (theory); and similarly, the public sector is seeking to leverage this platform to improve their relationship with their residents and visitors, in the hopes that through civic consciousness they can influence how their "consumers" perceive their brand (Kavaratzis and Ashworth, 2005).

City branding is not as simple as creating a catchy slogan (Kavaratzis and Ashworth, 2005) and blasting it all over social media, but it requires a deliberate strategy that includes detailed plans of what is posted, on what platform and when. Some studies have suggested that the levels of engagement achieved on Facebook may be higher than on Twitter. In order to determine if this is indeed the case, and to ascertain if this extends into how a City's brand is perceived, it is pertinent that the researcher test if there is a relationship between

engagement on a City's SNS account and how a City is branded. To determine if the engagement levels differ between Facebook and Twitter, and subsequently impacting the relationship on a City's brand, this question will be viewed in two parts:

- Is there a relationship between social media engagement on a City's Facebook account and the City's brand?
- Is there a relationship between social media engagement on a City's Twitter account and the City's brand?

Research Question Two: Which citizen satisfaction variable has the strongest relationship with a citizen's satisfaction?

Ascertaining how satisfied a resident is with their City's brand – service delivery – is not easy to measure. Several studies have been done and indices developed, and whilst they have areas of similarity, there appears to be differences in how one can determine what constructs best represent satisfaction with a City's brand.

This would enable a City to better plan their brand strategy to be as effective in influencing how their City is viewed. Therefore the research question postulated is, which construct has the strongest relationship with satisfaction?

Research Question Three: Do the variables with the greatest influence on Citizen Satisfaction have a relationship with social media engagement?

Determining if a social media engagement has an impact on a City's brand gives us insight into whether a relationship exists between SNS engagement and how a citizen views their City; and Identifying which service delivery construct has the strongest impact on a City's brand.

There is however, a potential that the construct with the strongest relationship with how a City's brand is perceived, it is important to ascertain if that construct also has a strong relationship with social media engagement. This will ascertain if social media is the correct

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strategy for improving a City's brand, or if, as Kavaratzis and Ashworth (2005) suggest, it is merely a distraction.

Conclusion

The end result is that the researcher hopes that through deductive reasoning, the key components can be isolated that influence both social media and a city's brand perception.

Chapter 4 – Research Methodology

Introduction

In order to gain a deeper understanding of what components of a City's brand have the largest influence on a City's brand **and** to identify if and by how much social media engagement can influence this, studies by Zenker, Petersen and Aholt (2009), Przybylski, Murayama, DeHaan, and Gladwell (2013), Braun et al.'s (2013) and Van De Walle and Van Ryzin (2011) helped to develop research questions to test respondents' social media engagement, as well as their satisfaction with their City's service delivery and by extension their City's brand.

In this chapter, the researcher outlined the research philosophy, methodology, design, process and limitations of the research conducted. In order to understand the impact that a citizen's engagement on a City's Social Networking Site (SNS) account has on the City's brand, one needs to understand the relationship, if any, between the two.

Social media engagement's impact on a brand is not new territory, however, its impact on a City's brand and in particular measuring how citizens rate the service delivery from their local government has not been explored extensively.

Understanding the impact of social media engagement on citizens' perceptions was best analysed through the collection of quantitative data through a standardised survey (De Vaus, 2014). This helped us analyse firstly if citizens were engaged and to what level; and secondly if their perceptions had been influenced by this engagement through the sub-sectioned questions within the survey.

Proposed Research Process

Given that the research questions defined in Chapter Three seek to understand the relationship between Social Media Engagement and Satisfaction with the City / Local government's service delivery; and how that can impact the perception of a city and ultimately develop / impact its brand, the research conducted was explanatory and

quantitative (Saunders and Lewis, 2012). Naval (2011) has found that the most popular form of research design for business and marketing research, is cross-sectional studies.

Cross-sectional research is when information is gathered from a sample of a population at only one point in time (Naval, 2011) and through sample surveys, a sample that is representative of the population is studied (Naval, 2011).

Longitudinal studies – surveying the same population over a period of time - can provide better data on changes in attitude, opinion or feelings of a citizen, due to the methods used to gather data such as the usage of a compensated panel of respondents (Naval, 2011), which would be beneficial in understanding if a citizen's perception of their City has improved due to engagement on their City's SNS account.

Another disadvantage with cross-sectional studies is that information gathered from the sample generally relies on the respondent's ability to recall past events, reducing the accuracy of the data given, which is not a problem in longitudinal studies due to the usage of the same panel throughout the study over a period of time (Naval, 2011). However, members of the panel of respondents for a longitudinal study may not be true representatives of the population and if any of the members refuse to respond, a new member for the panel will need to be sought – not only potentially extending the time and costs of the study, but also potentially adding response bias (Naval, 2011). As cross-sectional studies only collect data once from the sample, the potential for response bias is limited, and the risk of non-responses over time is eliminated due to the once-off response requirement of such studies (Naval, 2011).

Given the time and money constraints, a longitudinal study would not have been feasible and a cross-sectional study was used. Utilising survey questionnaires are a popular and effective manner in which one can collect data for an explanatory study as it is a cost-effective way in which one can gather representative data (Saunders and Lewis, 2012), asking the same questions, from a large group of people (Saunders and Lewis, 2012); and thus that private surveys are a popular tool for researchers wanting to identify a voter's preferences and attitudes (Keller and Warrack, 2000) or gauge public reactions (Johnson and Wichern, 1997). As the purpose of this research is to understand the impact of social media engagement on the citizen's (voters) perception of the City, the most efficient means

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of gathering this data from citizens was through a standardized questionnaire (Saunders and Lewis, 2012).

A well designed questionnaire requires money, knowledge, experience and time (Keller and Warrack, 2000). Due to time and money constraints, and to build on the shoulders of giants, the questionnaire used was designed from extracts of other well-designed questionnaires. A structured questionnaire (Johnson and Wichern, 1997) was used, divided into constructs to enable a controlled method of gathering data (Winter, 2000).

Universe

The universe / population is the complete set of group members available to the researcher (Saunders and Lewis, 2012). Due to time and economic constraints, a sample survey was utilised (Johnson and Wichern, 1997) which enables a researcher to draw statistical inferences on a population parameter (Keller and Warrack, 2000). Carefully defining the population to be sampled is key to providing cross-sectional snapshots through the samples tested (Johnson and Wichern, 1997).

Residents of the eight South African Metropolitan Cities who are active on Social Media were targeted, however responses from residents of metropolitan Cities without active Social Media accounts were not removed from the data analysed as their responses gave further insight into the research questions posed. A limitation of age, in that only respondents over 18 were targeted, was posed as the likelihood that respondents over the age of 18 owning property or a vehicle was higher, and therefore these respondents would need to interact with their City and the services that they offer.

The universe was therefore defined as: Citizens from the eight Metropolitan Cities within South Africa, who are over 18 years of age and are active users of social networking sites (SNS). As Twitter and Facebook are the most popularly used SNS in South Africa (PEW, 2014), the universe was limited to users of these two SNSs.

Sampling

A sample is a subgroup of the complete set (universe) available to the researcher (Saunders and Lewis, 2012). The sampling frame was a combination of the researcher's contact list of residents of one of the eight metropolitan cities in South Africa, as well as active SNS users of Twitter, Facebook and LinkedIn who either followed metropolitan City accounts, hashtags and so on; or who followed the researcher's SNS accounts directly or by extension.

The sample method used to select a sample of respondents was both the stratified and snowball sampling (Saunders and Lewis, 2012; Keller and Warrack, 2000). The data gathered for this research was stratified by metropolitan City, as well as by SNS activity i.e. has active Twitter and / or Facebook accounts; and the snowball element was introduced through the sharing of the survey on social networking sites: LinkedIn, Twitter, and Facebook.

MacCallum, Widaman, Zhang and Hong (1999) found that when conducting factor analysis, communalities that are greater the 0.6, the size of the sample need not be as high as traditionally postulated, and that samples lower than 100 were sufficient if communalities were high, factors well determined and computations converging into a complete solution. The lower the communalities, the more important the role of sample size, and therefore communalities greater than 0.5 would warrant a somewhat larger sample size ranging between 100 and 200 (MacCallum et al., 1999)

The communalities found in the two themes, social media engagement and satisfaction, in the questionnaire were above 0.5 with the exception of 'Do you follow the Twitter account of the City that you reside in?'. However, as this was the question below 0.5, it was not considered strong enough to warrant a larger sample than the recommended 100 to 200 by MacCallum et al. (1999)

Table 2 Communalities: Sub-section One of questionnaire

Communalities

	Initial	Extraction
Do you have an active Twitter account?	1.000	.536
Do you follow the Twitter account of the City that you reside in?	**1.000**	**.288**
Do you have a Facebook account?	1.000	.520
Do you follow the Facebook account of the City that you reside in?	1.000	.372
How often did you like a post shared by your City's Facebook account?	1.000	.610
How often did you share a post shared by your City's Facebook account?	1.000	.906
How often did you comment on a post shared by your City's Facebook account?	1.000	.886
How often are your questions on the City's Facebook account responded to appropriately?	1.000	.779
How often did you favourite a tweet by your City's Twitter account?	1.000	.879
How often did you retweet a tweet by your City's Twitter account?	1.000	.944
How often did you reply to a tweet by your City's Twitter account?	1.000	.911
How often are your questions on the City's Twitter account responded to appropriately?	1.000	.558

Extraction Method: Principal Component Analysis.

Table 3 Communalities: Sub-section Two and three of questionnaire

Communalities

	Initial	Extraction
A wide range of cultural activities (theatre, nightlife etc.)	1.000	.734
A variety of shopping opportunities	1.000	.740
Many different cultures and sub-cultures	1.000	.723
The energy and atmosphere	1.000	.685
The availability of different services	1.000	.665
The urban image	1.000	.592
Openness and tolerance	1.000	.716
A lot of nature and public green areas	1.000	.705
Environmental quality (low pollution)	1.000	.592
A number parks, playgrounds and open spaces	1.000	.729
A wide range of outdoor-activities	1.000	.720
Tranquillity of the city	1.000	.680
Cleanliness of the streets and sidewalks	1.000	.714
Access to water	1.000	.626
Garbage collection	1.000	.721
The general level of wages	1.000	.725
Good job and promotion opportunities	1.000	.789
General economic growth	1.000	.731
Professional networks	1.000	.726
Housing market / cost of rentals	1.000	.741
The general price level / costs of living	1.000	.703
Availability of apartments and houses	1.000	.593
Protected by the police	1.000	.796
Police-community relations	1.000	.758
Fire protection	1.000	.486
Street and road maintenance	1.000	.565
Ease of car travel	1.000	.546
Ease of travel by public transportation	1.000	.532
Public education (K-12)	1.000	.687
Public libraries	1.000	.703
A great City to live in - Metropolitan City	1.000	.604
This City has become better - Metropolitan City	1.000	.656
I am willing to move here - Metropolitan City	1.000	.586
I have confidence in the people running the City - Metropolitan City	1.000	.652
The services offered in this City are better than expected - Metropolitan City	1.000	.635

Extraction Method: Principal Component Analysis.

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As the sample selected was from the most active social media users on the City's Facebook and Twitter accounts, the response rate was expected to be at around 50%, and therefore at least 200 surveys were sent out.

Unit of analysis

This research study set out to determine if Social Media Engagement can enable local government officials in influencing how their constituencies perceived their service delivery and in turn their metropolitan City's brand. Therefore different units of analysis were required to analyse Engagement and Satisfaction.

SNS use a varying means to communicate, with private messaging and commenting being a common feature (Mergel, 2013). Other means of communication include media sharing, blogging and instant messaging (Mergel, 2013). Twitter and Facebook's communication mechanisms generally provide the same capabilities, using slight variations in how they work and using different names, as discussed in detail in Chapter Two.

The unit of analysis for engagement was:
- Followers / Fans
- Retweets / Shares
- Favourites / Likes
- Replies / Comments

The unit of analysis for perceptions of citizen satisfaction were the four factors of the CSI plus four additional areas:
- Urbanity and diversity
- Job opportunities
- Cost-efficiency
- Nature and recreation
- Safety
- Ease of movement
- Education
- Overall satisfaction

Data Gathering

Design of Data Collection Tool

The collection of data took the form of an online survey, using Survey Monkey – an online survey tool, whereby questions were divided into sub-sections that related to the different themes identified and related to the research questions described in Chapter Three.

