

Use of smartphones by romantic partners to maintain their relationships

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“With God all things are possible” Matthew 19.26

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Abstract

Problem Statement: The way we interact in our relationships is continuously changing as technology advances. Technology can be used to enhance or destroy relationships depending on how people manage their use within relationships. Human relationships especially romantic ones are essential as they have an impact on a person's emotional, mental, and physical well-being. Most of the research to date has focused on the quantitative measurement of the advantages and disadvantages of technology as well as on the problematic use of smartphones. Little research has been done on the effect of smartphones on romantic relationship maintenance.

The purpose of the research: The objective of this research was to find out how individuals in romantic relationships were using their smartphones to maintain their relationships.

Design/methodology: This research followed an interpretivist approach. Data was collected firstly through a discussion on Twitter under the hashtag #“RomanticMaintenancewithSmartphones”. This was then followed by fourteen in-depth semi-structured interviews which were done with individuals who were in romantic relationships or had been in a romantic relationship less than six months ago. A combination of purposive, snowballing and convenience sampling techniques were used. The affordance theory was used as a theoretical framework for the research and the data was analysed using thematic analysis.

Findings: The study identified individual and interactional affordances of smartphones for romantic relationship maintenances. Relationship thinking, breaking away from reality and displaying intimacy and affection were the individual affordances identified in the study. The interactive affordances were showing support and encouragement, planning and organising, openness for conflict management and displaying transparency. Personal values and culture were seen to have an impact on which affordances of smartphones a person utilised. In addition to maintaining the relationship positively, there were also negative outcomes of the actualization of the affordances of smartphones such as unrealistic expectations created on partners and partner abstraction.

Keywords- *affordance, romantic relationship, phubbing ,maintenance, relationship thinking, positivity, conflict management*

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1 Introduction

The purpose of this research was to look at how people in romantic relationships use smartphones to maintain their relationships. Section 1.1 presents the background of the study followed by the problem statement and research questions in Section 1.2 and 1.3, respectively. Section 1.4 summarizes the research methods employed in the study. Section 1.5 explains the significance of the study and section 1.6 presents the structure of the thesis.

1.1 Background

“Technology is here to stay; the only question is how to manage its use effectively in relationships” (Czechowsky, 2008, p.97). The way we interact in our relationships is continuously changing as technology advances (Lanigan, 2009). Mobile technologies such as smartphones have been one of these recent technology advances (Ryding & Kuss, 2020). The number of users and owners of smartphones has grown substantially over the past couple of years (Kaufmann, 2018). Technology can be used to enhance or destroy relationships depending on how people manage their use within relationships (Pickens & Whiting, 2019). Human relationships especially romantic ones are essential as they have an impact on a person’s emotional, mental and physical well-being (Campbell & Murray, 2015). Romantic relationships can be defined according to the triangular theory of love as the interaction between two people which is characterized by passion, intimacy, commitment (Sternberg & Sternberg, 2019). Romantic relationships are also important since they have a direct impact on family functioning and society as a whole (Lucier-Greer, Birney, Gutierrez, & Adler-Baeder, 2017). The couple family technology framework suggests that technology can potentially impact the processes in relationships such as formation, initiation, maintenance and dissolution (Hertlein, 2012). A great deal of effort goes into the maintenance phase of relationships compared to the other relationship phases (Canary & Yum, 2015).

1.2 Problem Statement

To date, there is dearth of research on the effects of smartphones on romantic relationships (Dery, Kolb & MacCormick, 2014). Previous research on the impact of technology on relationships has used questionnaire surveys mainly and the respondents have typically been university students (Lanigan, 2009). The focus of this past research has been the quantitative

measurement of the impact of technology on relationships as opposed to understanding the behaviors behind the use of technology in relationships (Norton, Baptist, & Hogan, 2018).

Research on the effects of technology on relationships is only in the embryonic stages (Norton et al., 2018). Despite the fact that people's lives are continuously being changed and affected by smartphones, there is limited research on the effects of smartphones on relationships (Dery et.al, 2014). Several studies have focused mainly on issues such as problematic smartphone usage and phubbing and their impact on relationships (McDaniel & Coyne, 2016). Phubbing refers to a situation when a person ignores their partner for their smartphone (McDaniel & Coyne, 2016). Since most of the research to date has focused on the effects of technology on relationships, there is a need to look at the effects of specific technologies for example smartphones on the different relationship's stages and processes and how this technology can be leveraged to enhance relationships (Campbell & Murray, 2015). Research on the effects of technology on relationships that are romantic is still in its infancy (Norton et al., 2018).

1.3 Research Question and Objective

The purpose of this study was to look at how smartphones can be used for relationship maintenance based on smartphone affordances and this was done by answering the following research question.

Main research question: How do couples in romantic relationships use smartphones to maintain their relationships?

Main objective: To explain how romantic relationship couples are using smartphones to maintain their relationships.

The following sub-questions were used to help answer the main research question.

Table 1: Research sub-questions and sub-objectives

Question	Objective
What strategies do couples use to maintain their relationships?	To identify the strategies used to maintain relationships
How are smartphones being used to maintain romantic relationships?	To understand how smartphones are being used to maintain romantic relationships.

1.4 Research Methods

This research was performed by following a constructivist ontology and an interpretivist epistemology. The research approach was deductive while the research approach was descriptive as it sought to describe how people were using their smartphones to maintain their relationships. This research followed a qualitative research strategy as it sought to understand the way people were using their smartphones to maintain their relationships. The sample was selected by employing purposive sampling. Snowballing and convenience sampling methods were used. The data was collected firstly through a discussion on Twitter by asking people to comment on how they were using their smartphones to maintain their relationships using the hashtag “#RomanticMaintenancewithSmartphones”. Thereafter, data was also collected through fourteen semi-structured interviews, which were done face-to-face as well as through WhatsApp chats.

The study used the affordance theory as a framework for this research and thematic analysis was used to analyse the data. Affordances refer to future actions or behaviours that can arise as a result of the interaction between a user and an artefact to achieve a goal (Volkoff & Strong, 2017). The time frame of the research was cross-sectional due to the time constraints of this master’s program.

1.5 Significance of the study

These findings can help couples manage the way they use smartphones within their relationships so that they can have a positive rather than a negative effect on the relationship and as a result, have healthier relationships. The insights can also help couples maintain their relationships by helping them understand the thinking behind their partner’s smartphone use and behaviour. The findings of this research can also help relationship and marriage counsellors understand the conflict arising from the use of smartphones within relationships.

1.6 The structure of the Thesis

The rest of this thesis will be structured as follows

- Chapter 2: Literature review provides a review of the existing literature on romantic relationship maintenance, smartphone technology and the use of smartphones within romantic relationships.

- Chapter 3: Theoretical framework presents the affordance theory which was used as the theoretical framework for this research.
- Chapter 4: Research design presents the research methods that have been employed in this study. The chapter first explains and motivates the research philosophy employed for this research. It then details the research strategy, research purpose, research approach, research validity and reliability, target population, sampling, data collection and analysis and ethics.
- Chapter 5: Research findings and discussions presents and discusses the findings by drawing in the existing literature. The chapter starts of by giving a summary of the demographic profile of the recipients followed by a presentation on the affordances of smartphones for relationship maintenance. This will then be followed by a section on the factors affecting the actualization of affordances and thereafter the effects of smartphones on relationship maintenance.
- Chapter 6: Conclusion provides a summary of the key findings of the research as well as the limitations of the research. This is followed by a discussion on the implications for theory and suggestions for future research.

2 Literature Review

The purpose of this chapter is to analyze the current literature on smartphone technology, romantic relationship maintenance and the use of smartphones within romantic relationships. This chapter will be structured as follows.

- An examination of the different phases of romantic relationships.
- Relationship maintenance definition and theories.
- An explanation of the threat mitigation strategies.
- A discussion on the relationship enhancement maintenance strategies.
- A look at the other factors that influence relationship maintenance.
- A discussion on the current research on smartphone technology.
- A look at the current research on the use of smartphones in relationships.
- Summary of the chapter.

2.1 Relationships development stages

Human relationships evolve and move through different stages. The social penetration theory, as well as Knapp and Vangelisti (2005)'s staircase model, are two-stage theories that have been used by a number of researchers to explain the development phases of relationships (Mongeau & Henningsen, 2008). The social penetration theory posits that individuals in relationships get closer and more intimate as they reveal more information about themselves (Yum & Hara, 2006). These theories describe the development of all types of interpersonal relationships. Both theories posit that all relationships develop from initiation and move to maintenance then dissolution (Mongeau & Henningsen, 2008). Table 2 provides an explanation of the different stages of development in the social penetration theory.

Table 2: Social penetration theory of relationship development

Stage	Explanation
Orientation	This stage is when two people first connect
Exploratory affective exchange	High-level disclosure of personal information to each other to get to know one another better
Affective exchange	Deeper disclosure of personal and intimate information

Stable exchange	Comfortable and open with each other
-----------------	--------------------------------------

Knapp and Vangelisti (2005)'s relational stage model posits that relationships move from the coming together (formation) to the coming apart (termination) phases (Yum & Hara, 2006). While the maintenance of the relationship is between the coming together and coming apart stages (Knapp & Vangelisti, 2005). In the relational development stage model, the coming together stage includes, initiating, experimenting, intensifying, integrating, bonding, differentiating and circumscribing while the coming apart phase includes stagnating, avoiding and terminating (Knapp & Vangelisti, 2005). Relationships can move backwards or forwards within these stages. Figure 1 shows the relational development staircase model and Table 3 provides a description of these phases.

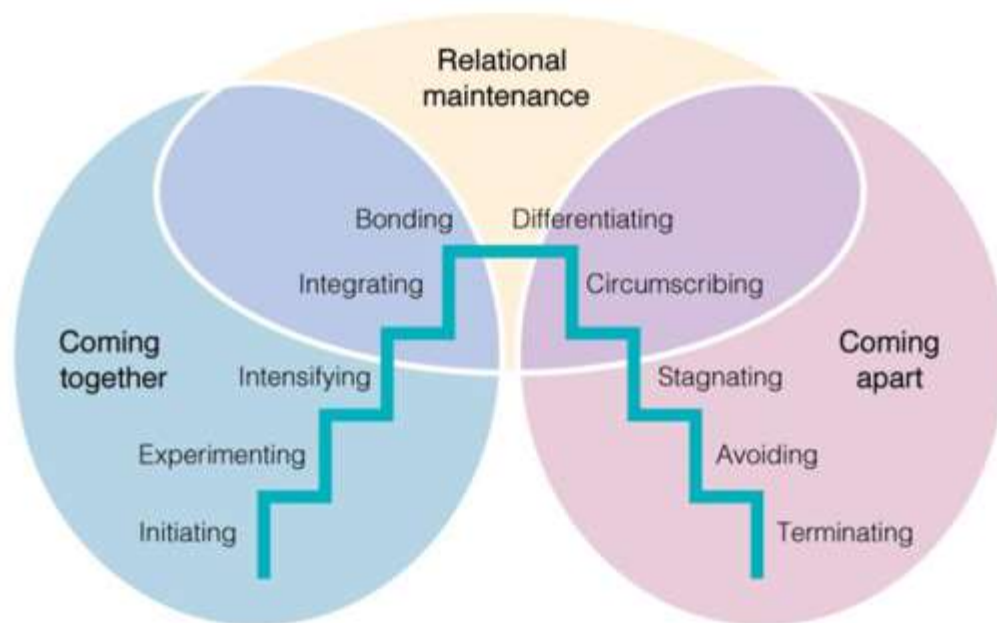


Figure 1: Knapp & Vangelisti staircase model (Knaap & Vangelisti, 2005)

Table 3: Relational development staircase model explanations (Knaap & Vangelisti,2005)

Phase		Explanation
Coming together	Initiating	It is the first stage of the relationship when a person first has contact with a potential friend or partner and is trying to establish if there is a link between them or if they are attracted to the other person.
	Experimenting	The experimenting phase takes place when people try to get to know each other and exchange basic information.
	Intensifying	People start exchanging more personal information about themselves and start initiating intimacy through actions such as hugging.
	Integrating	The two people are now recognised as a couple and start showing commitment towards each other.
	Bonding	The couple starts declaring their relationship to other people.
Coming apart	differentiating	This is when conflicting starts as the individuals begin to want to emphasize that although they are in a relationship they are still individuals with different likes and dislikes.
	Circumscribing	Refers to the phase in which the couple is struggling to resolve issues but still pretends to everyone else that their relationship is fine.
	Stagnating	It is when there is no longer any happiness in the relationship and the couple starts avoiding discussing issues.
	Avoiding	The couple starts to avoid doing things together or being together
	Terminating	The relationship ends

The maintenance phase of the relationship takes place between the integrating and circumscribing phases. The next section will look at the relationship maintenance phase in more detail.

2.2 Relationship maintenance

This section discusses the different ways in which people maintain relationships and the factors that affect the maintenance of relationships. This section also defines relationship maintenance.

2.2.1 Defining relationship maintenance

Relationship maintenance is a process that couples engage in to keep the relationship in existence, to maintain the status quo or keep the relationship in a satisfactory condition and to keep a relationship in repair. Keeping the relationship in existence implies doing what it takes for the relationship to continue. Maintaining the status quo suggests that that people can stay in a relationship which is not satisfying. Keeping a relationship in repair involves engaging in behaviours that attempt to fix any issues in a relationship and bring the relationship back where it was or to a better position (Dindia & Canary, 1993).

This Maintenance strategies or processes can be strategic or non-strategic (Ogolsky & Bowers, 2013). Strategic maintenance is intentional. It is when an individual or a couple in a relationship do things with the intention of maintaining their relationship (Ogolsky & Bowers, 2013). On the other hand, non-strategic or routine maintenance behaviours are things that people do as part of their day to day lives which help maintain their relationships, but they have not intentionally set out to maintain the relationship (Ogolsky & Bowers, 2013).

2.2.2 Relationship maintenance theories

Researchers have used the equity theory as a way of explaining relationship maintenance (Canary & Yum, 2015). This theory is about fairness based on what a person is investing in a relationship and what they get out of the relationship (Stafford, 2020). The equity theory posits that when people are treated with fairness in a relationship, they are happier and more satisfied and committed to the relationship (Stafford, 2020). People who are treated unfairly in relationships engage in fewer maintenance strategies than those who are treated equally or those who are given more than what they deserve (Stafford, 2020). Equity differs between western and non-western cultures (Canary & Yum, 2015). In the western cultures, fairness is assumed when what a person gets is in relation to what they have given, if you give 30 per cent effort to the relationship then you get 30 per cent only back in terms of affection, intimacy etc (Canary & Yum, 2015). Canary and Yum have argued that fairness is not

important in non-western cultures. However, other studies have posited that people from western cultures also value equity within their relationships (Aumer-Ryan, Hatfield & Frey, 2007).

Another theory that is used to explain relationship maintenance is the dialectic view. This theory assumes that people in a relationship will experience some form of tension since it involves two different people who might want different things (Canary & Yum, 2015). This conflict is often referred to as dialectical tensions (Dindia & Canary, 1993). Interdependence dialectical tensions occur as a person within a relationship wants to do things to make their relationship work but at the same time still wants to maintain their individuality and this often results in tension within the relationship (Canary & Yum, 2015). Relational dialectic tensions also occur when a partner wants spontaneity but concurrently they also want predictability in the relationship. These are two competing forces which results in the push and pull tension within the relationship (Canary & Yum, 2015). Two other factors that cause tensions within relationships is when a person wants to be honest and not keep any secrets from their partner but at the same time they do not want to reveal information that will portray them in a negative light (Canary & Yum, 2015).

According to the “integrative model of relationship maintenance” depicted in Figure 2, relationship maintenance processes can be subdivided into two, based on the motives behind the maintenance activities (Ogolsky et al., 2017). These classifications are threat mitigation and relationship enhancement. Couples or individuals employ threat mitigation activities when they engage in activities that are aimed at addressing or minimising any potential threats to a relationship such as other partners (Ogolsky et al., 2017). Relationship enhancement processes are employed when couples or individuals seek to improve the standard of their relationship (Ogolsky et al., 2017).

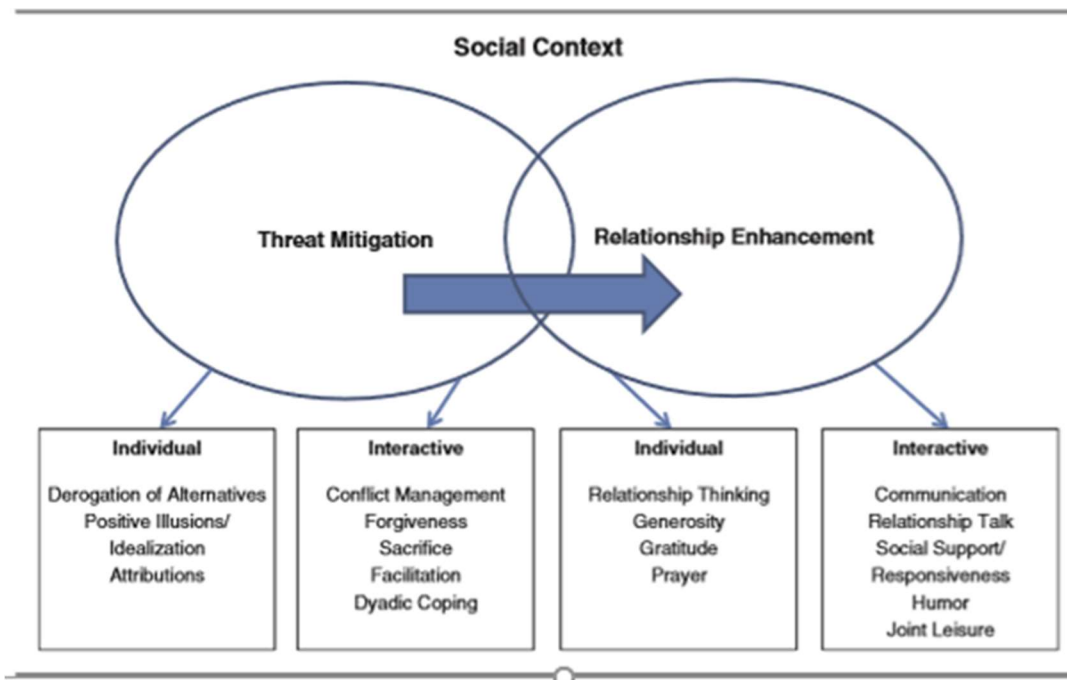


Figure 2: Interactive model of relationship maintenance (Ogolsky et al., 2017)

Relationship maintenance processes can be done by a single party in a dyad to either improve the relationship or to counter relational threats (Ogolsky et al., 2017). A couple can also jointly engage in activities to enhance their relationship or to mitigate threats. This is referred to as interactive relationship maintenance processes in the model (Ogolsky et al., 2017).

2.3 Threat mitigation relationship maintenance strategies

Relationship maintenance can be employed as a way of deterring potential threats to a relationship. These strategies can be divided into individual and interactive threat maintenance strategies. Table 4 is a summary of the threat mitigation strategies.

Table 4: Relationship maintenance threat mitigation strategies

Individual	Interactive
Derogation of alternative partners	Conflict management
Positive Illusions	Forgiveness
Ascribing meaning to behaviour	Self-sacrifice
	Dyadic coping

2.3.1 Individual threat mitigation maintenance strategies

A relationship can be threatened by potential alternative partners (DeWall, Maner, Deckman & Rouby, 2011). One way in which individuals try and maintain their relationships is through

disregarding any potential partners (Ogolsky et al., 2017). This mechanism, however, can potentially have the opposite effect on the relationship as the partner might eventually end up being curious and attracted to the alternatives (DeWall et al., 2011). Such behaviour is explained by the forbidden fruit hypothesis which posits that when people continuously avoid entertaining any thoughts about attractive alternatives this increases their desire or curiosity for alternatives (DeWall et al., 2011). It is only true in situations where a person is not paying attention to alternatives due to external factors such as other people telling them not to do so (DeWall et al., 2011).

The second way in which individuals maintain relationships is through positive illusions. The aforementioned occurs when a person overidealizes their partner's strengths or qualities and is considered a form of relationship maintenance (Song et.al, 2019). The partner that engages in idealization, in turn, feels good about the relationship and is optimistic of the future of the relationship (Ogolsky et al., 2017). Idealization usually occurs because after committing to being in a relationship with someone, a person usually starts to wonder if they made the right choice (Barelds & Dijkstra, 2011). That, in turn, forced them to start idealizing their partner, to counter these thoughts and convince themselves that they are with the right person (Barelds & Dijkstra, 2011). However, according to the self-verification theory relationships are maintained when reality and honesty prevail (Ogolsky et al., 2017).

The third individual threat mitigation strategy is when a person does something in a relationship or behaves in a certain way. Their partner then ascribes a meaning to their behaviour and in response behaves in a certain way as well (Ogolsky et al., 2017).

2.3.2 Interactive threat mitigation maintenance strategies

Couples can maintain their relationships by exercising healthy conflict management (Ogolsky et al., 2017). Forgiveness is also used as a mechanism for maintaining relationships management (Ogolsky et al., 2017). However, this strategy only works depending on the severity of the offense (Ogolsky et al., 2017). Some individuals in a dyad choose to give up their own happiness to maintain peace or make their partners happy. This is referred to self-sacrifice since a person sacrifices what they would like for their partner (Monk, Vennum, Ogolsky, & Fincham, 2014). However, not all self-sacrifice is beneficial for a relationship as some individuals use it as a way of running away from conflict. Self-sacrifice can potentially lead to an undesirable outcome if only one person in the relationship keeps making the sacrifice (Monk et al., 2014). Facilitative behaviour is when dyads maintain their relationship

by being there for one another and providing support for each other (Ogolsky et al., 2017). Dyadic coping is a maintenance process in which a person in the relationship takes on the stress of their partner as well to help them cope (Ogolsky et al., 2017).

2.4 Relationship enhancement maintenance strategies

In addition to the threat mitigation relationship strategies, people also engage in relationship enhancement strategies as a way of maintaining relationships (Ogolsky et al., 2017). Table 5 summarizes the enhancement maintenance strategies.

Table 5: Relationship maintenance enhancement strategies

Individual	Interactive
Relationship thinking	Positivity
Generosity	Openness
Gratitude	Assurance
	Social networks
	Sharing tasks

2.4.1 Individual relationship enhancement strategies

Relationship thinking can be used to enhance relationships (Ogolsky et al., 2017) and it involves thinking positively about your partner and the relationship (Ogolsky et al., 2017). It also includes thinking about your feelings and the feelings of your partner about the relationship (Ogolsky et al., 2017). Another dimension of relationship thinking is network thinking which is how the couple's social circle or families feel about the relationship (Ogolsky et al., 2017).

Generosity is another method used by individuals to maintain relationships (Ogolsky et al., 2017). When partner D in a relationship is generous, this leads partner E to respond in a more positive attitude towards them and as a result, helps maintain the relationship (Ogolsky et al., 2017). This strategy goes hand in hand with gratitude as a maintenance strategy. Gratitude refers to a person being thankful or recognising the other person's efforts in a relationship (Ogolsky et al., 2017). Gratitude stems from a partner's maintenance behaviours and the response received from it (Kubacka, Finkenauer, Rusbult, & Keijsers, 2011). When someone shows their gratitude towards their partner then their partner is also encouraged to maintain their relationship (Kubacka et al., 2011). Likewise, if a person feels that their partner is not grateful, then this will have a negative impact on the relationship (Kubacka et al., 2011). For religious couples prayer is also used as a maintenance strategy (Ogolsky et al., 2017).

2.4.2 Interactive relationship enhancement strategies (Communicative maintenance strategies)

Communicative strategies are the maintenance strategies originally defined by Canary & Stafford (Ogolsky et al., 2017). According to Canary and Stafford (1992)'s theory on relationship maintenance, people utilise five different strategies to maintain their relationships (Canary & Yum, 2015). These are positivity, openness, assurance, social networks and sharing tasks.

Individuals in relationships also maintain their relationship by being pleasant and joyful even when they do not feel like it (Ogolsky et al., 2017). Being pleasant and joyful includes taking part in fun activities and being funny to keep the relationship moving along a positive trajectory (Canary & Yum, 2015). Positivity is exercised more by couples who are dating and have been together for a short period (Smith & Konda, 2013). Once a couple has been together for a longer period they tend to engage less in positivity as a relationship maintenance mechanism (Smith & Konda, 2013). Positivity is less amongst married couples as there are other factors influencing the relationship such as finances, household administration, children and this makes it harder for married couples to always be joyful and positive in the relationship (Smith & Konda, 2013). Women may display more positivity within a relationship than men (Pauley, Hesse, & Mikkelsen, 2014). Couples tend to use positivity after sexual intercourse to maintain their relationship (Denes, Dhillon, & Speer, 2017).

Openness as a maintenance strategy is a process where people in a relationship disclose information to each other so that there are no secrets between them (Canary & Yum, 2015). Individuals may disclose positive or negative information and may discuss the goals for the future of their relationship (Canary & Yum, 2015). It is important to note that the information disclosed through openness is information that pertains to the relationship and not personal information (Canary & Yum, 2015). For the information disclosed during through openness to help maintain the relationship, the couple needs to reveal a little information at a time and it must be done in such a way that the other partner's feelings are not hurt (Adams & Baptist, 2012). Openness is commonly used to maintain relationships during the early stages of a relationship (Smith & Konda, 2013). Some researchers have argued that openness is only a positive relationship maintenance strategy if assurance and positivity also exists as maintenance strategies within a relationship (Canary & Yum, 2015). This means that

disclosing information may end up having the opposite effect to maintenance depending on the circumstances in a relationship (Canary & Yum, 2015). However, some studies have argued that relationships can still be maintained without openness. According to Dainton (2000) as cited by (Adams & Baptist, 2012, p.2), there are also differences in openness among genders. Women use openness as a maintenance process more than men (Ogolsky & Bowers, 2013).

Assurance refers to when people in a relationship employ certain behaviours to display their commitment, support and loyalty to their partners (Smith & Konda, 2013). According to Canary and Yum (2015) assurance as a maintenance strategy is practiced more by married couples than dating couples. According to Denes et al (2017), couples choose to use assurance to show commitment to their partners after sexual interaction.