Sub-section one related to demographic questions that would be used to identify if there are any inferences to be drawn from the demographics of the respondents, as well as to identify if the data gathered is reflective of the population.

In sub-section two, the respondents were asked questions adapted from Przybylski, et al.'s (2013) social media engagement questions and Braun et al.'s (2013) place branding findings. These questions were aimed at measuring their engagement with the City's Twitter and Facebook accounts.

Sub-section three required the respondents to rate the City using a combination of questions from Van De Walle and Van Ryzin's (2011) citizen satisfaction survey, using the Likert scale ranging from one to five for specific satisfaction and one to seven for overall satisfaction; and Zenker et al.'s (2013) 21 item Citizen Satisfaction Index (CSI), using the Likert scale ranging from one (Not at all) to five (Fully).

The reason for the combination is that the CSI allows for an easy way to compare different cities, and has created a measure that can easily rank a city, however it looks specifically only at Urbanity and Diversity; Nature and Recreation, Economic and Overall satisfaction factors. After conducting an exploratory factor analysis, the factors listed in Table 4 below were removed by Zenker et al. (2013) as no clear constructs were identified; reducing their questionnaire from 35 questions to 21 specific factors. Van De Walle and Van Ryzin's (2011) citizen satisfaction survey is also more recent than Zenker et al.'s (2009).

Table 4 List of removed factors from Zenker et al.'s CSI

Removed constructs	
City size (number of citizens)	Costs for energy, water, and so on
Local public transit	**Support and service from the local authorities**
Universities and offerings for extension studies	Support for building your own business
Crime rate	Local taxes and duties
Climate and weather of the region	State subsidies (e.g. free children day care)
Medical services	Numbers of celebrities living in the city
Percentage of singles	

Source: Adapted from Zenker et al. (2013)

Zenker et al (2013) noted that a limitation in their study was that as it was conducted in only German cities, cultural influences may have dictated what elements were important in determining satisfaction with a City's service delivery and which were not. As one of the objectives of this research is to determine which of the constructs identified have the strongest influence on how a citizen in one of South Africa's eight metropolitan Cities views that City, the researcher included questions from Van De Walle and Van Ryzin's (2011) citizen satisfaction survey that had similar themes to the construct emboldened in Table 4 above. The additional questions added to the CSI gave rise to four additional factors for analysis around safety, education, ease of movement and overall satisfaction. These were added in order to get as relevant a questionnaire to the South African context, whilst benefiting from the research conducted by others.

All duplicate questions were removed, and basic introductory questions about demographics as well as social media activity were included in the questionnaire for descriptive statistical reasons. A copy of the questionnaire can be found in Appendix A.

The layout of a questionnaire can influence the completion rate as well as the quality of responses (Johnson and Wichern, 1997) and as Van De Walle and Van Ryzin (2011) have suggested that listing specific questions first, and general questions last produces the closest 'true' satisfaction score, this order was utilised in the questionnaire's design. This

step gave us the citizen's perceptions of satisfaction which was used as an indication of their perceptions of the City's performance, and essentially the City's brand.

Sub-section three had respondents ranking South Africa's eight metropolitans. This step gave us an indication of how residents of the City view its performance in comparison to the other Metropolitans.

There was a potential that localised bias may creep in to the responses given (Zenker et al., 2009), however metropolitan cities tend to be home to a myriad of citizens who have relocated there from other parts of the country or globe, and therefore one of the demographic questions posed upfront was to determine where the respondent considered to be home, as a means to identify any areas of potential bias for or against the City.

Validity

To ensure that the results discussed in Chapters Five and Six spoke to what the researcher assumed, their validity was ascertained. This was to ensure that no unintended circumstances had occurred that may render the information gathered invalid (Saunders and Lewis, 2012). There are five principal factors can threaten the validity of one's results as well as any conclusions drawn from those results (Saunders and Lewis, 2012):

Table 5 Principal factors that threatening validity

Principal Factor threatening validity	Mitigation
Subject selection	A web link to the survey on Survey Monkey was distributed on Social Media namely Twitter, Facebook, LinkedIn and My Broadband (Technology Blog). Hashtags, social media influencers and metropolitan Twitter accounts were used to increase visibility.
History	The survey was conducted in one event over a limited period – 15 July 2015 – 31 August 2015, limiting exposure to specific events.
Testing	As social media engagement was being tested, respondents who are accustomed to using the internet were targeted and hence any affects that utilising only an online tool for gathering data would not significantly impact the validity of the tests done. Limitations of such a method have been noted.
Mortality	The research conducted was an explanatory one, and not longitudinal in nature – therefore the likelihood of loss of research subjects was limited.
Ambiguity about causal direction	The survey instrument used was based on theory – whilst there remained potential for confusion, it was limited by previous studies conducted using the questions utilised in the survey instrument.

Source: Adapted from Saunders and Lewis (2012).

Reliability

In order for conclusions drawn from findings to be found reliable, the method in which the researcher collects data and analyses the data collected must produce consistent findings. Consistency is represented by:

- Measures used produce the same results on different occasions,
- Other researchers produce the same results using the same methods and procedures, and
- Conclusions drawn are easily interpreted from the research conducted.

The following are key factors that could have potentially negatively impacted the reliability of the results and conclusions drawn:

Table 6 Principal factors threatening reliability

Factor	Description
Subject error	Time limit on the survey mitigated this risk – survey was limited to the period 15 July 2015 – 31 August 2015
Subject bias	The survey was anonymous and therefore limited the need for respondents to be tempted to provide unreliable information.
Observer error	The research instrument used was an online survey tool, and the questions did not change, thereby eliminated the possibility of observer error.
Observer bias	The research instrument used was an online survey tool, and the questions did not change, thereby eliminated the possibility of observer bias.

Source: Adapted from Saunders and Lewis (2012)

Testing for reliability within a construct is measuring for internal consistency (Naval, 2011; Field, 2013). This was done using Cronbach Alpha. A Cronbach Alpha that is above 0.6 is

good (Naval, 2011) and it implies that the set of questions that make up that construct are closely related as a group.

Pre-Test

When designing a questionnaire to gather data, it is always prudent to conduct tests on the questionnaire in order to identify any unforeseen errors / circumstances such as:

- Ambiguous statements / questions
- Grammatical errors
- Missing information
- Conflicting information

It also enabled the researcher to test whether the questions posed produced results that were relevant to the research study and that the questions posed could be answered by respondents (Johnson and Wichern, 1997), effectively testing the appropriateness of the questionnaire's design (Naval, 2011).

The questionnaire was drafted using the online survey tool, Monkey Survey and a test link sent to ten individuals that met the target group criteria. Of the ten, five completed the questionnaire. Only two of the respondents identified errors or ambiguity in how questions were phrased. The suggestions noted are summarised in Table 7 below:

Table 7 Questionnaire Pre-Test results

Question	Query / Suggestion	Resolution
Q15. To what extent do you agree with the following statements with regards to the City that you presently reside in? (0: Not at all; 7: Every day)	With the below question was not applicable to me because I do not follow the city. So Is that why there is a not applicable/not at all? I just answered them all non-applicable.	Added another separate option: Not Applicable
Q23. I am willing to relocate to another metropolitan city in South Africa.	If yes, to what extent do you agree with the following statements with regards to the city that you presently reside in? The below question 5 does not really fit - just because it's a yes/no question as opposed to dissatisfied or satisfied. I was not sure on how to answer the second question "In general I do not like the City"	Corrected the options to reflect (0: Strongly agree; 7: Strongly disagree)
Q24. In this section, please select the Metropolitan City that is best representative of the following questions.	The final section - Can there be a 'none of the above'?	Included an option: 'none of the above'.
Introductory email.	Add your name... when you send out the email. It helps to know who is spamming you.	Corrected – included my name in the emails sent.

Data Collection

Utilising Survey Monkey, email invitations were sent to a cross-section of residents of metropolitan Cities in South Africa. A web link created by Survey Monkey connecting

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respondents to the questionnaire was posted on social media such as LinkedIn, Twitter and Facebook, and the technology blog – My broadband. The web link was also sent to contacts via messaging applications such as WhatsApp as well as a text message.

Of the 170 email invites sent only one email bounced, and 98 invitees responded – making up 58% of email invites – which was higher than the expected response rate of 50%. Of the 98 responses, only 18 responses were incomplete – resulting in an overall 48% response rate from emails.

The web link used for social media survey invites did not provide an ability to observe the reach due to the various mechanisms to share to the link. The total responses received from the web link was 95, of which 76% were complete responses. This combined with the email responses resulted in a total of 160 complete responses. This resulted in the sample size reducing to 160, however, as the minimum sample size required is 100 to 200 respondents MacCallum et al., 1999), this was deemed acceptable.

Table 8: Summary of data collected

Method of collection	Invites sent	Total Responses	Incomplete responses	Responses included in sample	Response rate
Email	170	98	(18)	80	47%
Web link	N/A	95	(15)	80	N / A
TOTALS	**170**	**193**	**(33)**	**160**	**N / A**

Data Analysis

Prior to the analysis of the data, the data was edited and structured in an effort to deal with any missing data and any other problems that may have arisen during the data collection (Naval, 2011). Data was also gathered in a raw format that could not be appropriately analysed by statistical software, and therefore an element of preparation of the data was required – converting raw data to a format that was suitable for analysis (Naval, 2011).

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Data Editing

The data gathered on Survey Monkey was exported into excel, analysed and irrelevant information discarded. Editing a questionnaire enables the researcher to remove suspicious, inconsistent, incomplete and illegible information (Naval, 2011).

The email respondent's email addresses were deleted to maintain the anonymity of respondents.

Coding of data

Relevant information was coded into numerical values to enable analysis within SPSS. When coding, answers were classified with numerical value (Naval, 2011). The first section questions related to demographic questions and mostly required respondents to make a choice from options given – the choices were each given a representative number. The second section related to SNS activity with questions ranging from yes / no answers, to the Likert scale – again a numerical value was assigned to the relevant answer. The third section looked at City Brand through satisfaction related questions utilizing the Likert scale and the answers were similarly coded with a number.

Data cleaning

Data cleaning was conducted to deal with missing and / or illogical data (Naval, 2011). A missing variance analysis was conducted and all data that had more than 10% of their data missing were removed. Of the 193 respondents, 33 had data missing that was greater than 10%, and therefore the sample size analysed was 160.

Descriptive statistics

In order to gain a clearer understanding of the data gathered, there were several descriptive statistical tests conducted. This was done to gain a general understanding of the categorical

information gathered – predominantly demographics; and therefore frequency distribution analysis was conducted. This is done to order and summarise the data collected.

The tests conducted were:
- Demographic analysis
- Frequency distribution
- Reliability

Inferential statistics

In order to draw conclusions from the data gathered, inferential statistical tests through a factor analysis were conducted.

Factor Analysis

A Factor Analysis (FA) was conducted to in order to identify and define the components from the questions posed to respondents. The main purpose of conducting an FA is to summarise the large number of variables within the questionnaire into a few factors (Naval, 2011). Whilst themes were predefined in the designing of the questionnaire, this test was conducted to confirm these themes (Williams, Brown and Onsman, 2010).

A correlation matrix is a matrix of all the pairs of variables included in the factor analysis, depicting the correlations between all possible pairs with a correlation of 1 indicating that the correlation is between the same variable (Naval, 2011).

A Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was conducted to determine the common variance for the underlying factors, with a statistic between 0.5 and 1 indicating that the factor analysis conducted was appropriate for the data gathered (Naval, 2011).

Bartlett's test of sphericity tests to whether the population correlation matrix an identity matrix – an identity matrix will bring into question the correctness of the factor analysis conducted (Naval, 2011). At a level of 95% confidence, a value of less than 0.05 indicates

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that a statistically significant relationship exists and that the matrix is not an identity matrix (Naval, 2011).

A communality indicates the amount of variance shared amongst variables (Naval, 2011).

During the test, the Eigenvalue 1 rule was utilised to identify components – eigenvalues indicate the proportion of variance explained by each factor and only components with eigenvalues greater than 1 are included in the model (Naval, 2011).

Principal component Analysis (PCA) was conducted to identify any linear components of the variables and to reduce R-matrix down into smaller dimensions (Field, 2013). PCA transforms measured data into linear components, and identifies variables that correlate (Field, 2013).