Social networks as a maintenance strategy refer to the situation when couples get support from friends and family for their relationship (Canary & Yum, 2015). This includes double dates with friends or family or engaging in fun activities with other couples to get advice and to grow together as couples (Canary & Yum, 2015).

Another way that couples maintain their relationships is when couples assist each other with household chores and other day-to-day activities such as grocery shopping, bathing and feeding children, paying bills etc. (Ogolsky et al., 2017).

2.5 Factors influencing relationship maintenance

Culture plays an essential role in determining how people maintain relationships (Ogolsky et al., 2017). The different value systems and economic situation have an impact on the maintenance of relationships (Ogolsky et al., 2017). The cultural modernization theory posits that the way a person behaves is based on their cultural background (Canary & Yum, 2015). In the cultural modernization theory cultural values such as traditional, survival, self-expression and modern values are differentiated (Canary & Yum, 2015). People with survival cultural values see relationships as a way of surviving since these individuals can share their expenses with their partners and their partners can also provide for their economic and in some instances physical security (Canary & Yum, 2015). People with traditional and self-expression cultural values use relational maintenance strategies more than those from the survival and modern cultural value systems (Canary & Yum, 2015). Developing countries usually have a survival-based culture, while countries that support individualisation and

freedom of expression like the United States of America have a self-expressive culture (Ogolsky et al., 2017). The individualist-collectivist theory can also be used to explain how relationship maintenance differs based on cultural values (Canary & Yum, 2015).

Individualistic cultures place a lot of emphasis on independence and being able to do things alone whereas collectivist cultures consider collaboration and interdependence as important (Kotlaja, 2020). Maintenance behaviours such as derogation of alternative partners is not exercised in cultures that are pro-polygamy or where cheating is acceptable (Ma, Zhao, Tu & Zheng, 2015)

In addition to culture, distance also influences relationship maintenance (Ogolsky et al., 2017). Couples in long-distance relationships maintain relationships in different ways. Relational continuity constructional units (RCCU) provide a means to understand long-distance relationships (Ogolsky et al., 2017). The aforementioned are maintenance behaviours that take place prior to a couple being separated, while the couple is apart and after the couple has been reunited (Ogolsky et al., 2017). Couples that are in same-sex relationships or interracial or intercultural relationships tend to use more relationship maintenance strategies to cover up for the stress and anxiety that they go through due to being marginalized (Ogolsky et al., 2017).

Technology and its affordances also influence relational maintenance text messages, social networks and sexting are some technologies that couples use to maintain their relationships (Ogolsky et al., 2017). The next section will look at smartphones and how they are impacting relationships as well as the affordances that they provide people to maintain their relationships.

2.6 Smartphone technology

There are numerous definitions of smartphones amongst different smartphone manufacturers (Alwraikat, 2017). Smartphones are hand-held mobile devices with computing capabilities (Ameen & Willis, 2018). They are like laptops and desktop computers in the sense that they require an operating system to function (Alwraikat, 2017). These devices consist of numerous mobile applications which users can download onto their phones (Han & Cho, 2016).

Smartphones are light in weight such that they can be easily carried around (Elhai, Dvorak, Levine, & Hall, 2017). Smartphones differ from feature phones because of their unique computing capabilities as well as extended features. The aforementioned features set them apart from standard mobile phones which are mainly used for texting and voice calling (Kim,

Chun, & Lee, 2014). Smartphones also provide multimedia capabilities (Schrock, 2015). In addition to being able to place voice calls and send text messages like previous mobile phones, smartphones also have a camera that allows the taking of photos and videos. Furthermore smartphones also have location systems such as google maps, email functionality, social network applications such as WhatsApp, calendars and much more (Sarwar & Soomro, 2013). Smartphones also fall under the classification of mobile technology. Mobile technology refers to portable IT objects , which includes the applications, the hardware, and the network services (Jarvenpaa & Lang, 2005). Other examples of mobile technology include devices such as tablets, laptops etc (Jarvenpaa & Lang, 2005).

2.6.1 Smartphone adoption

The number of smartphone users is growing significantly each year. There are more than three billion people using smartphones across the world today (Holst, 2019). The number of people owning smartphones differs by region and country (Silver, 2019). Developing countries have a lower number of people using smartphones as compared to countries with advanced economies (Silver, 2019). Figure 3 shows how the number of smartphone users is growing each year.

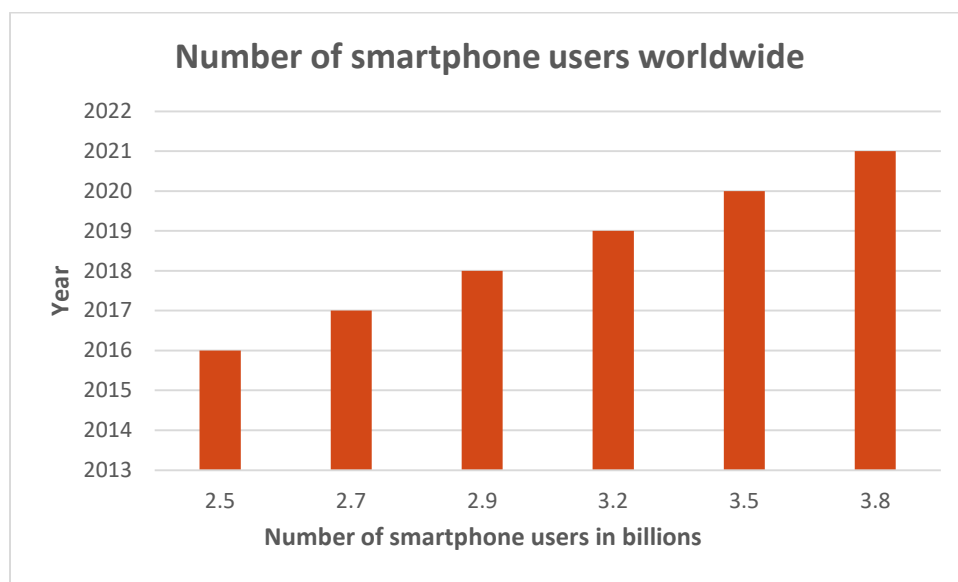


Figure 3: Number of smartphone users worldwide (O'Dea, 2020)

In addition, the increase in the number of households that are connecting to the internet but without computers shows the rise in usage of smartphones and other mobile devices. Figure 4

shows the percentages of households that are connected to the internet and those without computers a home. The percentages are still lower in developing countries.

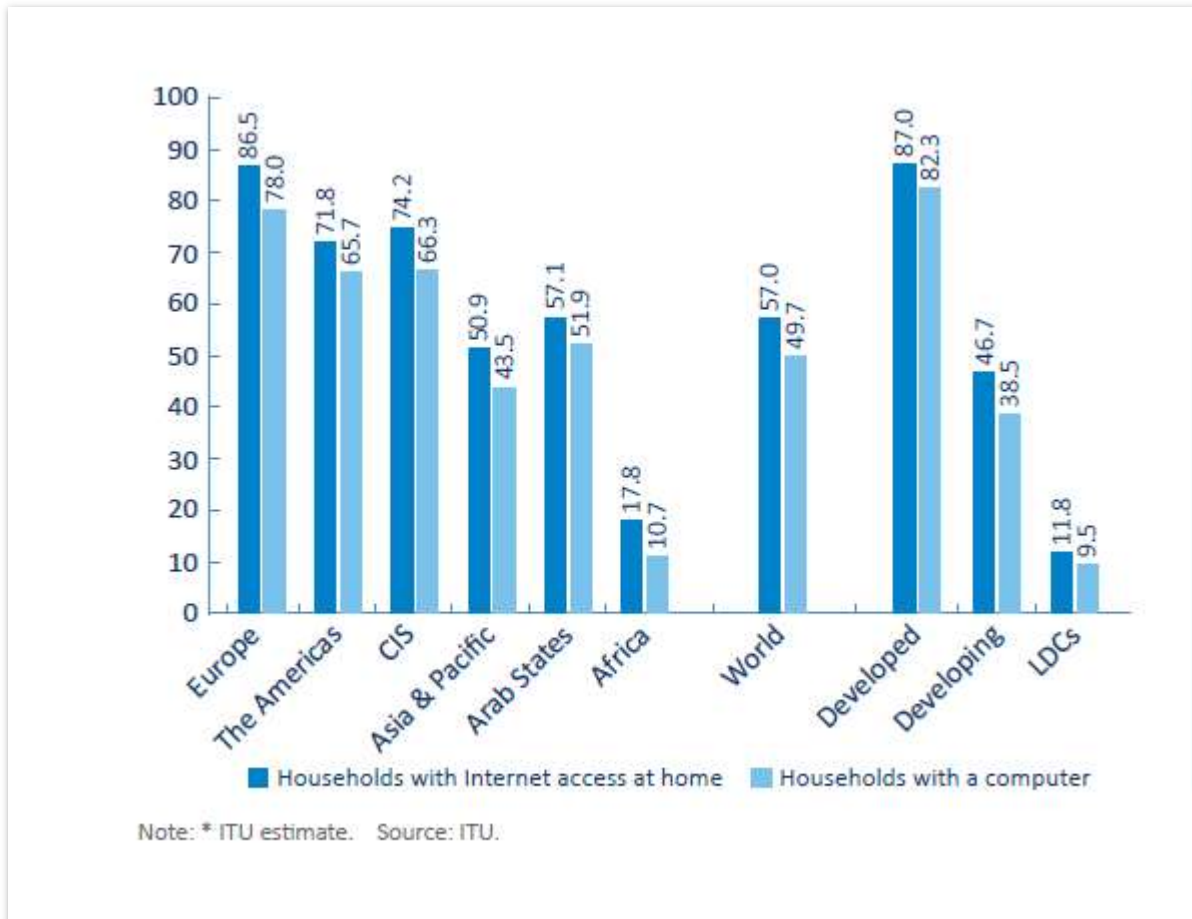


Figure 4 Percentage of households with internet and computer (ITU, 2019)

Market report data has shown that young people are inclined to adopt smartphones early compared to elderly people (Lee, 2014). Several factors have been identified by multiple scholars that affect the adoption of smartphones. The following factors have been identified as driving people to adopt smartphone technology.

- People adopt smartphones due to peer pressure and not wanting to be left out of the latest trends (Tamimi, AlMazroei, Hoshang, & Abu-Amara, 2018). College students are motivated to adopt smartphone technology by seeing their friends and other college students use smartphones (Kim, Chun, & Lee, 2014).

- College students are motivated to use smartphones as they perceive that they stand more to gain when weighing the costs of purchasing a smartphone against the benefits of using a smartphone (Kim et al., 2014).
- People adopt smartphones to get more information as smartphones enable them to access the internet at any time from any location due to their portability (Kim et al., 2014). Individuals also adopt smartphones as they allow them to have the best of both worlds. This is because smartphones are portable and make it possible for people to have a minicomputer at their disposal (Tamimi, AlMazrooei, Hoshang & Abu-Amara, 2018).
- Culture influences the adoption of smartphones (Aldhaban, Daim & Harmon, 2015). Technology enculturation which refers to how familiar people are with technology influences the adoption of smartphones in countries where technology is still advancing such as Iraq (Ameen & Willis, 2018).
- The Information technology(IT) development policy of a country has a significant impact on people's intentions to adopt and use smartphones. In countries where the information technology development policy promotes the use of technology people tend to adopt smartphones and other technologies more compared to countries where the development policy is still in its infancy (Ameen & Willis, 2018).
- People are also motivated to use smartphones for enjoyment and entertainment purposes such as playing games
- Another reason why people are using smartphones more is due to the wireless internet as well as the multimedia capabilities that they offer (Tamimi et al., 2018).

2.6.2 Smartphone usage in relationships

Smartphones can either be used to destroy or enhance relationships (David, Roberts & Christenson, 2018). By enabling couples to stay in touch throughout the day through features such as text messages, social networks emails, technology affords individuals the opportunity to maintain their relationships (Hertlein & Ancheta, 2014). Couples in relationships can also enhance intimacy using smartphones, for example through sexting or ability to send each other love messages as the day progresses (Campbell & Murray, 2015). Couples make use of text-based communication using their smartphones and emojis and emoticons make it possible to express their emotions (Kelly & Watts, 2015). Emoticons are pictures or graphics

that display expressive faces and emojis are smaller “two spatial pictures” (Kelly & Watts, 2015).

Conflict management is another form of relational maintenance that can be managed better using smartphones. Couples can discuss issues through text messages or sending each other WhatsApp messages without getting emotional or angry (Hertlein, 2012). The constant connectivity enabled by smartphones can give people unrealistic expectations of their partners, such as always expecting that they will be available to respond to messages any time of the day. This unrealistic expectation can cause conflict in a relationship (Campbell & Murray, 2015).

However, there is also a potential of misconstruing messages which, in turn, would have a negative impact on the relationship (Hertlein & Ancheta, 2014). Smartphones can create opportunities for people to cheat on their partners because of the privacy and anonymity that comes with internet use (Campbell & Murray, 2015). Partner surveillance is also another maintenance activity that has come about due to the use of mobile technologies (Campbell & Murray, 2015).

Although smartphones have been seen to be a good thing and have a positive impact on relationship maintenance they can also have the opposite effect. For example, when people become addicted to their smartphones or use it in a problematic manner (McDaniel & Coyne, 2016). Another concept that has been introduced by smartphones is that of “phubbing” which refers to snubbing your partner for your smartphone (Roberts & David, 2016). This can have a negative impact on relationship maintenance or can be seen as negative relationship maintenance behaviour (McDaniel & Coyne, 2016). The negative effect that smartphones have on relationships are not because of the smartphones itself but because of the way the use of smartphones is managed in relationships (McDaniel & Coyne, 2016). In addition, smartphones through phubbing behaviour cause individuals in relationships to be jealous of one another which is yet another negative relationship maintenance behaviour (Krasnova, Abramova, Notter & Baumann, 2016). There is limited research available in terms of smartphones and how they are used to maintain relationships (Campbell & Murray, 2015).

2.7 Summary of the chapter

This chapter reviewed the existing literature on romantic relationship maintenance and on smartphone technology and adoption. The chapter provided a definition of relationship maintenance and presented the theories that have been used in literature to explain romantic relationship maintenance. The relationship maintenance strategies were presented as well as the factors that affect relationship maintenance. A discussion on smartphone technology as well as the current research on the use of smartphones within romantic relationships was provided. The next chapter presents the theoretical framework used in this research.

3 Theoretical framework

This chapter discusses the theoretical framework that was used for this research. This study used the affordance theory as a guideline to understand how people in romantic relationships use smartphones to maintain their relationships.

Section 3.1 provides a description of the affordance theory. This will be followed by Section 3.2 that discusses the use of the affordance theory within information systems research. Section 3.3 justifies the use of affordance theory for this research. The communicative affordances of mobile media are presented in Section 3.4 and thereafter Section 3.5 presents a summary of the chapter.

3.1 Affordance theory

The affordance theory stems from the field of ecological psychology. The term affordance was created by James Gibson in 1977. Gibson explained affordances through the ecology perspective as how a person or an actor communicates with their surrounding environment (Pozzi, Pigni & Vitari, 2014). “the affordances of the environment are what it offers the animal, what it provides or furnishes, either for good or ill” (Gibson, 1977, p.127). Gibson later described affordances to be both subjective and objective (Gibson, 1979).

Gibson’s definition has resulted in confusion and debates around what an affordance is. This confusion has mainly stemmed from Gibson describing affordances as both subjective and objective (Chemero, 2003). As a result, there have been various definitions for affordances (Pozzi et al., 2014). Affordances have been described as being “dispositional properties” of the environment meaning that they are only made known when certain conditions exist within the environment (Turvey, 1992). For example, a fruit is only edible if there is an animal within the environment that can eat fruits (Turvey, 1992). In addition, Reed (1996) as cited by Chemero has argued that affordances are part of the natural selection of the environment, making them things within the environment that the animal can take advantage of (Chemero, 2003).

There have been disagreements in previous research on the reference point of the affordance. If the affordances are properties of the environment then the question has been raised as to whether the affordances exist without the animal (Greeno, 1994). However, affordances have been interpreted to be the association between certain facets of an animal and certain facets of

the environment (Chemero, 2003). Strong et al., (2014) defined affordances as the potential for action between the interaction of an artefact and actor with a goal to achieve an outcome. This is the definition that has been used for this research.

Apart from the ecological psychology field, affordances have also been used within other fields such as the human computer interaction field. Affordances were first introduced into the human and computer interaction field by Donald Norman in his book “the psychology of everyday things” (McGrenere & Ho, 2000). Norman defined affordances as being the properties of an object, either perceived or actual (McGrenere & Ho, 2000). This definition differs from that of Gibson in that for Gibson an affordance existed outside the perception of the actor, however, for Norman an actor’s perception plays a role in the existence of the affordance (McGrenere & Ho, 2000). Affordances can be positive or negative depending on the actor (Schrock, 2015). The affordance theory states that an affordance is a prerequisite for some activity to take place, but it does not mean that the activity will take place (Pozzi et al., 2014.). Additionally, affordances also remain even if the actor or the animal does not have the abilities to utilize the affordance (McGrenere & Ho, 2000). Affordances remain the same even if the demands of the actor change (McGrenere & Ho, 2000). Affordances can be constraining or enabling and there can be rules that govern the use of an affordance (Hutchby, 2001).

Affordances can also be hidden (Gibson, 1979). An affordance can be considered as hidden if there is no information available for the actor to perceive it (Gaver, 1991). An affordance is considered as false when there is information available to perceive the affordance but the affordance suggested does not exist (Gaver, 1991). Perceptible affordances are those affordances where there is information available and the affordance exists and can be perceived (Gaver, 1991).

3.2 Affordance theory in information systems research

The theory of affordances has been applied not just to the environment but to IT artefacts by later scholars (Pozzi et al., 2014). The affordance theory has been used in the information systems discipline to explain how an actor interacts with an IT artefact such as a smartphone (Pozzi et al., 2014). It has also been used within information systems to look at the relationship between an actor and the environment (Volkoff & Strong, 2017). Affordances of IT artefacts are not automatically the product of its features or materiality but of the interaction between the actor and the artefact (Hutchby, 2001). Information systems

researchers have found affordances to be advantageous in understanding the usage of IT artefacts as well as the outcomes of using the IT affects (Bernhard, Recker & Burton-Jones, 2013). There has been disparity on how the affordance theory has been used within information system's research due to the way the theory has been adapted from the ecology psychology field to the technology field (Volkoff & Strong, 2017). Within the information systems field, four key stages of affordances have been identified. These are existence, perception, actualization, and effects (Bernhard et al., 2013).

Affordance existence: Affordances can either be the actual characteristic of the IT artefact or they can just be perceived characteristics (Pozzi et al., 2014). Affordance existence means that a person does not have to do anything for an affordance to exist (Pozzi et al., 2014). An example of this would be that the affordance of a chair will be that you can sit on it if a person does not sit on a chair the affordance still exists (Pozzi et al., 2014). However, whether a person perceives an affordance or not the affordance still exists (Volkoff & Strong, 2013). Some researchers have argued that an affordance does not need to be perceived for it to be actualized. (Volkoff & Strong, 2017). Affordance existence of technologies can be negative or positive and are dependent on the actor's characteristics (Stendal, Thapa & LanamÄki, 2016).

Affordance perception stipulates that a person first needs to perceive an affordance for them to realise that it exists (Pozzi et al., 2014). Affordance perception is when the actor recognises an affordance and is determined by the artefact's features, the abilities of the actor, external information as well as the goal of the actor (Bernhard et.al, 2013). Perceived and actual affordances are not always the same (Bernhard et al., 2013). Perceived affordances can just be a small part of the actual affordances as an actor may not perceive all the affordances. For example, if an actor is unaware of a feature on a smartphone they will not use it , although that feature can provide them with what they want (Bernhard et al., 2013).

Affordance actualization is a continuous process which a person engages in to achieve a goal of some sort, it refers to the actual utilization of the affordance (Pozzi et al., 2014). Actualization can be defined as "the actions taken by actors as they take advantage of one or more affordances through their use of the technology to achieve immediate concrete outcomes in support of organizational goals" (Strong et al., 2014, p. 70). Actualization refers to the actual action and use of the artefact by the actor (Volkoff & Strong, 2017). Affordance actualization is also influenced by the amount of work that the actor must put in to use the

artefact to realise their goal (Bernhard et al., 2013). So if an actor needs to spend a lot of time and energy to utilise the affordance they may decide not to act upon the affordance (Bernhard et al., 2013). Actualization is a continuous process (Wang, Wang & Tang, 2018). There are a number of reasons why not all actors will actualize an affordance (Anderson & Robey, 2017). One of the reasons why an actor may not actualize an affordance is because the actor would have failed to perceive the affordance (Anderson & Robey, 2017). Another reason why an actor may not actualize an affordance might be that they can perceive the affordance but the affordance is not in line with their goals (Anderson & Robey, 2017).

There are also unintended or hidden affordances which come into place when a person uses an artefact in a way was never intended by the designers (Pozzi et al., 2014). Affordances can be easily seen, hidden or false (Kaptelinin & Nardi, 2012). The relational view sees an affordance as a result of the interaction between the artefact and an actor's goal (Stendal et al., 2016). The affordance is realised over time as the actor interacts with the affordance over time (Stendal et al., 2016).

Affordance effects are the results of the actualization of an affordance (Pozzi et al., 2014). Other affordances can be generated as a result of the actualization of an affordance (Pozzi et al., 2014). The short-lived results of the actualization of an affordance are referred to as the immediate concrete outcomes. The affordance effects can be negative or positive and can result in changes to the features of an artefact (Pozzi et al., 2014).

Volkoff and Strong (2017) have proposed six principles of applying the affordance theory in information systems research. These principles are shown in Table 6 and have also been applied in this research.

Table 6: Principles of applying Affordance theory to IS Research (Volkoff & Strong, 2017)

Principle 1: Remember that an affordance arises from the user/artefact relation, not just from the artefact.
Principle 2: Maintain the distinction between an affordance and its actualization
Principle 3: Focus on the action, not the state or condition reached after taking the action.
Principle 4: Select an appropriate level(s) of granularity for the affordances
Principle 5: Identify all salient affordances and how they interact

3.3 Justification for using the affordance theory

The weakness of affordances as a theory lies in the relational nature of affordances as there can be different meanings (Evans, Pearce, Vitak & Trim, 2016). However, it is still appropriate for this research. This research seeks to understand how people in romantic relationships use their smartphones to maintain their relationships. In so doing it looks at the actual use of the smartphones as well as the intentional and unintentional goals of the individuals. In addition, it also looks at other factors such as cultural values that influence how a person uses their smartphones to maintain their relationships. The affordance theory is best suited to this research for the following reasons.

- As people have different views and backgrounds about things they will stand to perceive things differently. Affordance theory considers the different views around the use of technologies such as smartphones as well as the relationship between the goal of the person and the features of the technology. For example, how the camera of the smartphone allows for relationship maintenance (Pozzi et al., 2014).
- Unlike some other adoption and use theories that focus only on behaviour and ignore the features of the technology such as the theory of planned behaviour (Taylor & Todd 1995), the affordance theory looks at the technology itself and the actor's behaviour and the relationship between the two. This makes it a perfect fit when trying to understand the use of smartphones within relationships as we not only need to look at the person's behaviour but the smartphone as well (Pozzi et al., 2014).
- Affordance theory is also suited to this research as it makes it possible to understand the outcomes of using technologies which is appropriate in this research as we seek to understand how smartphones are affecting romantic relationships (Majchrzak & Markus, 2012).
- Affordance theory also takes into consideration other factors such as culture and how they can enable or constrain the affordance (Majchrzak & Markus, 2012).

This study assumes that how individuals use their smartphones in their relationship is based on the affordances of smartphones that they perceive.

3.4 Communicative affordances of mobile media

Communicative affordances are affordances that change the communication practices and habits of people (Schrock, 2015). Based on their features and functionality, smartphones allow individuals to perform certain functions. Smartphones include mobile media technology, and these provide certain communicative affordances such as portability, availability, locatability and multimediability (Schrock, 2015). Portability of a smartphone makes it easy to carry around. Smartphones afford people to be available all the time either through texts, emails, social network sites or voice calls. Availability refers to how smartphones allow people to always be contactable. This can either through voice call, texts, emails, or social networks. These affordances are summarised in Table 7.

Table 7: Smartphone communicative affordances (Schrock, 2015)

Smartphone communicative affordances	Explanation
Multimediability	Taking of photos and videos with mobile phones
Locatability	Ability to know where one is physically located based on GPS coordinates
Portability	Ability to be carried around based on size and weight
Availability	Ability to be constantly switched on and connected

3.5 Summary of the chapter

This chapter presented the Affordance theory as a suitable framework for this research. An explanation of the Affordance theory was provided as well as a description of the use of affordances within information systems research. The researcher provided reasons why this theory was chosen as a framework for this research. The chapter concluded by presenting the communicative affordances of smartphones.

4 Research Design

This chapter will address the research methods used for this research. Section 4.1 presents the research philosophy. Section 4.2 presents the research strategy the research purpose and approach is presented in Section 4.3. Section 4.4 presents the research time frame and Section 4.5 presents the target population and unit of analysis. Thereafter, Section 4.6 presents the sampling strategy while Section 4.7 presents the data collection methods. The data analysis methods are presented in Section 4.8 and the validity and reliability of the research is explained in Section 4.9. The ethical considerations of the research are explained in Section 4.10. The Chapter is concluded by presenting a summary of the research methods in Chapter 4.11.

4.1 Research philosophy

The type of research methods and strategies implored by a researcher are heavily influenced and shaped by their research question as well as their view about knowledge (Scotland, 2012). The most common research paradigms that have been used within the field of information systems research are positivist, interpretivist and critical (Orlikowski & Baroudi, 1991). Table 8 provides an explanation of these three research paradigms.

Table 8: Research paradigms commonly used in Information systems

Methodology	Explanation
Positivist	This methodology assumes that knowledge already exists and can be measured quantitatively. It assumes that research is objective meaning the researcher can be independent of the research (Pather & Remenyib, 2005). Studies that are done using this method involves testing hypothesis
Critical	Critical research posits that the researcher cannot be objective and must declare their bias (Pather & Remenyib, 2005).

Interpretivist	This assumes that research is not independent of the researcher and is conducted within a social context. It assumes that knowledge must be socially constructed and is subjective (Pather & Remenyib, 2005).
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This research followed an interpretivist philosophical lens for the following reasons.