Determinants were used to describe the overall area of the data gathered, and in essence the level of correlation between the variables (Field, 2013). A determinant of 1 indicates that the variables are completed unrelated, and a determinant of 0 indicates if the variables are the same or somewhere in between (Field, 2013). When working in SPSS a determinant of 0 will give an error message due to computational problems, therefore anything above 0 is ideal (UCLA, 2015).

Hypothesis Testing

Correlation

Correlations measure associations between two variables (Naval, 2011). Pearson's correlation coefficient is a standardised measure of two variables' relationship strength, ranging from – 1 to + 1 (Naval, 2011; Field, 2013). With – 1 indicating a converse relationship – in that one variable changes in the opposite direction to the other variable – and + 1 indicating a direct relationship – with both variables changing in the same direction (Naval, 2011; Field, 2013). If one variable changes and the other does not, this indicates that there is no relationship and is represented by a 0 (Naval, 2011; Field, 2013). This also gives an indication of how large correlation is between the variables (Field, 2013).

The Pearson correlation test was conducted to determine what kind of relationship the variables in the constructs had with one another.

Table 9 Pearson correlation coefficient: Size of the effect

Small Effect	Medium Effect	Large Effect
± .1 to ± .3	± .3 to ± .5	±.5

This test is being conducted at a 95% confidence level, with an alpha of 0.05 (Naval, 2011; Field, 2013).

Confirmatory Factor Analysis

Confirmatory Factor Analysis is a multivariate statistical test that measures how well variables represent a construct (Statistics Solutions, 2015). It is similar to an Exploratory Factor Analysis test, however CFA identifies which variables relate to the latent variable (Statistics Solutions, 2015).

This test was conducted to determine which variables within the Social Media Engagement construct contributed the most to the construct – and in effect influence engagement.

An R^2 is a goodness of fit measure, where an R^2 greater than 0.5 indicates a good fit (Field, 2013).

Pearson Chi-square

The hypotheses identified in Chapter Three were then tested using Pearson Chi-Square. This test was used instead of ANOVA as the variables tested are categorical (Field, 2013). This test was used to determine if there was a significant relationship between the categorical variables (Field, 2013).

The equation used is essentially the same as that used in regression and an ANOVA with a variation in that the equation is divided by the model scores (Field, 2013).

$$X^2 = \sum \frac{(\text{observed}_{ij} - \text{model}_{ij})^2}{\text{model}_{ij}}$$

As the variables are categorical, group means could not be used, but rather expected frequencies (Field, 2013). Using IBM SPSS Statistics Software (version 23), a comparison is done in the background between the expected frequencies and the observed frequencies, and an estimation of the probability of obtaining a chi-square statistic that is at least as big as the expected frequency will be the result if there were no association between the variables in the population (Field, 2013).

Kruskal Wallis

A Kruskal Wallis test is a non-parametric test used as an alternative to a one-way ANOVA (Naval, 2011). This test was used due to the researcher being uncertain as to what shape the population distribution would take (Naval, 2011). Four assumptions are requires to ensure that the data gathered is appropriate for a Kruskal Wallis test (Laerd Statistics, 2015). This test was used to test if there is a relationship between the variables that have the largest influence on Citizen Satisfaction and social media engagement.

Table 10 Kruskal Wallis Assumptions

Assumption number	Description	Requirement met
1	Dependent variable measured ordinal level	Likert scales used
2	Independent variable consists of two or more categorical, independent groups	EN 2 – had more than two categorical, independent groups
3	Independence of observations	The questions did not allow for the selection of more than one answer
4	Distributions in each group has the same variability	Not met

Source: Adapted from Laerd Statistics (2015).

Laerd Statistics (2015) note that one or two assumptions may be violated when using real-world data, however they note that this does not render the test invalid. As assumption four was violated, only the mean ranks were compared, the medians were not compared (Laerd Statistics, 2015).

A Kruskal-Wallis test conducted to identify if there are any differences between the groups of scores from the social media engagement responses to the satisfaction responses, this test was chosen as there are more than two groups or conditions (Field, 2013). As the two main constructs social media engagement and satisfaction, have two groups and eight groups, respectively, the Kruskal-Wallis test is more appropriate test than a Wilcoxon or Mann-Whitney test (Field, 2013).

This test is being conducted at a 95% confidence level, with an alpha of 0.05 (Naval, 2011; Field, 2013).

Research Limitations

This research had the following limitations:
- Only citizens residing in one of the eight metropolitan cities within South Africa were targeted, therefore the results may not be reflective of or relevant to other local municipalities.
- The surveys were conducted in English, and therefore there was a potential that some information may not have been fully understood or expressed by the respondents whose first language is not English.
- The data gathered may not be complete, as they were limited to the sources mentioned under data gathered.
- The detail of the interactions had were limited to the metrics of positive and negative views.

Conclusion

The research design and methodology used was with the intention of answering the questions raised in Chapter Three, taking into consideration the literature reviewed in Chapter Two. The explanatory research method approach was deemed most suitable to addressing this task, utilising a structured, standardised questionnaire to gather data from the sample identified.

Chapter 5 – Results

Introduction

In this chapter the main findings from the data collected will be analysed in terms of the methods described in Chapter Four. This analysis will explore the research questions raised in Chapter Three, addressing the three research questions raised:

Research Question One: Is there a relationship between social media engagement on the City's SNS account and the City's brand?

Research Question Two: Which citizen satisfaction component has the strongest relationship with a citizen's satisfaction?

Research Question Three: Do the variables with the greatest influence on Citizen Satisfaction have a relationship with social media engagement?

This Chapter will begin with some demographic characteristics, as is relative to social media engagement and citizen satisfaction with local government service delivery. Results from tests detailed in Chapter Four's results will be detailed here. The mean, median, and standard deviations for factors related to social media engagement and satisfaction were calculated. A Principal Component Analysis was conducted to verify if a factor analysis could be done, and enabled the grouping of variables into themes.

Cronbach's Alpha tested the reliability and internal consistency of the data collected, and Pearson's r correlation test was conducted to determine if correlations existed between the variables within the two themes: social media engagement and satisfaction. The strength of associations was tested using cross-tabulation and chi-square tests, helping to identify if associations existed within and between the variables of social media engagement and satisfaction, and testing if the research questions proposed in Chapter Four are to be accepted or rejected.

Analysis Tools

The statistical tool used to analyse the data collected was SPSS version 23 from IBM. Using this tool, the following tests were conducted:

- Descriptive
    - Demographic analysis
    - Frequency distribution
    - Reliability
- Factor Analysis
- Correlation
- Chi-square
- Confirmatory Factor Analysis
- Kruskal-Wallis

SPSS was chosen due to access to a license for usage through the University of Pretoria and its ease of use. Guidance and support in conducted tests was given by an experienced statistician.

Descriptive Statistics

Demographic Analysis

Age

From Figure 1 below, 70% of respondents are between 31 and 40 years old, 19% are between 18 and 30 years old, 10% are between 41 and 50 years old and 2% are older than 50.

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Figure 1 Age representation of respondents
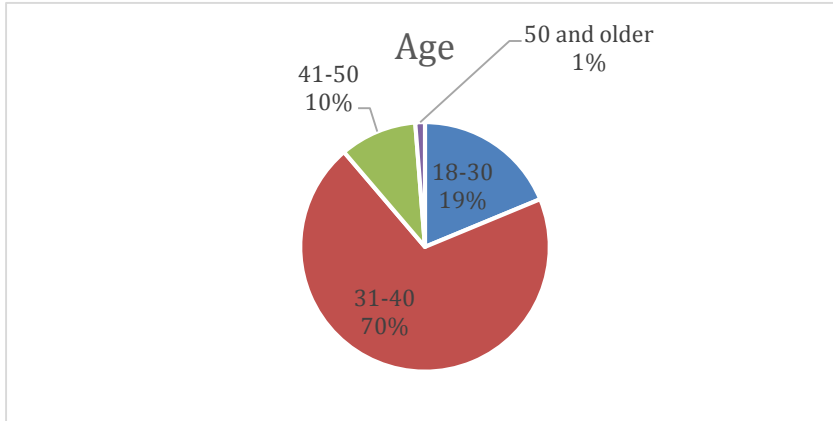
Gender Analysis

From Figure 2 below, 49.4% of the respondents identified as female, 50% identified as male and 0.6% identified as other. There is an equal distribution of respondents between the sexes.

Figure 2 Gender representation of respondents

Race
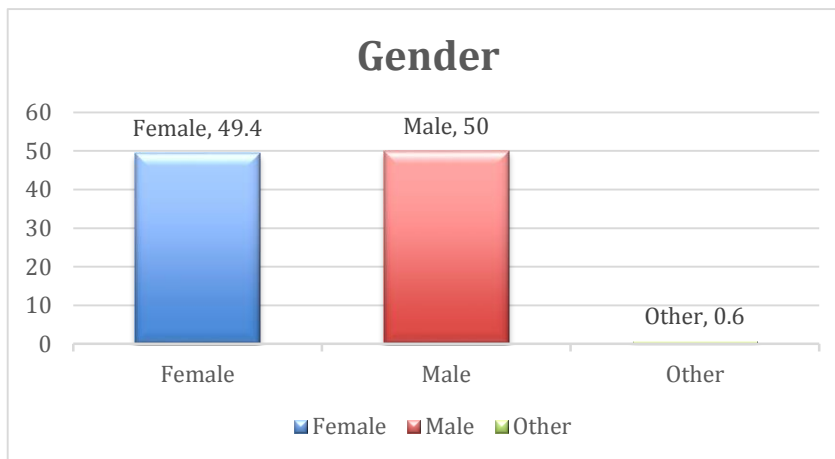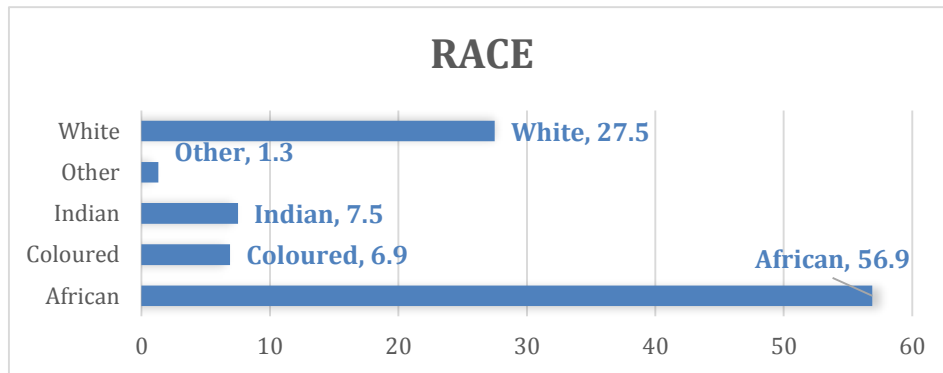
Of the 160 respondents noted in Figure 3 above, 56.9% identify as African, 27.5% identify as White, 6.9% identify Coloured, 7.5% identify as Indian and 1.3% identify as 'Other'. The respondents' race is as expected, with majority being African indicating that the sample is representative of the population sampled.

Figure 3 Race presentation of respondents

Citizenship

Majority of the respondents identified as South African as noted in Figure 4 below, making up 86.3%, 8.8% identified as African, 1.9% identified as Zimbabwean, 1.3% identified as Ugandan and 0.6% identified as British, Kenyan, and North American, respectively. As Kenyan, Zimbabwean and Ugandan can be included under the category African, the percentage of respondents that represent the category of African is in effect 12.6%. The majority of respondents are South African, as expected.

Figure 4 Citizenship representation of respondents
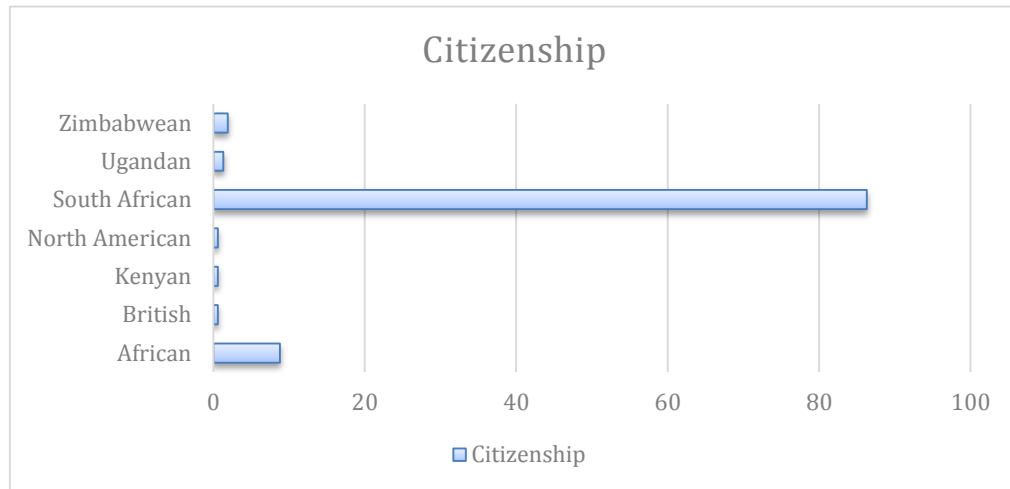
Household Income

In Figure 5 below, only 5.6% of respondents earned between R 0 and R 12 000, 11.9% of respondents chose not to reveal their household income and 82.5% of respondents earned greater than R 12 000.

There are two definitions for the middle class, middle income strata and absolute definition of middle class – based on lifestyle or affluence level – with the mean monthly income of middle strata being R 646 per capita per month; and R 3 656 per capita per month for middle-class affluence (Visagie and Postel, 2013). The middle-class affluence range is R 1 400 to R 10 000 per capita per month (Visagie and Postel, 2013) therefore income per household above R 10 000 per the middle-class affluence (Visagie and Postel, 2013) definition, is upper class. Looking at the results, the respondents are skewed towards the upper class.

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Figure 5 Household Income representation of respondents

Household Income
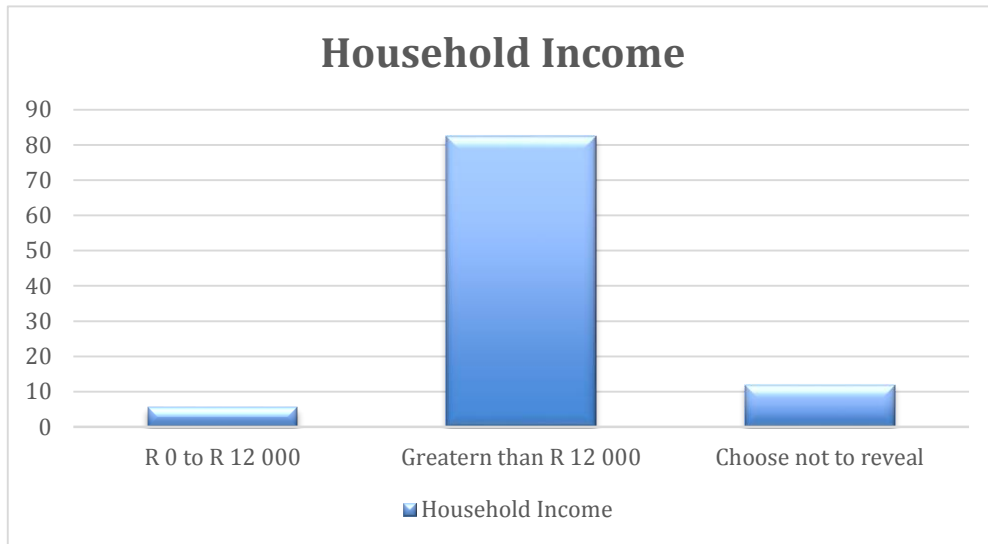
Residential City

Per Figure 6 below, most respondents reside in the City of Johannesburg making up 63.1%, 15% reside in the City of Tswhane, 7.5% reside in other Cities or Towns, 5.6% reside in the City of Cape Town, 4.4% reside in Buffalo City, 3.1 % reside in Ekhureleni Metropolitan, 0.6% reside in eThekwini Municipality and 0.6% reside in Nelson Mandela Bay Metropolitan.

The respondents' city of residence is skewed towards the City of Johannesburg, and the Gauteng Province with the combination of the City of Johannesburg, the City of Tswhane and Ekhureleni Metropolitan making up 81.2% of respondents' resident City.

Figure 6 Residential City representation of respondents

Figure 6 Residential City representation of respondents
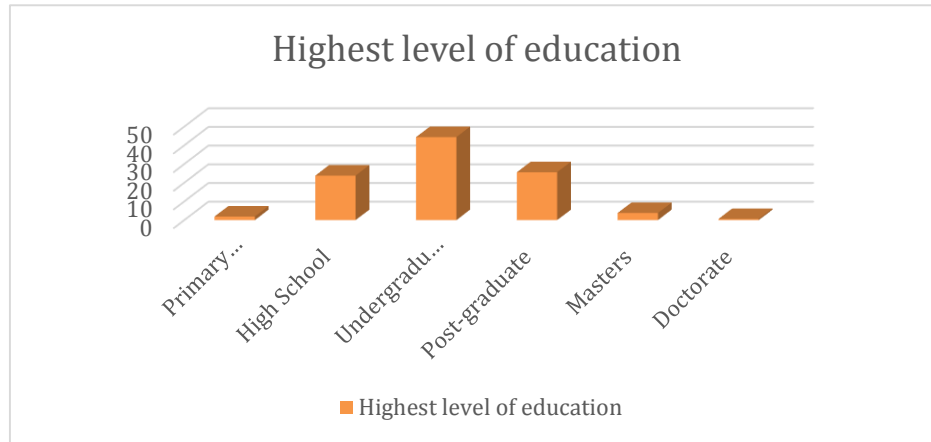
Education

Per Figure 7 below, there are 44.4% of respondents with an undergraduate qualification, 25.6% of respondents have a post-graduate qualification, 23.8% respondents have a high school qualification, 3.8% of respondents have a master degree, 1.9% of respondents have a primary school qualification and 0.6% of respondents have a doctorate degree. The majority of respondents have an undergraduate degree, with 93.8% of respondents having at least a high school qualification.

Figure 7 Highest level of education representation of respondents
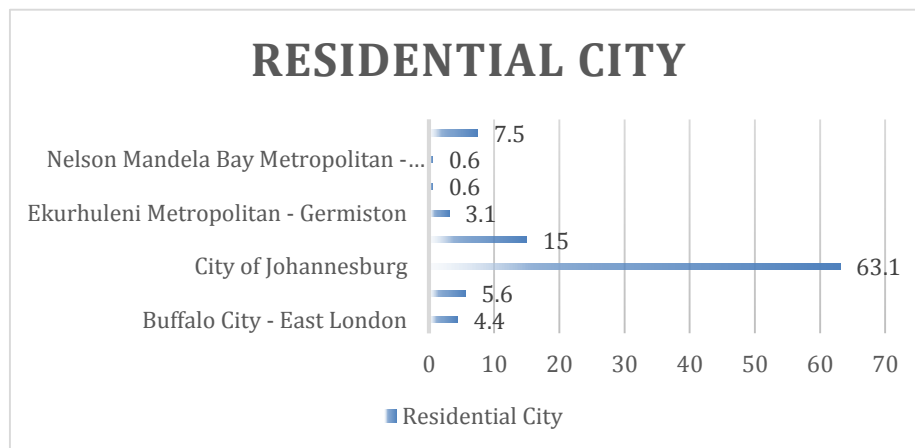
Active Twitter Accounts

Per Figure 8 below, 48.8% of respondents have an active Twitter account, 29.4% of respondents have a Twitter account but are not active, and 21.9% of respondents do not have a Twitter account, whilst active SNS account users were targeted, this could give insight into the success / failure of social media strategies by the metropolitan cities within South Africa. Majority of the respondents are skewed towards having an active Twitter account.

Figure 8 Twitter account representation of respondents
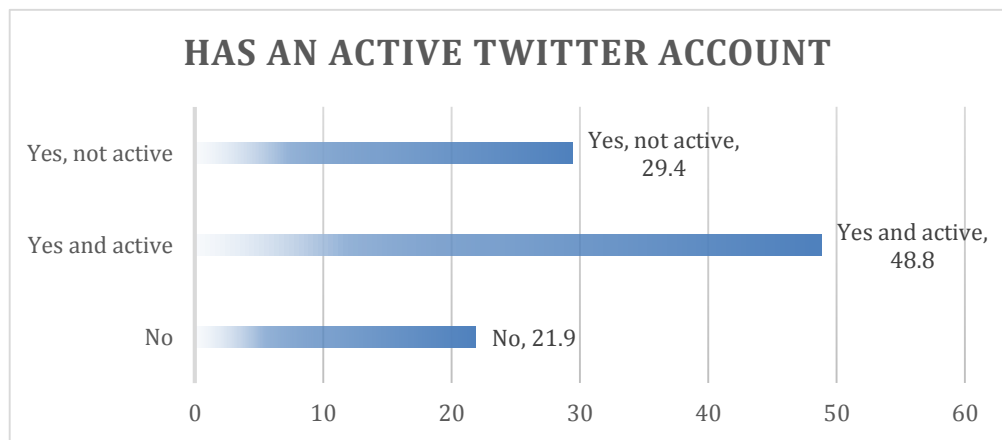
Per Figure 9 below, only 18% of respondents follow their City's Twitter account. Of the respondents that do follow their City's Twitter account, only 2.5% responded as being actively engaged, and 6.9% do so to seek for information.

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Figure 9 Follows City's Twitter account

Facebook account

Per Figure 10 below, 85% of respondents have an active Facebook account, 8.8% of respondents have a Facebook account but are not active, and 6.3% of respondents do not have a Facebook account. There are more respondents with a Facebook account than not.

Figure 10 Facebook account representation of respondents

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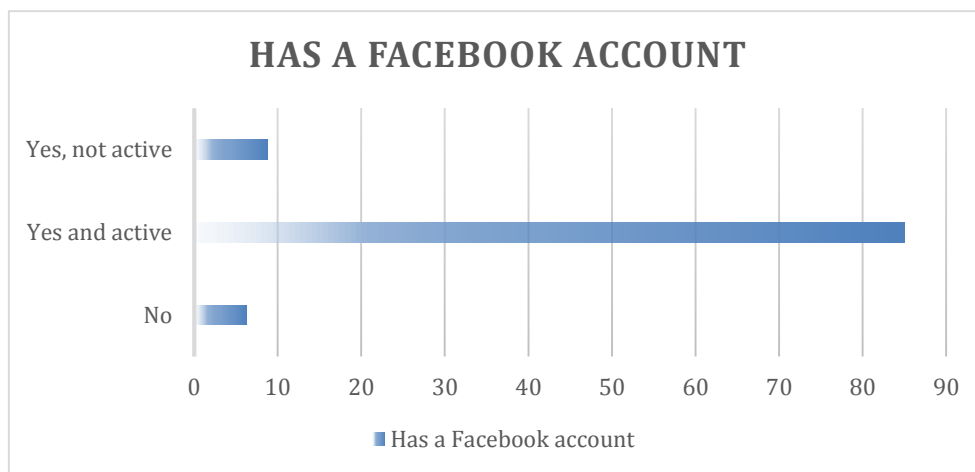
Per Figure 11 below, only 16% of respondents follow their City's Facebook account. Of the respondents that do follow their City's Facebook account, only 5% responded as being actively engaged, and 6.3% do so to seek for information.