- The purpose of this research was to find out how the use of smartphone affords relationship maintenance. In addition, different cultures employ different relational maintenance strategies which shows that there are multiple realities involved hence the adoption of a subjective approach (Canary & Yum, 2015). Positivist research is best suited to research that seeks to confirm or test theories about the phenomenon and was, therefore, not suitable for this research (Kroeze, 2011)
- This study adopts the assumption that human relationships are often value-laden and need to be studied within their contexts (Manning & Kunkel, 2014). Therefore, interpretivism provides an ideal paradigm since it seeks to gain an understanding of human behaviour (Slevitch, 2011).
- To understand how smartphone use was affecting the maintenance of romantic relationships the researcher was not distanced from the research and spent some time with the participants and created a shared understanding, so she could interpret the knowledge (Bhattacharjee, 2012). Hertlein and Ancheta (2014) also followed the social constructionist stance as they wanted to understand how people created reality about technology use in relationships.
- The values and beliefs of the researcher influence the research in interpretive studies (Scotland, 2012). The researcher was not independent of the research (Scotland, 2012).

This research followed an interpretivist paradigm and a qualitative strategy.

4.2 Research strategy

This research adopted qualitative methods. These were considered ideal because qualitative research seeks to understand the meanings behind the objects of interest or behaviour while quantitative research seeks to quantify and analyse data (Tuli, 2010). A qualitative strategy is best suited for studying relationships (Ganong & Coleman, 2014) because it makes it possible to understand the meanings behind relationships (Ganong & Coleman, 2014). These meanings come across through qualitative interviews which allow people to express their feelings and thoughts about their relationships in their own words (Ganong & Coleman, 2014). Qualitative research undertakes to study people in their natural settings and to create new theories (Yilmaz, 2013). Qualitative research stems from a subjectivist or constructionist ontological view while quantitative strategies stem from an objectivist ontological view (Yilmaz, 2013).

4.3 Research purpose

Research can either be exploratory, explanatory, or descriptive (Bhattacharjee, 2012). For areas where little is known about the phenomenon of interest and the research seeks to discover more about the phenomenon the research purpose is usually exploratory (Bhattacharjee, 2012). Descriptive research seeks to document more information about an object as well as to make observations (Bhattacharjee, 2012). This is more suited to positivistic studies, while explanatory research seeks to provide explanations about what is happening (Bhattacharjee, 2012). The purpose of this research was descriptive as it sought to understand and discover more information on how smartphone technology was being used for relational maintenance.

4.4 Research time frame

The study relied on cross-sectional data, which is data that is collected at a given point in time (Bhattacharjee, 2012). This decision was informed by the time constraints of this Masters degree program which must be completed within a two year period including the coursework.

4.5 Target population & unit of analysis

The unit of analysis for this research was the relationship while the unit of observation were individuals in relationships. The study sought to explore how people in romantic relationships

use smartphones to maintain their relationships. Therefore, the inclusion criteria was, that the person must have owned a smartphone, must have been in a romantic relationship.

4.6 Sampling

This study implored a combination of convenience and purposive sampling. Stratification was used as part of purposive sampling. Purposive sampling was used to select people who were in relationships or had been in relationships. The researcher implored stratification by looking for respondents from different ethnical backgrounds and those that fall under the different relationship statuses either married, single, dating, engaged, widowed, or divorced. Depending on cultural background or ethnicity as well as relationship status the choices of relational maintenance strategies differ (Canary & Yum, 2015). Snowball sampling was used as the researcher asked for referrals from respondents to get more respondents. While convenience sampling was also implored as there were people that were readily available to provide the required data within the researcher's community.

Once a sampling strategy was selected the final step was to source the sample (Robinson, 2014). For this research online advertising was used by posting poster on Facebook, as this provided a wider sample for the research.

Fourteen people were interviewed for this research. Instead of being strict on a sample size, emphasis was placed on the saturation point which is when a point is reached during data collection when the researcher is not getting any new information from the interviews (Mason, 2010). Past research has shown that saturation point is between eight and sixteen interviews (Namey, Guest, Mckenna, & Chen, 2016). This is supported by Guest, Bunce & Johnson (2006) who argued that saturation point may be reached after twelve interviews.

4.7 Data collection

Data was collected through semi-structured interviews with open-ended questions. Ten of the interviews were conducted face-to-face while four of the interviews were conducted through WhatsApp chats. In addition, data was collected through an online discussion on Twitter with 13 respondents and 21 retweets.

Surveys and questionnaires are some of the data collection methods used for quantitative research while qualitative research uses focus groups, interviews, document analysis and observations of participants as ways of collecting data (Yilmaz, 2013). Most qualitative

studies use interviews (Bhattacharjee, 2012). Semi-structured interviews use some pre-set questions as guidelines, but the interviewer is permitted to ask other questions to gain the most relevant and rich information for the study (Grossoehme, 2014), This makes interviews an appropriate method to gain an understanding of how people are using their smartphones for relational maintenance.

4.7.1 Twitter discussion

Data was collected via an online discussion on Twitter. This was done by asking people to communicate how they were using their smartphones to maintain their relationships using the hashtag “#RomanticMaintenanceWithSmartphones” as depicted in Figure 5.

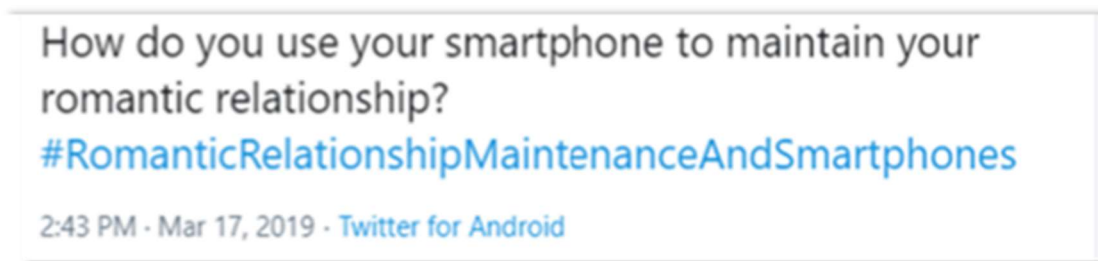


Figure 5: A screen shot of the twitter hashtag for the research

A hashtag helps to sort information and conversations on Twitter (Ahmed, Bath & Demartini, 2017). It is easy to follow a conversation or thread on twitter making it easy to retrieve data off the platform (Ahmed et al., 2017). The question was posted on Twitter on the 17th March 2019 and 13 people responded to thread and the question was retweeted 21 times. The researcher monitored and kept the thread going until the 5th April 2019. Thereafter, a follow-up question was posted on Twitter under the same hashtag on the 28th May 2019. This time around a question was asked around the communicative affordances of mobile media and how it was affecting their romantic relationship. However, only two responses were received. the researcher did not monitor the thread after the 31st May 2019. The discussion on Twitter was done before the interviews and the results were used to modify the interview questions. These results were also used for data triangulation. The Twitter discussion made it possible to get responses from a wider geographic area as anyone could respond to the tweet.

4.7.2 The Semi-structured interview

Interviews can be face to face, telephonic or even online channels (Grossoehme, 2014). The researcher carried out ten face to face interviews and four interviews through WhatsApp

messaging. Performing interviews instant messaging such as WhatsApp chats provides for a relaxed environment making it possible for the respondents to be forthcoming (Kaufmann & Peil, 2019). In addition, it makes it possible to interview people who are not in the same geographic location (Kaufmann & Peil, 2019). It might have been difficult to reach some of the respondents should all the interviews have been done face-to-face, but instant messaging made it possible for the researcher to reach a wider sample.

The researcher followed the following interview steps guided by suggestions from Turner (2010).

- The researcher prepared for the interviews, by finding a good quiet place and time to do the interviews, which included boardrooms, libraries, and study rooms.
- At the beginning of the interview the researcher first explained the purpose of the study to the interview candidate and explained how their confidentiality will be maintained.
- The researcher then explained the structure the interview will follow and how much time it was going to take.
- As the researcher ran the risk of forgetting to mention certain things to the candidate, all important notes were written down prior to the interview which were used as the script for the interview.
- The researcher provided a brief background about themselves at the beginning of the interview as a way of gaining the interview candidates' trust and establishing a shared understanding.

4.7.3 The interview protocol refinement process

As part of the instrument design, the researcher followed the four-step interview protocol refinement (IPR) (Castillo-Montoya, 2016).

- The first step involves making sure that the interview questions are flowing from the research questions (Castillo-Montoya, 2016).
- The second step is to create questions that foster conversation, but also allow the researcher to get the information required (Castillo-Montoya, 2016).
- The third and fourth step will be to create the questions followed by getting feedback from the supervisor then piloting the questions (Castillo-Montoya, 2016).

As part of the preparation for the interviews a pilot test was performed (Turner, 2010). The researcher tested the research instrument by interviewing two people with similar characteristics to those of the sample as a way of discovering any defects in the research design (Turner, 2010). The pilot study was used to determine the amount of time it was going to take to perform an interview (Chenail, 2011). This provided the researcher with an opportunity to revise the research design and added to the reliability of the research findings (Turner, 2010).

The research instrument before and after the pilot interviews can be found on Appendix E and Appendix F. One of the respondents that was interviewed for the pilot interview was an isiXhosa lady who struggled with English while the researcher could not speak isiXhosa. The researcher realised that she could not interview any people who could not speak English for this research which is a limitation of the research. The pilot interview was also useful as the researcher realised that there was a problem with the built-in voice recorder on her smartphone and this gave her an opportunity to find another recorder to use for the actual interviews. The interviews were recorded using the researcher's phone and the researcher did this with the permission of the participants. The interviews were transcribed verbatim by the researcher which helped her get familiar with the data as the researcher could rewind and playback the interviews. (McGrath, Palmgren & Liljedahl, 2019).

4.7.4 The Research Instrument

The interview questions were split into three sections.

- Section A was the demographic questions.
- Section B was maintenance strategy questions. The maintenance strategies and the affordance theory were used as a guideline for constructing the interview questions. The maintenance strategy questions were subdivided into individual threat mitigation, interactive threat mitigation, individual enhancement, and interactive enhancement strategies.
- Section C included other factors that affect maintenance such as culture were included in the interview questions.
- The interview protocol and questions are provided in Appendix E, D and F

4.8 Data analysis

This research followed a deductive approach. A deductive approach starts off with a theory which is tested and proven to work or not or which is used to develop more theories or expand on existing theories (Bhattacharjee, 2012). This research used relationship maintenance strategies and the affordance theory as a guideline for the research.

Thematic analysis was used to analyse the data collected from the interviews while content analysis was used to analyse the tweets. Thematic analysis and content analysis were used in this research due to the following reasons.

- Thematic analysis is a flexible data analysis method that is useful for researchers who are new to qualitative data analysis like the researcher for this study (Braun & Clarke, 2006).
- Thematic analysis is also an easily accessible method of analysis for researchers (Braun & Clarke, 2006). Part of the flexibility of thematic analysis means that it can be used for a deductive or inductive approach (Braun & Clarke, 2006), making it appropriate for this study.
- Thematic analysis is also appropriate for interpretive studies (Braun & Clarke, 2006).
- Content analysis is also flexible and suitable to both deductive and inductive research approaches (Stemler, Scott & Buchmann, 2015).

The thematic analysis was done by following Braun and Clarke's six phases of performing thematic analysis (Braun & Clarke, 2006). Table 9 shows the phases of thematic analysis and how they were applied in this study.

Table 9: Braun & Clarke's 6 phases of thematic analysis application

Phase	Application in study
1)Familiarizing yourself with the data	The researcher familiarized herself with the data firstly by transcribing the data herself. Secondly by reading and reading the interview transcripts as well as making notes on printed versions of the transcripts

2) Generating initial codes	Initial codes were generated by writing down the emerging codes manually as well as generating the codes in Nvivo. There were more than 15 code generated initially.
3) Searching for themes	Through reading and reading the transcribed data and going through the codes the researcher grouped the codes into about 11 potential themes.
4) Reviewing potential themes	Through an iterative process of going through the themes and the data the potential themes were further grouped together and the number of themes reduced from 11 to about 7 themes
5) Defining and naming themes	The researcher then came up with names for the themes. This process was also done over a few days as the names were refined a couple of times to capture the essence of the theme
6) Producing the report	The report writing was also an iterative process and the researcher kept going back and revising the report as the data was analysed

4.9 Research validity and reliability

Validity is aimed at proving that the results achieved are a real reflection of what the study claims (Grossoehme, 2014) and to verify that the results can be generalised. The researcher kept a research diary and documented every decision taken along the research process as well as the reasons behind it to make the research dependable (Grossoehme, 2014). The researcher also took note and recorded the feelings and emotions she experienced when she was listening to the interview candidates to declare any bias and make the entire process transparent (Thomas & Magilvy, 2011). The researcher kept an audit trail as another way of making the research trustworthy (Thomas & Magilvy, 2011). This included keeping all recordings, notes documents used in the research. The researcher included direct quotations from the respondents in the research.

The credibility of the research can also be gained by providing the reader with enough evidence through processes such as including quotations from the interviews (Cope, 2014). Data triangulation was employed to prove the reliability of the results. This was done by collecting data through a Twitter discussion as well as through in-depth interviews. Twitter

was used as it is an easy, flexible, and available method of collecting data on social media (Ahmed, Bath, & Demartini, 2017).

4.10 Ethical Considerations

All participants were informed beforehand that their participation in the research was voluntary and that they were free to withdraw at any time. The participants were required to sign a consent form before they could be interviewed; written consent was a prerequisite for each participant to take part in the research. No actual names were used in the research and privacy and confidentiality of the research subjects was maintained. The researcher explained the research to all the participants before they were interviewed so that they could understand what research they were taking part in and how their information was going to be used. However, the researcher did not get any informed consent from the Twitter respondents because the terms and conditions of Twitter stipulate that when a person agrees to use Twitter they also provide consent for other external people to use their data (Ahmed et al., 2017). In addition, when a person tweets using a hashtag they are aware that their tweets will be visible and accessible by the public (Ahmed et al., 2017).

There was potential that the researcher could have asked questions that may have triggered a relational issue that the participant was going through or had gone through but was still a matter of contention. To make sure that the research did not harm the participants in any way, the researcher provided the participants with contact details for relational helplines where they could get counselling and assistance should they have needed any.

The ethics approval was obtained from the University's ethics committee and the research only commenced once approval was obtained from the University. The ethics application form can be found under Appendix A in this document. All findings have been reported as part of the research and the researcher has declared any personal bias upfront which is that I am a married woman, and this may influence my views on the subject matter. The participants were asked for permission to record the interviews and were made aware that the recordings were only going to be used by the researcher to transcribe and analyse the interview.

Although the unit of analysis was the relationship the interviews were done with individuals and not couples. Firstly, if the couples had been interviewed at the same time one partner may not have felt free enough to answer truthfully out of fear of upsetting their partner (Dana,

2018). Secondly, one partner may have ended up dominating the conversation or the conversation might have become one-sided (Dana, 2018). Thirdly, interviewing couples together might have created tension and conflict situations for the couple’s relationship (Dana, 2018).

4.11 Summary of the Chapter

This chapter presented the research methods that were used in this study. Table 10 summarizes the methods that were followed to perform this research.

Table 10: Summary of the research methods used in the study

Ontology	constructivism
Epistemology	interpretivism
Approach	deductive
Purpose	descriptive
Time frame	cross-sectional
Sampling	purposive, convenience, snowball, and stratification
Data Collection	14 in depth semi structured interviews and a Twitter discussion
Analysis	<p>Braun & Clarke's 6 phases of thematic analysis and content analysis</p> <ul style="list-style-type: none"> • Familiarising yourself with data • Generating initial codes • Searching for themes • Reviewing potential themes • Defining and naming themes • Producing the report

The next chapter will present and discuss the findings of this research

5 Research findings and discussion

The main objective of this research was to explain how romantic couples use smartphones to maintain their relationships. This chapter presents and discusses the findings of this research and attempts to answer the research question “How do couples in romantic relationships use smartphones to maintain their relationships?”. The findings are presented and discussed based on the affordance theory and relationship maintenance strategies. Section 5.1 presents a summary of the demographic profile of the respondents. Section 5.2 presents and discusses the findings of the actualized affordances of smartphones for relationship maintenance. This will be followed by a presentation and discussion of the factors that affect the actualization of the affordances in section 5.3. Section 5.4 presents and discusses the findings on the effects of smartphone affordances on relationship maintenance. A summary of the chapter is then presented in Section 5.5.

5.1 Demographic profile of the respondents

Table 11 presents a summary of the respondents’ demographic profile. Based on the inclusion criteria of this research (Recall Chapter 3), 14 people who had been or were in a romantic relationship were interviewed. The respondents were aged between 24 and 54 years with the median age being 35 years. Nine of the respondents were women and five were men. Of the fourteen respondents, nine were married, two were dating, two were engaged and one was single. The duration of the relationships ranged between nine months and twenty-eight years with the average relationship duration being nine and a half years. The respondents also came from different cultural backgrounds which included, Irish, Shona, isiXhosa, Afrikaans, Venda, English, Cape Muslim and Coloured. A full listing of the respondents’ demographic data is presented in Appendix G.

Table 11: Demographic profile of the respondents

Demographic		Number
Gender	Male	5
	Female	9
Age group	18-24	1
	25-30	3
	31-35	3
	36+	5
Relationship status	Married	9
	Engaged	2
	Dating	2
	Single	1
Relationship duration	1 to 10 years	8
	11 to 20 years	4
	20 plus years	2
Cultural background	Afrikaans	4
	isiXhosa	2
	English	2
	Shona	2
	Venda	1
	Asian-Hindu	1
	Coloured	2
Education Level	Matric/Grade 12	2
	Certificate	2
	Diploma	2
	Degree	8

5.2 Actualized affordances

Based on how the respondents use their smartphones within their relationships several affordances have been identified. These affordances were divided into two categories, those that are implemented by individuals to maintain their relationships and those that are implemented by the couple together. These affordances presented and discussed in the subsequent sections. A description of some of the applications used is presented in Appendix H.

5.2.1 individual affordances

The individual affordances were those that were implemented by one partner within the relationship. These were relationship thinking, breaking away from reality and displaying intimacy and affection. Table 12 presents a summary of the individual affordances.

Table 12: Summary of the individual affordances of smartphones for relationship maintenance

Affordance	Commonly used features and apps	Sample of responses
Display intimacy and affection	Camera for videos and pictures	<i>“ I send her a little kissy on WhatsApp. Well, I will send her a little kiss on skype. The kiss is usually to say, ‘ok I’m safe or here I am or whatever’...”</i> Male Respondent 3
Breaking away from reality	Games, YouTube, Instagram, Netflix	<i>“..[the smartphone] helps to distract me from the issue I am facing by using my smartphone to browse the internet and also to calm myself by having someone to listen to me or text them.”</i> Female Respondent 14
Relationship thinking	Camera for videos and pictures	<i>“... I would send a picture of the times we went overseas and stuff and that is a pick me up for me. You remember those times and all that...”</i> Male Respondent 10

5.2.1.1 Displaying intimacy and affection

“ I send her a little kissy on WhatsApp. Well, I will send her a little kiss on skype. The kiss is usually to say, ‘ok I’m safe or here I am or whatever’...” Male Respondent 3

Smartphones are used to display affection and intimacy towards a partner in a romantic relationship. One of the ways that intimacy and affection are demonstrated using smartphones is by using emoticons and emojis. Emoticons and emojis serve as useful tools to increase intimacy during non-face-to-face conversations and for the maintenance of romantic

relationships (Gesselman, Ta & Garcia, 2019). The most common emojis and emoticons that the respondents were using were kisses, hugs, and hearts.

In addition, to using emoticons to be affectionate the respondents were using their smartphones to send romantic messages to their partners. Affection was displayed through posting pictures of partners on social media sites such as Facebook and WhatsApp statuses. Facebook 'loves' and 'likes' were also another popular way of showing affection. The respondents were using their smartphones to increase intimacy in their romantic relationships by "spicing things up" and sexting. This is done by sending 'naughty pictures' and videos and text messages. This was done mainly during the early phases of relationships as well as when one partner had travelled away from home. This was implemented through flirting with each other via text messaging primarily through WhatsApp chats and video calls.

This finding is consistent with the past research that showed that couples in relationships use their smartphones to enhance intimacy by sending each other romantic messages and through sexting (Campbell & Murray, 2015). In this research, sexting was more prevalent when a couple was separated by distance and during the early phases of a relationship which is in line with existing literature that depicts that sexting helps people who are apart to feel closer (Hertlein & Ancheta, 2014). The prevalence of sexting was also higher amongst those who were engaged, or dating compared to married couples.

5.2.1.2 Relationship thinking

"... I would send a picture of the times we went overseas and stuff and that is a pick me up for me. You remember those times and all that..." Male Respondent 10

The respondents indicated that they used their smartphones to go through pictures of their partner as a way of thinking about them and remembering the good times. This helped them to think about their partners and ways to improve their relationship or just reminded them of their love for them. One of the respondents indicated that they send pictures of the good times that they have had with their partner as a way of maintaining their relationships. Relationship thinking was also facilitated by making a partner's picture the wallpaper on a smartphone and as a result, whenever they were looking at their phone they would have a constant reminder of their partner and think about them and the relationship.

Relationship thinking is one of the individual relationship enhancement strategies (Ogolsky et al., 2017). This study supports and confirms that relationship thinking is used as a strategy to

maintain relationships which is in line with Dindia and Canary's relationship maintenance strategies (Ogolsky et al., 2017).

5.2.1.3 Breaking away from reality

"...[the smartphone] helps to distract me from the issue I am facing by using my smartphone to browse the internet and also to calm myself by having someone to listen to me or text them." Female Respondent 14

Several of the respondents mentioned that their smartphones provided them with a way of escaping reality. During conflict situations within the relationship, the respondents indicated that they used their smartphones to occupy their minds with something else. Some respondents indicated that they use their smartphones to listen to music as a way of calming down during stressful moments. In addition, several of the respondents mentioned that their smartphones provided them with an opportunity to daydream and forget about their relationship problems momentarily.

"...[the smartphone applications] helps to distract me from the issue I am facing by using my smartphone to browse the internet. I could also calm myself by calling or texting someone else to listen to me or text them." Female Respondent 14

The respondents were using their smartphones to break away from reality by sharing funny videos and pictures as well as funny text messages. This helped to lighten the mood especially during stressful times or even during conflict situations. However, some respondents indicated that their partners sent them funny videos and pictures, but they did not find them funny but still appreciated the effort. This finding is in line with the previous research that shows that being humorous or funny can lighten the mood and help to maintain the relationship (Ogolsky et al., 2017).

The researcher found that breaking away from reality helps couples to be more positive in their relationship as it enables them to relax and not think about serious issues. This is consistent with Dindia and Canary (Canary & Yum, 2015) relational maintenance strategy of positivity. However, the researcher did not find any differences with couples that have been together for a shorter period which is in contrast to Smith and Konda (2013)'s research. They found that positivity was mainly exercised by couples who had been together for a short time or dating. This might be because Smith and Konda had a larger sample size than the one for

this study and did not incorporate technology as a factor, future research could repeat the study with a larger sample size and focus specifically on the differences in terms of how smartphones are used based on demographics for relationship maintenance.

In addition, the researcher did not find any differences with regard to positivity and relationship duration which is not consistent with previous research that showed women to be more positive within a relationship than men (Pauley et al., 2014). This is probably due to the fact that their research did not focus on any technologies as a medium for being positive. Future research could focus on this.

5.2.2 interactive affordances

The interactive affordances were those affordances that were implemented by couples to maintain their relationships. These were conflict management, availability for support and encouragement and planning and organising Table 13 presents a summary of the interactive affordances.

Table 13: Summary of interactive affordances of smartphones for relationship maintenance

Affordance	Commonly used features and apps	Sample of responses
Conflict management	WhatsApp	<i>“cause in the heat of the moment.. you love that person but everything turns into anger and anything so you can say things that you don’t mean etc....but when you [use your phone] you can express yourself better [and this helps the situation].”</i> Male Respondent 3
Planning and organising	Trello, Kitchen stories, Google, Memo Pad, video calling, WhatsApp	<i>“When I go to the shops and I am unsure of what goodies to buy, I video call my partner and she helps me choose as she can also see the goods”</i> Male Respondent 1

5.2.2.1 Conflict management

“cause in the heat of the moment.. you love that person but everything turns into anger and anything so you can say things that you don’t mean etc....but when you [use your phone] you can express yourself better [and this helps the situation].” Male Respondent 3

The respondents used smartphones to manage conflict within the relationship by being open and transparent with each other and to escape the situation. Two of the respondents indicated that they use password sharing as a way of being transparent within the relationship as well as reassuring their partner that they are not cheating on them. Affordances can be enabling or constraining at the same time (Wang et al., 2018). Password sharing was found to be beneficial for the relationship by some respondents while others saw this as a violation of their privacy. This is an example of an affordance being enabling and constraining.

The respondents indicated that smartphones enabled them to be transparent in their relationships .However, smartphones also simultaneously introduce the mistrust and paranoia that require the transparency by making it possible for them to chat with other people such as previous partners. This, in turn, would make their partners feel unsettled. This study found that transparency gives assurance to a partner in the relationship of their partner’s love and commitment toward them. Several of the respondents indicated that they use their smartphones to keep their partners informed of what they are doing during the day and who they are chatting with and their whereabouts. One respondent mentioned that she and her partner used their smartphones to record videos of what they were doing as a way of keeping each other informed.

“I would show him things happening in the house, and in my family ... all these videos of me driving with my dad and my dad saying funny stuff and whatever...Then he would also send me videos” Female Respondent 7

Several respondents indicated that their smartphones enabled them to be more open with their partners. The respondents were using their smartphones as a barrier between them and their partners when they had to engage in difficult conversations making it easier for them to discuss sensitive issues. This was done through WhatsApp messaging which made the individuals have a feeling of being safe as they felt that they were hiding behind the phone and cannot see their partner’s reaction to their message. Whereas, during face-to-face conversations, individuals lack the courage to say what is on their mind. The respondents also

indicated that they could express themselves using any language or physical actions that they desire without the conversation getting heated and going out of control as compared to face-to-face discussions.