Figure 11 Follows City's Facebook account
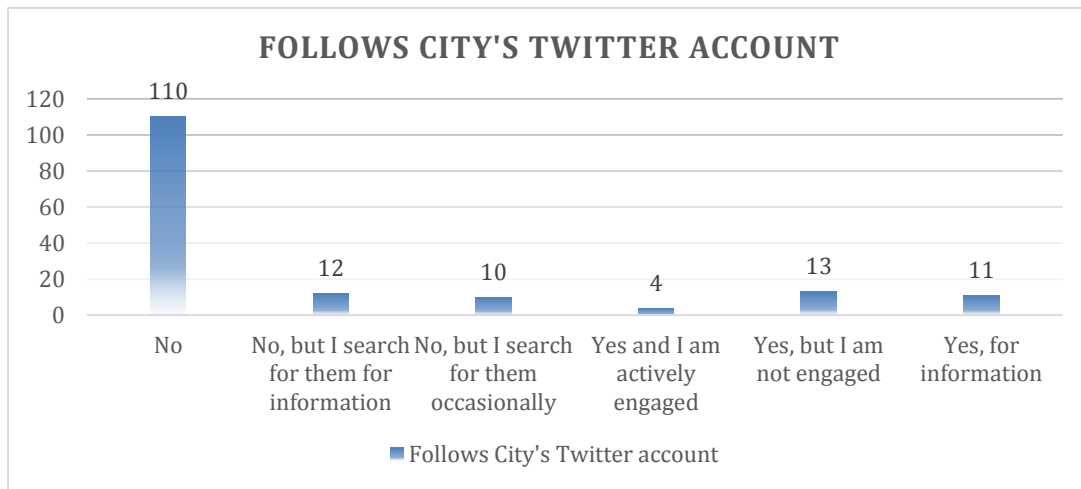

FOLLOWS CITY'S FACEBOOK ACCOUNT
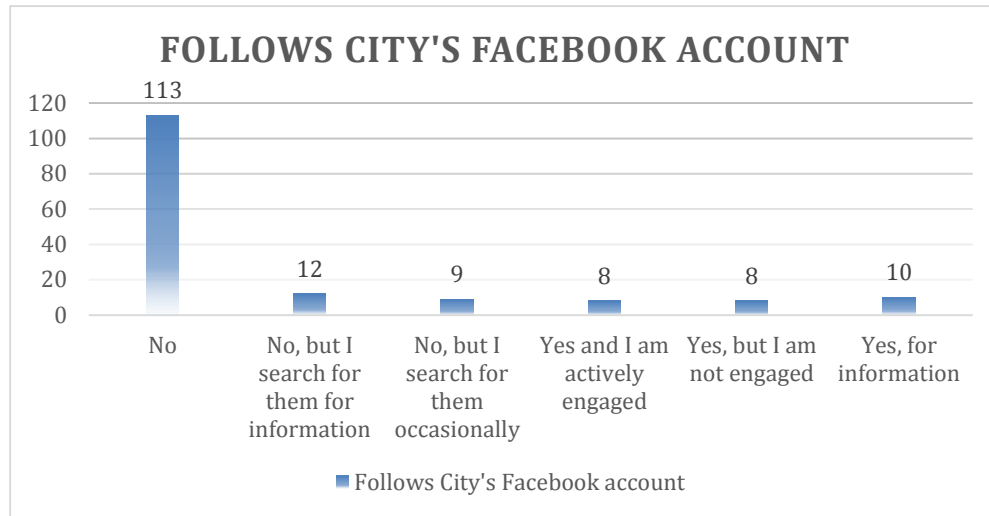
Reliability

Table 11 Reliability: Social media engagement and satisfaction

Construct	Cronbach's Alpha	No. of items
Social media engagement	0.663	12
Satisfaction	0.879	35

Inferential Statistics

Factor Analysis

For each construct the researcher would like to determine for each construct what variables are contributing to the construct and what is the weighting of the contribution. Two factor analyses (FA) were run for each of the constructs, Social Media Engagement and

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Satisfaction respectively. Before using FA, the researcher assessed the suitability of the method by verifying whether the determinant was zero.

In as much as the researcher has grouped the variables according to two constructs, it is necessary and efficient that an FA be run to ascertain the constructs using the underlying relationships.

Social Media Engagement

For social media engagement the determinant was 5.485E-5 (E-5 represents that the exponent is to the power of 5) and as it is greater than zero, it indicated that it was suitable.

Two other tests were performed to confirm the suitability of the use of the exploratory factor analysis, namely the Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity.

Social Media Engagement's KMO measure was 0.847 and is suitable. Its Bartlett's Test of Sphericity was .000 which is less than 0.05 indicating that the method was appropriate.

Table 12 Exploratory Factor Analysis of Social Media Engagement

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.847
Bartlett's Test of Sphericity	Approx. Chi-Square	1492.884
	df	66
	Sig.	.000

Determinant= 5.485E-5

Satisfaction

Satisfaction's determinant was 9.055 E-9 (E-9 represents that the exponent is to the power of 9) and as it is greater than zero, it indicated that it was suitable.

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Two other tests were performed to confirm the suitability of the use of the exploratory factor analysis, namely the Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity.

Satisfaction's KMO measure was 0.821 and is suitable. Its Bartlett's Test of Sphericity was .000 which is less than 0.05 indicating that the method was appropriate.

Table 13 Exploratory Factor Analysis of Satisfaction

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.821
Bartlett's Test of Sphericity	Approx. Chi-Square	2657.609
	df	595
	Sig.	.000

Determinant = 9.055 E-9

Total Variance Explained

Social Media Engagement

Three components explain 68.24% of the variance. The three components were identified by choosing those with Eigenvalues greater than one as illustrated in Table 14 below.

Table 14 Total Variance of Social Media Engagement explained

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.207	43.388	43.388	5.207	43.388	43.388	3.572	29.766	29.766
2	1.896	15.798	59.186	1.896	15.798	59.186	3.518	29.316	59.082
3	1.087	9.056	68.242	1.087	9.056	68.242	1.099	9.160	68.242

Extraction Method: Principal Component Analysis.

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The components Matrix was rotated using the Orthogonal Varimax rotation method, a technique used in factor analysis to produce factor structures that are uncorrelated.

From the rotated component matrix in Table 15 below, the researcher can determine which variables contribute to a construct and can give a name / theme to represent the construct. The first factor's theme is identified as Facebook engagement indicating that Facebook Engagement has a greater weighting compared to Twitter Engagement.

The variable with highest loading for Facebook Engagement is how often an individual comments on a post shared by their City's Facebook account.

The second factor's theme is identified as Twitter engagement. The variable with the highest factor loadings for Twitter Engagement is how often an individual retweets a tweet by their City's Twitter account.

The third factor's theme is identified as the existence of a Social Media Account. Interestingly here, the existence of a Twitter account was a stronger component than the existence of a Facebook account. However, as the third construct only has less than three components, it will be discarded as a meaningful interpretation cannot be made.

Therefore there are only two components, Facebook Engagement and Twitter Engagement.

Table 15 Rotated Component Matrix for Social Media Engagement

Rotated Component Matrixª

	Component		
	1	2	3
How often did you comment on a post shared by your City's Facebook account?	.914		
How often did you share a post shared by your City's Facebook account?	.892		
How often are your questions on the City's Facebook account responded to appropriately?	.831		
How often did you like a post shared by your City's Facebook account?	.780		
Do you follow the Facebook account of the City that you reside in?	-.605		
How often did you retweet a tweet by your City's Twitter account?		.927	
How often did you favourite a tweet by your City's Twitter account?		.915	
How often did you reply to a tweet by your City's Twitter account?		.896	
How often are your questions on the City's Twitter account responded to appropriately?		.724	
Do you follow the Twitter account of the City that you reside in?		-.492	
Do you have an active Twitter account?			.726
Do you have a Facebook account?			.717

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 4 iterations.

Satisfaction

Nine components explain 67.3% of the variance. The nine components are identified by choosing those with Eigenvalues greater than one, three of these are illustrated in Table 16 below. Refer to Appendix B for the complete matrix.

Table 16 Total Variance for Satisfaction explained

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.688	24.822	24.822	8.688	24.822	24.822	4.063	11.610	11.610
2	3.581	10.232	35.054	3.581	10.232	35.054	3.152	9.005	20.615
3	2.778	7.936	42.990	2.778	7.936	42.990	3.024	8.641	29.256
4	2.203	6.295	49.285	2.203	6.295	49.285	2.763	7.895	37.150
5	1.584	4.525	53.810	1.584	4.525	53.810	2.587	7.391	44.541
6	1.381	3.946	57.756	1.381	3.946	57.756	2.418	6.908	51.449
7	1.199	3.426	61.182	1.199	3.426	61.182	2.270	6.485	57.934
8	1.138	3.250	64.432	1.138	3.250	64.432	1.724	4.925	62.859
9	1.005	2.870	67.303	1.005	2.870	67.303	1.555	4.443	67.303

Extraction Method: Principal Component Analysis.

From the rotated component matrix in Table 18, the researcher can determine which variables contribute to a construct and can give a representative name / theme to the identified construct. The first factor's theme is identified as Service delivery indicating that service delivery has the strongest weighting of the nine factors identified.

Table 17 Constructs identified for Satisfaction

Number	Construct	Strongest Variable
One	Service Delivery	Protected by the Police
Two	Economic and career growth	Good job and promotion activities
Three	Nature and environment	A lot of nature and green public areas
Four	Attractiveness of the City	I have confidence in the people running the Metropolitan City
Five	Standard of living	General price of level / Costs of living
Six	Diversity	Many different cultures and sub-cultures
Seven	Lifestyle	A variety of shopping opportunities
Eight	Public Infrastructure	Garbage Collection

The ninth component has less than three variables and therefore is a weak component, however as the variables of this factor are closely related to the eighth factor, the researcher has chosen to combine the two instead of discarding the variables of the ninth factor.

Table 18 Rotated Component Matrix for Satisfaction

Rotated Component Matrix[a]

	Component								
	1	2	3	4	5	6	7	8	9
Protected by the police	.875								
Police-community relations	.845								
Street and road maintenance	.588								
Cleanliness of the streets and sidewalks	.587								
Fire protection	.576								
Public education (K-12)	.496							.461	
Environmental quality (low pollution)	.471								
Good job and promotion opportunities		.814							
The general level of wages		.800							
Professional networks		.788							
General economic growth		.671							
A lot of nature and public green areas			.780						
A number of parks, playgrounds and open spaces			.757						
A wide range of outdoor-activities			.734						
Tranquillity of the city			.486						

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 34 iterations.

Hypothesis Testing

Research Question One: Is there a relationship between social media engagement on the City's SNS account and the City's brand?

In order to test the null hypothesis, social media engagement with the City's SNS account needs to be confirmed. To confirm this, a confirmatory factor analysis was conducted below. Proxies were used to represent the constructs as noted in Table 19 and Table 21 below.

Engagement on the City's SNS account

Table 19 List of Proxies for testing social media engagement

Proxy	Social Media Engagement variables
EN1	How often did you comment on a post shared by your City's Facebook account?
EN2	**How often did you share a post shared by your City's Facebook account?**
EN3	**How often are your questions on the City's Facebook account responded to appropriately?**
EN4	**How often did you like a post shared by your City's Facebook account?**
EN5	Do you follow the Facebook account of the City that you reside in?
EN6	How often did you retweet a tweet by your City's Twitter account?
EN7	How often did you reply to a tweet by your City's Twitter account?
EN8	How often are your questions on the City's Twitter account responded to appropriately?

In the confirmatory factor analysis conducted, the variables with the highest loading and hence have the largest influence on engagement; as well as the variables that explain the largest portion of variation (R^2) within engagement.

From the data gathered and analysed in Figure 12 and Table 20 , the respondents are engaged through Facebook.

Figure 12 Confirmatory Factor Analysis for social media engagement path value
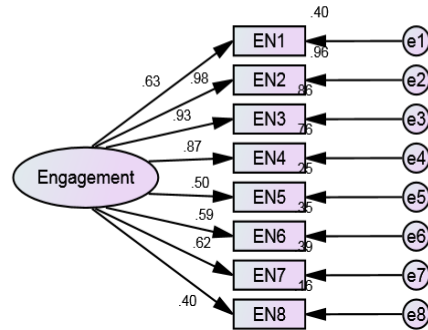

Table 20 Factors where respondents were engaged

Variable	Factor loading	R^2 greater than 0.5
EN2	.98	.96
EN3	.93	.86
EN4	.87	.76

Relationship between Facebook engagement and a City's brand

Table 21 Proxies: Research question one

Construct	Proxy	Reason
Social media engagement - Facebook	How often did you comment on a post shared by your City's Facebook account?	Variable with the highest factor loadings for Facebook Engagement – as per Table 14.
Social media engagement - Twitter	How often did you retweet a tweet by your City's Twitter account?	Variable with the highest factor loadings for Twitter Engagement – as per Table 14.
City's brand	'A great place to live in'	Represents overall citizen satisfaction

The Pearson Chi-Square is less than 0.05, indicating that there is a statistically significant relationship between the proxy for Facebook Engagement and the proxy for a City's Brand. Therefore the null hypothesis is rejected.

*Table 22 Pearson Chi-Square: A great City to live in * How often did you comment on a post shared by your City's Facebook Account?*

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	54.151[a]	30	.004
Likelihood Ratio	37.651	30	.159
Linear-by-Linear Association	3.456	1	.063
N of Valid Cases	157		

a. 35 cells (83.3%) have expected count less than 5. The minimum expected count is .01.

Relationship between Twitter engagement and a City's brand

The Pearson Chi-Square is less than 0.05, indicating that there is a statistically significant relationship between the proxy for Twitter Engagement and the proxy for a City's Brand. Therefore the null hypothesis is rejected.

Table 23 Pearson Chi-Square: A great City to live in * How often did you retweet a tweet by your City's Twitter Account?

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	51.415[a]	36	.046
Likelihood Ratio	26.523	36	.876
Linear-by-Linear Association	.028	1	.867
N of Valid Cases	158		

a. 41 cells (83.7%) have expected count less than 5. The minimum expected count is .01.

Research Question Two: Which citizen satisfaction variable has the strongest relationship with a citizen's satisfaction?

The results from the factor analysis conducted above inTable 18, the variable Police Protection came out as the variable with the highest loading for Citizen Satisfaction.

Analysing the correlation matrix in Table 24 below for the variable: 'Protected by the police' and its statistically significant relationships with Citizen Satisfaction variables – at a confidence level of 95% - all relationships noted are positively correlated. The relationships with a large effect are:

- Police-community relations
- Street and road maintenance

The relationships with a moderate effect are:

- Ease of travel by public transportation
- Ease of car travel
- Fire protection
- Environmental quality (low pollution)
- Cleanliness of the streets and sidewalks
- Tranquillity of the city
- Access to water
- Public education (K-12)
- Public Libraries

Table 24 Correlations for Protected by the Police and its statistically significant Citizen Satisfaction variables

Correlations

		The availability of different services	The urban image	A lot of nature and public green areas	Environmental quality (low pollution)	A number parks, playgrounds and open spaces	A wide range of outdoor-activities	Tranquility of the city	Cleanliness of the streets and sidewalks	Access to water	Garbage collection	General economic growth	Housing market / cost of rentals	The general price level / costs of living	Police-community relations	Fire protection	Street and road maintenance	Ease of car travel	Ease of travel by public transportation	Public education (K-12)	Public libraries
Protected by the police	Pearson Correlation	.276**	.159*	.220**	.418**	.189*	.182*	.389**	.466**	.312*	.253*	.200*	.166*	.180*	.803**	.467**	.503**	.400**	.380**	.471**	.316*
	Sig. (2-tailed)	.000	.044	.005	.000	.017	.021	.000	.000	.000	.001	.011	.036	.023	.000	.000	.000	.000	.000	.000	.000
	N	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Research Question Three: Do the variables with the greatest influence on Citizen Satisfaction have a relationship with social media engagement?

Using the variables from the top three constructs within Citizen Satisfaction, as well as the variables that represent engagement amongst the respondents, the Kruskal Wallis test was conducted to test their relationship. The proxies utilised during this test are depicted in Table 25 below.

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Table 25 Proxies: Research question three

Proxy	Social Media Engagement Variable	Proxy	Citizen Satisfaction variables
EN1	How often did you comment on a post shared by your City's Facebook account?	SD1	Protected by the police
EN2	**How often did you share a post shared by your City's Facebook account?**	**SD2**	**Police-community relations**
EN3	**How often are your questions on the City's Facebook account responded to appropriately?**	SD3	Street and road maintenance
EN4	**How often did you like a post shared by your City's Facebook account?**	SD4	Cleanliness of the streets and sidewalks
EN5	Do you follow the Facebook account of the City that you reside in?	SD5	Fire protection
EN6	How often did you retweet a tweet by your City's Twitter account?	SD6	Public education (K-12)
EN7	How often did you reply to a tweet by your City's Twitter account?	**SD7**	**Environmental quality (low pollution)**
EN8	How often are your questions on the City's Twitter account responded to appropriately?	SD8	Good job and promotion opportunities
		SD9	The general level of wages
		SD10	**Professional networks**
		SD11	General economic growth
		SD12	A lot of nature and public green areas
		SD13	A number parks, playgrounds and open spaces
		SD14	A wide range of outdoor-activities
		SD15	Tranquillity of the city

There is a statistical significant relationship between EN2 and SD 10 and SD2. Therefore reject the null hypothesis for the identified variables.

Table 26 Kruskal Wallis test results for EN2's relationship with top three Citizen Satisfaction components

Test Statistics[a,b]

	SD12	SD7	SD13	SD14	SD15	SD4	SD9	SD8	SD11	**SD10**	SD1	**SD2**	SD5	SD3
Chi-Square	7.891	6.348	7.479	5.448	3.337	6.485	5.510	7.223	10.175	12.952	11.533	13.355	9.274	7.904
df	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Asymp. Sig.	.246	.385	.279	.488	.766	.371	.480	.301	.117	**.044**	.073	**.038**	.159	.245

a. Kruskal Wallis Test

b. Grouping Variable: EN2

There is a statistical significant relationship between EN3 and SD 10, SD5 and SD7. Therefore reject the null hypothesis for the identified variables.

Table 27 Kruskal Wallis test results for EN3's relationship with top three Citizen Satisfaction components

Test Statistics[a,b]

	SD12	**SD7**	SD13	SD14	SD15	SD4	SD9	SD8	SD11	**SD10**	SD1	SD2	**SD5**	SD3
Chi-Square	6.187	12.193	3.036	5.766	10.234	6.652	7.591	2.946	4.066	11.297	5.902	4.927	11.378	5.125
df	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Asymp. Sig.	.288	**.032**	.694	.330	.069	.248	.180	.708	.540	**.046**	.316	.425	**.044**	.401

a. Kruskal Wallis Test

b. Grouping Variable: EN3

There are no statistically significant relationships between EN4 and the top three citizen satisfaction components. Therefore accept the null hypothesis.

Table 28 Kruskal Wallis test results for EN4's relationship with top three Citizen Satisfaction components

Test Statistics[a,b]

	SD12	SD7	SD13	SD14	SD15	SD4	SD9	SD8	SD11	SD10	SD1	SD2	SD5	SD3
Chi-Square	3.438	5.821	3.537	9.698	6.462	2.617	2.758	4.347	2.908	5.186	5.437	6.675	5.921	4.034
df	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Asymp. Sig.	.842	.561	.831	.206	.487	.918	.906	.739	.893	.637	.607	.463	.549	.776

a. Kruskal Wallis Test

b. Grouping Variable: EN4

Conclusion

From the results described above with regards to the research questions developed in Chapter Three, insight can be garnered into how citizens engaged on their City's SNS account view their City, as well as what component of Citizen Satisfaction has potentially the strongest influence on how they perceive their City's brand.

It is noted that whilst a large number of respondents are active on SNS (49% on Twitter and 85% on Facebook), only 18% follow their City's Twitter account, and 16% follow their City's Facebook account. The respondents are also largely represented by the upper class. Majority were between the ages of 31 and 40.

The results observed within this Chapter have the following implications for the research questions:

Research Question One: Is there a relationship between social media engagement on the City's SNS account and the City's brand?

- Facebook engagement has an impact on Citizen Satisfaction.
- Twitter engagement has an impact on Citizen Satisfaction

Research Question Two: Which citizen satisfaction component has the strongest relationship with a citizen's satisfaction?

- Protection from the police has the strongest relationship with a Citizen's satisfaction
- Protection from the police is strongly associated with Police-community relations; and Street and Road maintenance

Research Question Three: Do the variables with the greatest influence on Citizen Satisfaction have a relationship with social media engagement?

- How often a respondent shared a post shared by your City's Facebook account, had a relationship with Police-Community relations and Professional Networks.
- How often a respondents' questions on their City's Facebook account was responded to appropriately, had a relationship with Police-Community relations, Professional Networks and Environmental Quality (low pollution).

Impact and analysis of these results are discussed in detail in Chapter Six.

Chapter 6 – Discussion of Results

Introduction

Citizen satisfaction and place branding has been debated of late due to the desire for locations to differentiate themselves from one another in an effort in attracting residents, investment and / or visitors to encourage economic growth. As globalisation diminishes borders that protected some places and closed out others, competition has grown rife.

Social media has only added to this by enabling people the ability to access services from local government officials, given them a platform to critique this service and a mechanism to gather information on a place prior to making a move, planning a trip or investing.

Results from Chapter Five indicate that social media engagement on a City's Facebook and Twitter accounts is moderately related to how that City's brand is perceived.

Research Question One: Is there a relationship between social media engagement on the City's SNS account and the City's brand?

Social media engagement – and in particular SNS activity – measurement is for the most part standardised, in that actions (Agostino, 2013) by users are observed in relation to the SNS's functionality (Bonsón & Ratkai, 2013). Bonsón & Ratkai's (2013) metrics include: Popularity (number of likes on Facebook post), Commitment (number of comments on Facebook post) and Virality (number of shares of Facebook post) with Agostino (2013) considering the number of actions by a citizen on a page.

To test engagement on SNS would require a sample of respondents who were active users of SNS, even if they weren't followers of their City's SNS accounts. The results from this study found that Facebook was the preferred SNS of the two tested, with 85% of respondents active. Twitter's membership was still represented amongst the respondents, with 49%. However, Twitter users displayed a slightly higher level of following of their City's SNS account despite their lower representation, with 18% of respondents compared to Facebook's 16%.

The majority of respondents resided in Gauteng, 81%, with 63% residing in the City of Johannesburg. This could be as a result of the researcher's SNS network, but also that

the City of Johannesburg's social media strategy, that is presently more active than the other seven metropolitan Cities.

Active SNS accounts and engagement through SNS accounts have been found to influence a citizens' views of their City and even reduce negative perceptions (Agostino, 2013; Kaplan and Haenlain, 2010; and Morgeson et al., 2010).

From the tests conducted in Chapter Five, engagement was found mainly with Facebook. Eight variables were used to test for engagement for both Facebook and Twitter, namely:

Table 29 Social media engagement variables

Variable no.	Social Media Engagement variables
1	How often did you comment on a post shared by your City's Facebook account?
2	How often did you share a post shared by your City's Facebook account?
3	How often are your questions on the City's Facebook account responded to appropriately?
4	How often did you like a post shared by your City's Facebook account?
5	Do you follow the Facebook account of the City that you reside in?
6	How often did you retweet a tweet by your City's Twitter account?
7	How often did you reply to a tweet by your City's Twitter account?
8	How often are your questions on the City's Twitter account responded to appropriately?

The variables with the largest factor loading and therefore largest influence on engagement were: 'How often did you share a post shared by your City's Facebook account?', 'How often are your questions on the City's Facebook account responded to appropriately' and 'How often did you like a post shared by your City's Facebook account?'. This is not unexpected given that Facebook does not limit its characters as Twitter does – limited to 140 characters – allowing for longer conversations, and deeper explanations that could mimic an in person conversation. This was quite interesting given that Facebook users that follow their City's Facebook account were only 16% and of those 16%, only 5% considered themselves actively engaged with their City's Facebook account.

The variable used in the tests conducted to determine which SNS platform had an influence on how a citizen viewed their City's brand was: 'A City that I would live in', chosen as a representative of overall Citizen Satisfaction. The variable used to represent Facebook engagement was: 'How often did you comment on a post shared by your City's

Facebook account?' Although the variables: 'How often did you share a post shared by your City's Facebook account?', 'How often are your questions on the City's Facebook account responded to appropriately' and 'How often did you like a post shared by your City's Facebook account?' explained the engagement identified from the respondents: 'How often did you comment on a post shared by your City's Facebook account?' had the largest factor loading of Facebook engagement – and therefore was deemed the most representative variable.

The variable used to represent Twitter engagement was: 'How often did you retweet a tweet by your City's Twitter account?' as it had the largest factor loading of Twitter engagement.

The results from the tests done, showed that both Facebook and Twitter engagement had an influence on how a citizen viewed their City as a place to live in. This was in line with what Agostino (2013), Kaplan and Haenlain (2010) and Morgeson et al. (2010) expected. What was interesting to note, was that despite the respondents' low levels of following their City's SNS accounts, those who did – were clearly more engaged than they realised on Facebook.