“... But I can roll my eyes without her seeing because we are chatting via message and not face to face... She can huff and puff without me seeing and hearing her.”

Female Respondent 13

The respondents also indicated that their smartphones enabled them to have unrestricted conversations with their partners. One respondent mentioned that when communicating with their partner over the phone they are able to use “swear words” which they cannot use at home. The uninhibited communication allows for respondents to say things that they would be afraid or embarrassed to say face-to-face. One respondent mentioned that she broke a gift that her partner had given to her and found it easier to let her partner know by sending a text message on WhatsApp instead of telling the partner face-to-face. A few of the respondents mentioned that smartphones through texting make it easier for them to resolve conflict and discuss any unresolved issues as it gives them time to reflect and think through before responding.

“.. you are able to reflect upon the things that have gone wrong, ...so I ask reflectory questions on this kind of platform”. Female Respondent 6

The respondents were also using their smartphones to encourage their partners to engage in conversations that they would have avoided in person. This was done by sending text messages as once a person has read a message then they feel the urge to respond. One of the respondents mentioned that they would rather send a message as they know that it forces their partner to respond whereas in person their partner always has an excuse not to talk or discuss any areas of contention.

Openness as a maintenance strategy is consistent with previous studies that indicate that openness is important for relationships and helps ensure that there are no secrets between a couple (Canary & Yum, 2015). The respondents were using their smartphones within their romantic relationships to be open and transparent. This was done by being able to discuss sensitive matters without fear of repercussions as well as by being able to disclose personal information to the other partner.

Smith and Konda (2013) found that openness was mainly used during the early stages of a relationship, for example, by couples who had been together for less than a year. However, in contrast, this research found that openness was used by couples who were either engaged or married and had been in a relationship for three or more years. This might be because smartphones are providing a way for people in relationships to disclose any information to their partners without fear as they do not have to do it in person. Whereas Smith and Konda (2013) focused more on the frequency of use of a particular maintenance strategy but without focusing on the impact of technology on this.

Previous research has found that openness is used more by women than men (Ogolsky & Bowers, 2013). However, this research did not find there to be a difference between men and women, but this might be due to a smaller sample size. Future research could repeat the current research with a larger sample and determine if gender has an impact in support of previous research.

Being open and transparent helps with managing conflict within a relationship which is another relational maintenance strategy identified in previous studies (Hertlein & Ancheta, 2014). This research found that couples use their smartphones to discuss serious or sensitive matters through WhatsApp and they are able to do this without the conversation getting out of control. This finding is consistent with the research which found that conflict management is managed better through the use of smartphones (Hertlein, 2012).

5.2.2.2 Planning and organising

“When I go to the shops and I am unsure of what goodies to buy, I video call my partner and she helps me choose as she can also see the goods” Male Respondent 1

The respondents indicated that smartphones enabled couples to plan and organise their lives together. Couples and individuals in relationships can plan the things that they need to do together such as household chores and errands, vacations, and social activities. The respondents in this study were doing this by sharing links of things to do and places to visit and sending reminders via texts of things that need to be done. One of the respondents mentioned that through the use applications such as Kitchen Stories they were able to plan their groceries and meals for the week. The respondents also mentioned that they use a Trello board to plan the things that they need to do together. Figure 6 shows one of the respondents’ Trello board that she used with her partner to plan things to do together. However, this

affordance was not perceived by some who indicated that they still used physical calendars to plan what they need to do with their partner.

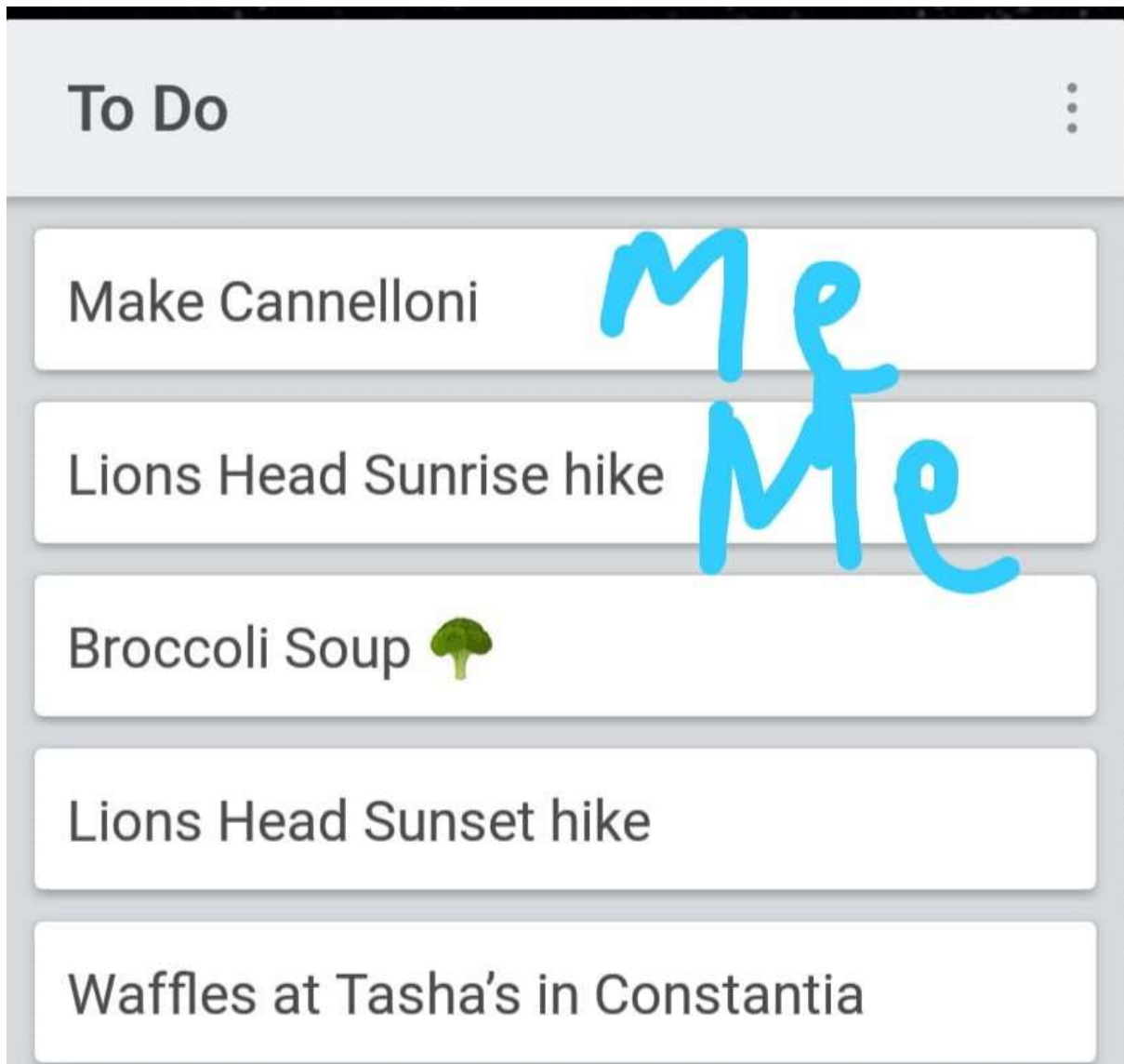


Figure 6: Respondent's 7's screenshot of Trello board

Planning and organizing includes sharing tasks which is one of the relational maintenance strategies (Ogolsky et al., 2017). Previous research has not looked specifically at how smartphones are used to share tasks within a romantic relationship but more generally around technology and relationships.

5.2.2.3 Availability for support and encouragement

The respondents were also using smartphones to provide their partners with support and encouragement. This was being implemented through the sharing of motivational texts such as scriptures and by sending encouraging voice notes and messages. This was being executed

for the most part through sending messages on WhatsApp. The respondents that were Christians were using the Bible App to widely search for verses to send to their partners for encouragement.

It was indicated that smartphones also enabled individuals to feel more secure as their partners were always available for them, especially in emergencies. The respondents indicated that they used their smartphones when they were alone and to let their partners know that they were safe.

The respondents were also using their smartphones to display their support and appreciation for their partners. Appreciation was shown by using smartphones to send gifts such as mobile money and to say, “thank you”. A respondent also indicated that their smartphone helped them to buy thoughtful gifts as they would use it to remember the things their partner liked by taking pictures or writing it down in their memo pad.

The respondents also indicated that they were using their smartphones to show appreciation to their partners without spending any money. This is done through sending pictures, emojis and thoughtful messages.

“Now that's where I love phones! ‘cos buying flowers and chocolates has gotten expensive...But sending little messages/pictures/emojis on the phone is free...”

Female Respondent 13

The respondents also indicated that smartphones make it possible for them to have face-to-face conversations using video calling or by sending each other videos when they are separated by distance from their partner.

“...having a smartphone has been positive for our relationship ... especially when I was away in Pretoria and he was here in Cape Town. Phones calls were not enough....I needed videos to see what's going on -visually”. Female Respondent 7

“it helped my relationship so much as we had a long-distance relationship. I was in Zimbabwe and he was in South Africa, we dated for three years mostly doing Facetime and WhatsApp...” Female Respondent 2

Availability and multimediability are some of the communicative affordances of smartphones (Schrock, 2015). This means that these communicative affordances of availability and multimediability of smartphones can be applied across different relationships and that

romantic relationships have similar needs to some other types of relationships such as friendships or business relationships. The findings indicate that social support, gratitude, generosity, and prayer are being used to maintain romantic relationships. This is consistent with the previous studies on relationship maintenance strategies (Ogolsky et al., 2017) that state the relationship maintenance strategies which include social support, gratitude, generosity and prayer.

5.3 Factors affecting the actualization of affordances

In this study, personal values and personalities were seen to have an impact on whether a person actualized an affordance. Not all respondents saw the potential for them to use their smartphones to flirt or “spice things up” in their relationship. This seemed to be dependent on a person’s values and personality.

“In our relationship, it is just a functional practical tool... and there has never been like oh let’s make this saucier so let’s use the phone to do this or take these kind of pictures to spice things up . It is almost like trying to use a blender for a fun activity it’s just a phone!” Female Respondent 8

Some respondents indicated that they did not use their smartphones to deal with any conflict or to say anything that is on their mind as they are only comfortable discussing issues in person, so they did not perceive this as an affordance.

This study found that cultural or traditional backgrounds have an impact as well on whether a person actualised an affordance. Some respondents indicated that they were able to use their smartphones to get the support of their family and friends for their relationship through sharing pictures. However, some of the respondents indicated that their culture does not allow them to tell their parents about their relationship, as a result, they could not use their smartphones to get their support through sharing pictures. This is in tune with existing literature that states that culture is a determining factor on how people maintain their relationships (Canary & Yum, 2015).

Some respondents indicated that their smartphones provided an opportunity to get around some cultural ways, for example, one respondent indicated that in their culture they cannot send pictures or inform their parents especially their father about their relationship unless they are about to get married, whereas they have managed to tell them indirectly by posting pictures of the boyfriend on Facebook and as a WhatsApp status update.

“ I have never told anyone[about my relationship], I just posted pictures [of us] and they[parents] figured it out” Female Respondent 11.

Culture is constraining when it comes to actualising certain affordances (Ogolsky et al., 2017). One respondent indicated that their culture does not permit taking pictures of private moments for example, one cannot even share pregnancy pictures. As a result, there is a limitation to what they can do with their smartphone within their relationship. Previous research has shown that depending on a person’s beliefs and values they will or will not exercise certain maintenance strategies for example, a person who believes in polygamy will not exercise derogation of alternative partners as a maintenance strategy (Ogolsky et al., 2017). This was found to be true in this study on how smartphones are used within a relationship as well.

Another factor that had an impact on whether a person would actualize an affordance was also personal circumstances such as distance. Certain affordances such as the displaying of intimacy were only actualized by individuals when they were separated by distance. The same for the stage of the relationship, certain affordances seemed more prevalent at the beginning of a relationship.

5.4 The effects of the affordances of smartphones on romantic relationships

Affordance effects are the outcomes of actualising an affordance (Volkoff & Strong, 2017). In this study, partner abstraction or partner phubbing was identified as a negative outcome of the actualization of the breaking away from reality affordance. Using the smartphone to escape from reality seemed to provide an avenue to destress and calm down for the one partner. However, at the same time the aforementioned introduced a problem for the other partner who now felt isolated because their partner was always on their phone instead of talking with them. Several respondents indicated that they felt frustrated and worried because of how distracted their partner was by their smartphone.

“..he is plugged out of the environment but plugged into his world, and it leaves me feeling completely isolated. I have to wait for him to take a break before I can interact with him because on the one level you want to respect that he is having a good time.

At least he is watching a music video rather than porn but it's still isolating me from him” Female Respondent 8

The study found that although individuals in relationships are frustrated by the fact that their partners are distracted by their phones, these individuals were not willing to bring it up as a point of discussion with their partner. As this would mean that these partners would, in turn need to stop using their smartphones in their partner's presence too and they were not willing to stop.