Whilst Facebook engagement is higher than Twitters, they both can play a role in influencing how citizens view their City's brand.

Research Question Two: Which citizen satisfaction construct has the strongest relationship with a citizen's satisfaction?

Understanding what factor plays the most influential role in how local government is perceived by citizens and visitors, how satisfied they are with their service delivery and in effect what associations they attribute to their City – and in effect what determines their brand in the view of their 'customers'. Glaser and Hildreth (2004) argues that overall citizen satisfaction is a key criterion for identifying what aspects of service delivery are of most importance to a citizen, with Zenker and Seigis (2012) finding that respect was the most important factor. Zenker et al.'s (2013) findings were that in Germany, the Urbanity and Diversity of the City was the most influential component of satisfaction for citizens; and Van de Walle and Van Ryzin's (2011) research revealed that citizen's responses around satisfaction varied depending on the design of the questionnaire, suggesting that questions around police protection, police-community relations, fire

protection and ease of travel in a car, rated higher when they were positioned after general questions – perhaps due to the effect that answering general questions about a City potentially had on the psyche of the respondents. Zenker et al. (2013) argue that regular surveys can enable local government to identify any changes and problems in a citizen's perceptions, however given Van de Walle and Van Ryzin's (2011) findings, changes in results could be as a result of other factors.

Results from this study have revealed that the components that had the strongest factor loadings – weightings – was service delivery, economic career and growth, and nature and environment. With 'Protection from the Police', 'Police-community relations', 'Good job and promotion opportunities', and 'The general level of wages' showing the largest loadings within their components. Protection from the Police had the strongest impact on a citizen's perception of satisfaction, and its strongest relationship with the other variables was with Police-community relations and street and road maintenance. The differences in results from that of Zenker et al. (2013) was to be expected, as they had noted that their study's limitation was that it only looked at German cities – with the potential of cultural influences playing a role in how citizens ranked the importance of the factors of satisfaction.

Azoulay and Kapferer (2003) state that brand personality is a set of human traits, therefore the variances in rankings of factors that contribute to citizen satisfaction could be due to the human traits inherent in a City's culture.

Interestingly, during Zenker et al.'s (2013) study, factors that were linked to 'Protection from the Police' and 'Police-community relations' – Crime Rate and Support and service from the local authorities – were removed from their Citizen Satisfaction Index (CSI) as they did not have any significant influence on a citizen's perceptions of their City's brand. This stark difference in perceptions between German and South African residents' view of police protection and engagement with the police – by extension crime rate – indicates that whilst Germans may not have crime on their minds, they are concerned with the urbanity and diversity of their cities (Zenker et al., 2013). This could be an indication of the levels of crime rate within South Africa when compared to Germany; it could also be a result of the levels of development, the economic state and income inequality difference between these two countries.

The role that media coverage plays in influencing how citizens perceive a City's brand has not been tested in this study, nor have the other factors excluded by Zenker et al.

(2013) which include: private reasons for satisfaction, such as family bonds, relationships and other private SNS factors which can play a key role in why a person chooses to reside in a city. These could give insight into the stark differences in factor rankings.

Protection from the Police' and 'Police-community relations' were the highest ranking factors for the respondents. Their strong correlation is also not surprising. This is not surprising, given the perceptions of high levels of crime within South Africa. With the high unemployment rates and an underperforming growth rates presently in South Africa, it is also not surprising that 'Good job and promotion opportunities', and 'The general level of wages' were ranked third and fourth most important, respectively.

The strong correlation between Protection from the Police and Street and road maintenance was interesting, given that the two variables' locus of control lies within different government departments, namely the Department of Public Works and the Department of Justice and Constitutional Development (nationally).

The majority of respondents were classified as upper class (Visagie and Postel, 2013), as at least 83% of respondents had a household income of more than R 12 000 – Visagie and Postel (2013) have defined upper class, per the middle-class affluence, as household income of at least R 10 000. This skewed view of the relatively affluent class within the South African context (Visagie and Postel, 2013) could give insight into the resulting rankings. It must be noted that the majority of respondents were Gauteng residents, as it is popularly considered South Africa's economic hub, this could explain why the respondents' household income was as affluent as it was.

The gender demographics were balanced, and the racial and citizenship demographics were representative of the population, therefore whilst the views may have been skewed towards the economically affluent, the spread within that group was representative of the racial mix within South Africa, indicating that citizen satisfaction within South Africa may have some cultural nuances, but these nuances are not necessarily based on ethnicity but a more national culture.

Another factor not considered in this study was the role that brand ambassadors / influencers may have on a citizen's perception of the city (Booth & Matic, 2011). That whilst traditionally viewed as mechanisms through which one could control one's brand, awareness of brand influencers not controlled by the City (Booth & Matic, 2011), yet

influencing how citizens view that City based either on their position, their rhetoric or their following.

Research Question Three: Do the variables with the greatest influence on Citizen Satisfaction have a relationship with social media engagement?

The tests conducted have indicated that SNS engagement on either Facebook or Twitter can influence citizens' perceptions, however citizens are most engaged using Facebook when using 'A great place to live in' as a proxy for a City's brand.

However, the variables that were found to have the strongest influence on a citizens' perception of satisfaction are: 'Protection from the Police', 'Police-community relations', 'Good job and promotion opportunities', and 'The general level of wages'.

Therefore it was prudent that a test be conducted to understand if Facebook engagement had an effect on these variables, as this could have important implications for a City's social media strategy, as well as for its brand – in that if social media strategies are not focused on the correct variables, they are in effect a distraction (Kavaratzis and Ashworth, 2005).

The results of the tests conducted were not very promising for social media as platform for service delivery, but gave some insight into what the respondents deemed to be appropriate variables for engagement on through SNS accounts.

The variables used for Social media engagement were the three variables that represented engagement on SNS from the respondents: 'How often did you share a post shared by your City's Facebook account?', 'How often are your questions on the City's Facebook account responded to appropriately' and 'How often did you like a post shared by your City's Facebook account?'.

The dependent variables representing citizen satisfaction were the 15 variables that made up the top three components of citizen satisfaction (Service Delivery, Economic and career growth, Nature and environment):

Table 30 Variables representing the top three citizen satisfaction components

Variable no.	Citizen Satisfaction Variable
1	Protected by the police
2	**Police-community relations**
3	Street and road maintenance
4	Cleanliness of the streets and sidewalks
5	Fire protection
6	Public education (K-12)
7	**Environmental quality (low pollution)**
8	Good job and promotion opportunities
9	The general level of wages
10	**Professional networks**
11	General economic growth
SD12	A lot of nature and public green areas
SD13	A number parks, playgrounds and open spaces
SD14	A wide range of outdoor-activities
SD15	Tranquillity of the city

Of the 15 variables tested for a relationship with the three independent Facebook engagement variables, only three had a relationship.

When a citizen shared their City's Facebook post, this engagement had an influence on how they perceived Police-community relations and professional networks. This is not unexpected given that the nature of SNS accounts is to network, and therefore their City's posts that were related to professional networking would have a positive influence on their perception of their City's professional network. Police-community relations are in effect positively influenced by engagement as the very nature of that variable is to interact and engage.

When a respondent's questions on their City's Facebook account were answered appropriately, their perceptions of Police-community relations, professional networks and environmental quality (low pollution) was positively influenced. This result was similar to the one noted above, however interestingly, how a respondent viewed their City's environmental quality was also influenced. As no open-ended questions were asked about respondents choices, only an educated assumption can be made as to why this would be. Given that the environmental quality related to low pollution, perhaps the

engagement here related to questions raised about garbage collection, or policies concerning the environment.

When a citizen liked a post shared by their City's Facebook account, it had no influence on any of the 15 variables identified.

Conclusion

These results infer that whilst sharing, commenting and liking had an influence on how the respondents viewed their City, this was limited to specific variables whose nature was facilitated by Facebook's networking and communication functionalities. This was probably due to the convenience that Facebook offered respondents without limiting their characters, as Twitter does. However both Twitter and Facebook engagement had a positive influence on how a respondent viewed their City as a place to live in.

The variables that have the largest influence on citizen satisfaction were the only variables tested for Facebook engagement influence, and perhaps if the other variables excluded were tested, the results would reveal more promising opportunities for social media campaigns.

Protection from police and Police-community relations both had significantly larger weightings for citizen satisfaction, which could be testimony to the high levels of fear around crime within South Africa. National culture could explain these rankings, as race was appropriately representative of South Africa.

Despite a large portion of respondents being active on Facebook, a small number followed their City's Facebook account. Majority of respondents were from affluent households and this may have added an element of bias in the variables that were deemed the most important for citizen satisfaction, as well as not truly representing the South African SNS active population's views on engagement on their City's SNS accounts, nor that engagements relationship with a City's brand.

Majority of respondents reside in Gauteng and fall within the affluent economic category, therefore any skewness identified could be explained in through the combination of these factors – and in effect given Gauteng's perceived affluence, the population may be a representative of the Gauteng province – but not South Africa.

Chapter 7 - Conclusion

The main objective of this research was to understand if social media engagement had the ability to influence how a resident and visitor viewed a City. The subordinate objectives were a) to confirm which of the constructs identified as indicators of satisfaction with local government and a City – and by extension a City's brand – had the largest influence on how a resident or visitor viewed a City; b) to understand if the identified construct could be influenced by City officials using social media – in particular Facebook and Twitter.

Past studies have looked at citizen engagement on their government's SNS accounts, they have looked at Citizen Satisfaction and its role as influencing a City's Brand, but the combination was not done.

Implications of this research:

One of the main findings of this research was that engagement on a City's SNS accounts does have a positive influence on how a citizen views their City as a place to live in, with Facebook showing the largest propensity for engagement.

The variable with the largest effect on a citizens' sense of satisfaction was feeling protected by the police, as well as having a positive relationship with the police within their communities. However, on the later was positively influenced by Facebook engagement and even then, only when engagement was sharing a post by their City's Facebook account or having their questions posted on their City's Facebook account answered.

This indicates that whilst the networking and communication capabilities of Facebook had a positive influence on at most three of the most influential variables for citizen satisfaction, there were 12 other variables that were not influenced by SNS engagement. The City of Johannesburg had the largest representatives, and therefore the findings here could be considered of value with regards to their current social media strategy that includes the recently launched #IKnowMyJoburg that is seeking to engage City of Johannesburg citizens, in particular the Youth, in identifying what they see as the service delivery given by the City of Johannesburg. Given that the findings are that service delivery related activities were found to be most influential on how satisfied a respondent

felt with the City's overall brand, but that not all of this activities were influenced through SNS engagement, the City of Johannesburg may need to tailor their campaign to target the variables that are influenced by SNS engagement instead of looking at service delivery as an entire construct. Whilst only 19% of respondents were 30 years old or younger, 70% were between the ages of 31 and 40, and therefore this could still have an implication on their service delivery initiative.

Future research

A limitation of this study was in the manner in which data was gathered. Using a questionnaire to measure social media engagement, whilst convenient and cost-effective, may have yielded results tainted with bias due to for instance the mood that the respondent was in, the timing of the questionnaire and the design of the questionnaire (Van de Walle and Van Ryzin's, 2011).

The sample targeted may have had skewed point of views, given the household income demographics of the respondents skewed towards the upper class (Visagie and Postel, 2013). This indicates that the responses used to analyse the relationship between social media engagement and a City's brand potentially may not be representative of the population of South Africa.

The sample selected, whilst depicting a majority of active SNS users, were not all SNS users, and only 16% of respondents followed their City's Facebook account, and 16% Twitter. Future studies could limit the population to strictly active SNS active users, and even only followers of their City's SNS accounts.

Future studies could expand on the sample selected through the mechanisms used to disseminate the survey for instance only using social media sites, getting the metropolitan Cities to help promote the survey to increase responses and adding other social media platforms such as WhatsApp community forums to reach a larger portion of the population.

In addition to using data gathered from surveys, gathering secondary data directly from the social media sites – Facebook and Twitter – may reduce that potential bias. This could be done through the analysis of retweet / mention networks of the metropolitan Cities – however caution would need to be heeded with using such a method due to the

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wide variety of topics discussed on social media that may not relate to the City and associations linked to it (Sevin, 2014). There would also need to be a means of differentiating short-term associations from long-term associations in the analysis (Sevin, 2014).

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Appendices

Appendix A

**Gordon Institute
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Social Media Engagement's Impact on a City's Brand

Welcome to My Survey

Dear Participant,

Thank you for taking the time to participate in this study. This study is to help us to understand the impact that social media engagement of citizens has on a City's brand. We want to understand if your engagement with your City through its social media accounts has an effect on your perceptions of the City's service delivery performance, and ultimately its brand.

Please read these instructions carefully before starting the study:

1. Make sure that you are in a quiet space where you can spend uninterrupted time on this study.

2. Take your time and answer the questions carefully.

3. The answers you will provide are very important and valuable for our research. We thus ask you to give your full attention to the survey.

4. These questions don't have right or wrong answers. We are only interested in your honest opinions.

My Agreement:

1. I willingly agree to participate in the Social Media Engagement Study.

2. I understand that I can discontinue with the questionnaire at any point in time without adverse conditions for me.

3. I understand that taking this questionnaire is up to me and it is okay if I change my mind and want to stop.

4. I understand that the information collected will be kept in a safe place to ensure confidentiality.

5. I understand that I will remain anonymous and all responses will be kept private.

6. I understand that I can ask any questions that I have about the study at any time by contacting:

a. Ms Charlie Luzuka at 444913@mygibs.co.za

b. Mr Manoj Chiba at ChibaM@gibs.co.za

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* 1. Do you agree to the conditions presented above?

◯ Yes

◯ No

Please read the questions and the instructions that follow carefully. Where options are provided, please select the answer that most applies to you. There are no right or wrong answers.

If you are ready to start, please click on the "Next" button.

Next

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Social Media Engagement's Impact on a City's Brand
Demographic Questions

* 2. Gender

◯ Female

◯ Male

◯ Other

* 3. Age

◯ 0 - 17

◯ 18 - 30

◯ 31 - 40

◯ 41 - 50

◯ 50 and older

* 4. City that you reside in?

* 4. City that you reside in?

5. Hometown

* 6. Race

* 7. Citizenship

* 8. Highest level of education

* 9. Household income

* 10. Suburb that you reside in

Prev   Next

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Social Media Engagement's Impact on a City's Brand

Social Media Engagement

* 11. Do you have an active Twitter account?

○ Yes and active

○ Yes, not active

○ No

* 12. Do you follow the Twitter account of the City that you reside in?

○ Yes and I am actively engaged

○ Yes, for information

○ Yes, but I am not engaged

○ No, but I search for them occasionally

○ No, but I search for them for information

○ No

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* 13. Do you have an Facebook account?

○ Yes and active

○ Yes, not active

○ No

* 14. Do you follow the Facebook account of the City that you reside in?

○ Yes and I am actively engaged

○ Yes, for information

○ Yes, but I am not engaged

○ No, but I search for them occasionally

○ No, but I search for them for information

○ No

* 15. Please reflect on how you used social media (e.g. Facebook or Twitter) in the last week and respond to the following items.

	Not applicable	Not one day	One day	Two days	Three days	Four days	Five days	Six days	Every day
How often did you like a post shared by your City's Facebook account?	○	○	○	○	○	○	○	○	○
How often did you share a post shared by your City's Facebook account?	○	○	○	○	○	○	○	○	○
How often did you comment on a post shared by your City's Facebook account?	○	○	○	○	○	○	○	○	○
How often are your questions on the City's Facebook account responded to appropriately?	○	○	○	○	○	○	○	○	○
How often did you favourite a tweet by your City's Twitter account?	○	○	○	○	○	○	○	○	○
How often did you retweet a tweet by your City's Twitter account?	○	○	○	○	○	○	○	○	○
How often did you reply to a tweet by your City's Twitter account?	○	○	○	○	○	○	○	○	○
How often are your questions on the City's Twitter account responded to appropriately?	○	○	○	○	○	○	○	○	○

Social Media Engagement's Impact on a City's Brand

Your City's Brand

Theses questions relate to how you perceive the City that you presently reside in.

Urbanity and diversity of your City

* 16. To what extent do you agree with the following statements with regards to the City that you presently reside in?

	Very satisfied	Satisfied	Neither	Dissatisfied	Very dissatisfied
The energy and atmosphere	○	○	○	○	○
A wide range of cultural activities (theatre, nightlife etc.)	○	○	○	○	○
Many different cultures and sub-cultures	○	○	○	○	○
The availability of different services	○	○	○	○	○
A variety of shopping opportunities	○	○	○	○	○
Openness and tolerance	○	○	○	○	○
The urban image	○	○	○	○	○

Nature and recreation in your City

* 17. To what extent do you agree with the following statements with regards to the City that you presently reside in?

	Very satisfied	Satisfied	Neither	Dissatisfied	Very dissatisfied
A lot of nature and public green areas	○	○	○	○	○
Access to water	○	○	○	○	○
Cleanliness of the streets and sidewalks	○	○	○	○	○
A wide range of outdoor-activities	○	○	○	○	○
Garbage collection	○	○	○	○	○
Environmental quality (low pollution)	○	○	○	○	○
A number parks, playgrounds and open spaces	○	○	○	○	○
Tranquility of the city	○	○	○	○	○

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Job opportunities in your City

* 18. To what extent do you agree with the following statements with regards to the City that you presently reside in?

	Very satisfied	Satisfied	Neither	Dissatisfied	Very dissatisfied
Good job and promotion opportunities	○	○	○	○	○
The general level of wages	○	○	○	○	○
Professional networks	○	○	○	○	○
General economic growth	○	○	○	○	○

Cost efficiency of your City

* 19. To what extent do you agree with the following statements with regards to the City that you presently reside in?

	Very satisfied	Satisfied	Neither	Dissatisfied	Very dissatisfied
Housing market / cost of rentals	○	○	○	○	○
The general price level / costs of living	○	○	○	○	○
Availability of apartments and houses	○	○	○	○	○

Safety in your City

* 20. To what extent do you agree with the following statements with regards to the City that you presently reside in?

	Very satisfied	Satisfied	Neither	Dissatisfied	Very dissatisfied
Police-community relations	○	○	○	○	○
Fire protection	○	○	○	○	○
Protected by the police	○	○	○	○	○

* 21. To what extent do you agree with the following statements with regards to the City that you presently reside in?

	Very satisfied	Satisfied	Neither	Dissatisfied	Very dissatisfied
Street and road maintenance	○	○	○	○	○
Ease of travel by public transportation	○	○	○	○	○
Ease of car travel	○	○	○	○	○

Public education in your City

* 22. To what extent do you agree with the following statements with regards to the City that you presently reside in?

	Very satisfied	Satisfied	Neither	Dissatisfied	Very dissatisfied
Public education (K-12)	○	○	○	○	○
Public libraries	○	○	○	○	○

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Overall satisfaction of your City

* 23. To what extent do you agree with the following statements with regards to the City that you presently reside in?

	Strongly Agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
I am confident in the people running the City	○	○	○	○	○	○	○
In general I like living in the City	○	○	○	○	○	○	○
All together I am satisfied with the City	○	○	○	○	○	○	○
The City's services are better than expected	○	○	○	○	○	○	○
The City has become better to live in over the past 5 years	○	○	○	○	○	○	○
I am willing to relocate to another metropolitan city in South Africa	○	○	○	○	○	○	○
In general I do not like the City	○	○	○	○	○	○	○

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Social Media Engagement's Impact on a City's Brand

Rating the Metropolitan Cities of the Republic of South Africa

24. In this section, please select the Metropolitan City that is best representative of the following questions.

	Metropolitan City
A great City to live in	⬍
This City has become better	⬍
I am willing to move here	⬍
I have confidence in the people running the City	⬍
The services offered in this City are better than expected	⬍

[Prev] [Done]

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Rotated Component Matrix[a]

	Component								
	1	2	3	4	5	6	7	8	9
Protected by the police	.875								
Police-community relations	.845								
Street and road maintenance	.588								
Cleanliness of the streets and sidewalks	.587								
Fire protection	.576								
Public education (K-12)	.496							.461	
Environmental quality (low pollution)	.471								
Good job and promotion opportunities		.814							
The general level of wages		.800							
Professional networks		.788							
General economic growth		.671							
A lot of nature and public green areas			.780						
A number parks, playgrounds and open spaces			.757						
A wide range of outdoor-activities			.734						
Tranquillity of the city			.486						
I have confidence in the people running the City - Metropolitan City				.788					
I am willing to move here - Metropolitan City				.726					
The services offered in this City are better than expected - Metropolitan City				.717					
A great City to live in - Metropolitan City				.686					
This City has become better - Metropolitan City				.549					
The general price level / costs of living					.779				
Housing market / cost of rentals					.745				
Availability of apartments and houses					.584				
Many different cultures and sub-cultures						.724			
Openness and tolerance						.708			
The energy and atmosphere						.613			
The urban image						.557			
A variety of shopping opportunities							.763		
The availability of different services							.659		
A wide range of cultural activities (theatre, nightlife etc.)						.476	.536		
Public libraries								.652	
Ease of travel by public transportation								.561	
Ease of car travel								.470	
Garbage collection									.729
Access to water									.528

Appendix C

	RespondentID		RespondentID		RespondentID		RespondentID
1	4156672807	43	4136944169	85	4102859284	128	4088456470
2	4155347336	44	4136621404	86	4102736505	129	4088446908
3	4154270797	45	4136602472	88	4101518058	130	4088446637
4	4150432862	46	4136422178	89	4101501199	131	4088442732
5	4150423092	47	4136237679	90	4101282125	132	4088418485
6	4149761777	48	4136057667	91	4098838757	133	4088411544
7	4148891042	49	4135990396	92	4098603208	134	4088409277
8	4146871940	50	4135973630	93	4097437793	135	4088400365
9	4145494139	51	4135953771	94	4096488838	136	4088391025
10	4144550026	52	4135930414	95	4096466018	137	4088388919
11	4143482295	53	4135924186	96	4096446252	138	4088387405
12	4143469827	54	4135921373	97	4096211194	139	4088386452
13	4143445645	55	4135880351	98	4094919412	140	4088371489
14	4143338486	56	4135805648	99	4094787905	141	4088370346
15	4143174902	57	4135783127	100	4094344638	142	4088364810
16	4143138282	58	4135770964	101	4094328920	143	4088356684
17	4143011736	59	4135608955	102	4094234326	144	4088353144
18	4142706985	60	4135476279	103	4094222496	145	4088346249
19	4142700104	61	4135460235	104	4092324473	146	4088159644
20	4142693915	62	4135454604	105	4091367278	147	4087934804
21	4142568714	63	4135438924	106	4090960893	148	4087870963
22	4141494777	64	4135436924	107	4090842194	149	4087548983
23	4141301165	65	4135412198	108	4090706320	150	4087357734
24	4140222971	66	4135362069	109	4090578793	151	4087206151
25	4139844898	67	4135361852	110	4090564341	152	4087109959
26	4139471760	68	4135356843	111	4090544324	153	4087047121
27	4138941675	69	4127136241	112	4090318974	154	4087005351
28	4138909235	70	4120864012	113	4089357802	155	4086894500
29	4138740392	71	4115694570	114	4089273080	156	4086891446
30	4138233030	72	4115363508	115	4089201425	157	4086888712
31	4138143952	73	4108924985	116	4089172149	158	4086885676
32	4137858461	74	4108691460	117	4088820454	159	4086881616
33	4137402773	75	4108629455	118	4088714053	160	4086864561
34	4137373465	76	4108554636	119	4088688127		
35	4137353640	77	4108435613	120	4088620022		
36	4137349546	78	4107306642	121	4088544537		
37	4137330639	79	4106894477	122	4088508784		
38	4137233481	80	4106423056	123	4088508015		
39	4137214392	81	4105677305	124	4088498788		
40	4137151699	82	4104809465	125	4088486878		
41	4136971461	83	4104591111	126	4088472753		
42	4136951660	84	4102894324	127	4088460738		

Appendix D

**Gordon Institute
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University of Pretoria

Dear Ms Charlotte Luzuka

Protocol Number: **Temp2015-01199**

Title: **The impact of social media engagement on a city's brand - An exploratory study of a city in South Africa**

Please be advised that your application for Ethical Clearance has been APPROVED.

You are therefore allowed to continue collecting your data.

We wish you everything of the best for the rest of the project.

Kind Regards,

GIBS Ethics Administrator