“..I don't want to [stop him from using his phone]because then he might [I should stop as well] when I like to [play] my game [on my phone] at night to just switch off. That is maybe his way to actually not focus.” Male Respondent 5

The aforementioned is in line with the research done by Chotpitayasunondh and Douglas (2016) that argued that although individuals in relationships are frustrated by the fact that their partners are distracted by their phones and realise the negative effects, they themselves still do the same (Aagaard, 2019). This is also consistent with research on the interdependence dialectical tensions which stipulates that tension occurs within a relationship due to individuals in relationships wanting different things and being conflicted about it (Canary & Yum, 2015).

This finding is consistent with all the latest studies on partner phubbing or technoference that shows that individuals are constantly distracted by their smartphones and snub off their partners to be on their phone which leads to the other partner feeling isolated. (McDaniel & Coyne, 2016)

Another effect of the constant communication and availability provided by smartphones for relationship maintenance is that smartphones have created an unrealistic expectation for immediate responses (Campbell & Murray, 2015). A few of the respondents indicated that once they can see that their message has been received and read by their partners they expect their partner to respond immediately. When their partners do not respond immediately this causes frustration within the relationship. However, this only seems to be an expectation that they have on their partners, so they do not expect anyone else that they send a message to, to respond immediately.

“I hate it! [when I don’t receive an immediate response] because if you have got time to read it then you must respond. Rather than read it and not respond. ...!” Female Respondent 4

From this research it seems like individuals in relationships are frustrated when their partners do not respond to their messages immediately. This finding is in line with existing literature that states that the constant availability awarded by smartphones is giving people unrealistic expectations of their partners to always be available to respond to their messages anytime of the day which causes conflict in a relationship (Campbell & Murray, 2015).

The findings showed that smartphones have both positive and negative effect on the maintenance of the relationship. Couples need to establish rules on the use of smartphones within their relationship so as to avoid smartphones impacting the relationship negatively (McDaniel & Coyne, 2016). Some suggestions by the respondents for managing the use of smartphones included having smartphone free times or boundaries and rules around the use of smartphones when they are together with their partners. This is in line with past research that has shown that the negative impact of smartphone in relationships is due to the way they are used within the relationship rather than the smartphone itself (McDaniel & Coyne, 2016).

5.5 Summary of the chapter

This chapter presented the findings of the research which were analysed based on the affordance theory. We discussed the findings by drawing on existing literature. The following affordances of smartphones for relationship maintenance were identified and these are displaying intimacy and affection, relationship thinking, planning, and organising, availability for support and encouragement, breaking away from reality, openness for conflict management and being transparent. It was also found that a person’s value system or culture and personality influences if they perceive or actualize an affordance of smartphones for maintaining their relationship. The effects of the affordances of smartphones are partner abstraction and unrealistic expectations. Most of the findings were all consistent with the existing literature and where differences were found an explanation was provided. The next chapter provides a conclusion for this research.

6 Conclusion

This chapter provides a conclusion of the study. Section 6.1 presents a summary of the study. Section 6.2 summarizes the implications for theory while Section 6.3 presents the researcher's reflection on the use of social media as a data collection method. Section 6.4 explains the limitations of the research. The chapter ends with suggestions for future research in Section 6.5.

6.1 Summary of the Study

The purpose of this research was to look at how individuals in romantic relationships were using their smartphones to maintain their relationships as well as the effect of smartphones on the relationship. The research followed an interpretivist approach. Data was collected through fourteen semi-structured in-depth interviews as well as through a discussion on Twitter. Individual and interactive affordances of smartphones for romantic relationship maintenance were identified in this study. These included availability for support and encouragement, relationship thinking, displaying intimacy, planning, and organizing, openness for conflict management, transparency and breaking away from reality. Personal values and culture affected how individuals used their smartphones to maintain their relationship. Unrealistic expectations and partner abstraction were identified as some of the outcomes of smartphone use within the relationships. These findings were all consistent with previous research on the impact of technology within relationships.

6.2 Implications for theory

The majority of research done on the use of technology within romantic relationships addresses advantages and disadvantages (Lanigan, 2009). There has been a lot of research done in the past on phubbing and problematic smartphone use (McDaniel & Coyne, 2016). This research has contributed to current literature by identifying how smartphones are used for relational maintenance in support of existing literature on technology and relationships.

This research has also contributed to the application of affordance theory within information systems research by practically applying Volkoff and Strong's six principles for applying the affordance theory within Information's Systems research. This research has also contributed to the growing body of using smartphones and social networks as a data collection method by

doing some of the interviews through WhatsApp chats. As well by using Twitter to collect data (Kaufmann & Peil, 2019).

6.3 Using Social media for data collection

By using Twitter as a data collection method, the researcher managed to reach a more heterogenous sample of respondents. However, the researcher did not have a high following, and this limited the number of respondents. To get several respondents to the post, a high number of followers on Twitter was required or someone with a great number of followers must respond to the Tweet or retweet it. As a result, the researcher did not get as many responses as she had envisioned.

In addition, Twitter does not have an easy way to download the thread into Excel or Word or even PDF formats which made it difficult for the researcher to put the data into a format that can be analyzed.

The researcher also conducted some interviews through WhatsApp texting. This provided an easy way of getting more respondents and the respondents did not have to worry about setting aside time during the day to meet for the interview. Using WhatsApp also made it possible to interview a wider geographical sample. Collecting data through WhatsApp chats provided the respondents with time to reflect on the questions asked without feeling under pressure to provide an answer immediately. Collecting data through WhatsApp also meant that the data was available to the researcher in a transcribed form immediately. However, the challenge with collecting data through WhatsApp was that there were interruptions or delays at times in getting a response to a question. This could have been because the respondent was taking their time to reflect on the question, or they could potentially have been distracted by other chats as well. Using WhatsApp as a data collection method may have also limited the richness of the data as the non-verbal expressions of the respondents were not visible.

6.4 Limitations of the study

The majority of respondents who agreed to be interviewed in this study were professional people working within the IT industry. This was a weakness for the study as it limits the ability to generalize the results as the sample was not heterogenous enough. The researcher attempted to get more participants to take part but also had to exclude respondents that could not speak English. This was due to the fact that the researcher was unable to communicate in isiXhosa or any other language other than English and due to the time constraints of the

master program the researcher could not employ a translator to change the interview questions into isiXhosa and translate the interview data into English.

One of the respondents also requested for a part of her interview to be removed as she did not want her ex-boyfriend finding out this information by reading the research as he was at the university as well. In addition, the data collected was self-reports from the participants which were not verified by speaking with their partners. There was also no way to verify that the participant was in a relationship or that they had recently been in a relationship.

6.5 Future research

Future research can be done on a more heterogenous sample by including non-professional people as well to see if they would be using their smartphones differently for relationship maintenance. Future research can also focus on assessing and monitoring the actual usage of smartphones instead of self-reported data. In addition, the research can also be repeated on Twitter to get a richer data sample by, first creating a following on Twitter prior to using it to collect research data and by being active on Twitter and forming relationships with individuals that have many followers on Twitter. Future research can also focus on how couples in same sex relationships use smartphones to maintain their relationships.

7 References

- Aagaard, J. (2019). Digital akrasia: a qualitative study of phubbing. *AI & Soc*, 35(2020), 237-244. <https://doi.org/10.1007/s00146-019-00876-0>
- Adams, R. D., & Baptist, J. A. (2012). Relationship maintenance behavior and adult attachment: An analysis of the actor-partner interdependence model. *The American Journal of Family Therapy*, 40(3), 230-244. <https://doi.org/10.1080/01926187.2011.605047>
- Ahmed, W., Bath, P., & Demartini, G. (2017). Using Twitter as a Data Source: An Overview of Ethical, Legal, and Methodological Challenges. In K. Woodfield, *The Ethics of Online Research. Advances in Research Ethics and Integrity* 2(2017), 79-107. <https://doi.org/10.1108/S2398-601820180000002004>
- Aldhaban, F. (2012). Exploring the adoption of Smartphone technology: Literature review. *2012 Proceedings of PICMET '12: Technology Management for Emerging Technologies*, (pp. 2758-2770). Vancouver.
- Aldhaban, F., Daim, T., & Harmon, R. (2015). Exploring the adoption and use of the smartphone technology in emerging regions: A literature review and hypotheses development. *2015 Portland International Conference on Management of Engineering and Technology (PICMET)*, (pp. 2355-2370).
- Alwraikat, M. (2017). Smartphones as a New Paradigm in Higher Education Overcoming Obstacles. *International Journal of Interactive Mobile Technologies*, 11(4), 114. <https://doi.org/10.3991/ijim.v11i4.6759>
- Ameen, N., & Willis, R. (2018). A generalized model for smartphone adoption and use in an Arab context: A cross-country comparison. *Information Systems Management*, 35(3), 254-274. <https://doi.org/10.1080/10580530.2018.1477300>
- Anderson, C., & Robey, D. (2017). Affordance potency: Explaining the actualization of technology affordances. *Information and Organization*, 27(2), 100-115. <https://doi.org/10.1016/j.infoandorg.2017.03.002>

- Aumer-Ryan, K., Hatfield, E., & Frey, R. (2007). Examining Equity Theory across Cultures. *Interpersona, 1*(1), 61-75. [https:// doi: 10.5964/ijpr.v1i1.5](https://doi.org/10.5964/ijpr.v1i1.5)
- Barelids, D. P., & Dijkstra, P. (2011). Positive illusions about a partner's personality and relationship quality. *Journal of Research in Personality, 45*(1) 37-43. <https://doi.org/10.1016/j.jrp.2010.11.009>
- Bernhard, E., Recker, J., & Burton-Jones, A. (2013). Understanding the Actualization of Affordances: A Study in the Process Modeling Context. *Proceedings of the 34th International Conference on Information Systems* (pp.1-11). Milan.
- Bhattacharjee, A. (2012). *Social Science Research: Principles, Methods, and Practices*. Open Access Textbooks.
- Braun, V., & Clarke, V. (2006). Thematic Analysis. *Qualitative Research in Psychology, 3*(2), 77-101. [https:// doi: 10.1191/1478088706qp063oa](https://doi.org/10.1191/1478088706qp063oa)
- Campbell, E. C., & Murray, C. E. (2015). Measuring the Impact of Technology on Couple Relationships: The Development of the Technology and Intimate Relationship Assessment. *Journal of Couple & Relationship Therapy, 14*(3), 254-276. <https://doi.org/10.1080/15332691.2014.953657>
- Canary, D. J., & Yum, YO. (2015). Relationship Maintenance Strategies. In C.Berger & Rollof M (EDs.) *The International Encyclopedia of Interpersonal Communication*. (1st edition., pp. 1-9) .
- Castillo-Montoya, M. (2016). Preparing for Interview Research: The Interview Protocol Refinement Framework. *The Qualitative Report, 21*(5), 811-831. Retrieved from <https://search-ebSCOhost-com.ezproxy.uct.ac.za/login.aspx?direct=true&db=aph&AN=115956780&site=ehost-live>
- Chemero, A. (2003). An outline of a theory of affordances. *Ecological Psychology, 15*(2), 181-195. https://doi.org/10.1207/S15326969ECO1502_5

- Chenail, R. J. (2011). Interviewing the Investigator: Strategies for Addressing Instrumentation and Researcher Bias Concerns in Qualitative Research. *The Qualitative Report*, 16(1), 255-262. Retrieved from <https://nsuworks.nova.edu/tqr/vol16/iss1/16>
- Czechowsky, J. D. (2008). *The impact of the BlackBerry on couple relationships*. (Unpublished doctoral dissertation). Wilfrid Laurier University. Retrieved from <http://scholars.wlu.ca/cgi/viewcontent.cgi?article=2055&context=etd>
- Chotpitayasunondh, V., & Douglas, K. (2016). How “Phubbing” becomes the norm: the antecedents and consequences of snubbing via smartphone. *Computers in Human Behavior*, 63(2016), 9-18. <https://doi.org/10.1016/j.chb.2016.05.018>
- Cope, D. G. (2014). Methods and Meanings: Credibility and Trustworthiness of Qualitative Research. *Oncology Nursing Forum*, 41(1),89-91. <https://doi-org.ezproxy.uct.ac.za/10.1188/14.ONF.89-91>
- Dana, Z. (2018). Conducting joint interviews with couples: Ethical and methodological challenges. *Qualitative Health Reserch*, 28(5), 844-854. <https://doi.org/10.1177/1049732317749196>
- David, M. E., Roberts, J. A., & Christenson, B. (2018). Too Much of a Good Thing: Investigating the Association between Actual Smartphone Use and Individual Well-Being. *International Journal of Human-Computer Interaction*, 34(3), 265-275. <https://doi.org/10.1080/10447318.2017.1349250>
- Denes, A., Dhillon, A., & Speer, A. C. (2017). Relational maintenance strategies during the post sex time interval. *Communication Quarterly*, 65(3), 307-332. <https://doi.org/10.1080/01463373.2016.1245206>
- Dery, K., Kolb, D., & MacCormick, J. (2014). Working with connective flow: How smartphone use is evolving in practice. *European Journal of Information Systems*, 23(5), 558-570. <https://doi.org/10.1057/ejis.2014.13>
- DeWall, C. N., Maner, J. K., Deckman, T., & Rouby, D. A. (2011). Forbidden fruit: Inattention to attractive alternatives provokes implicit relationship reactance. *Journal of Personality and Social Psychology*, 100(4), 621-629. <https://doi.org/10.1037/a0021749>

Dindia, K., & Canary, D. J. (1993). Definitions and Theoretical Perspectives on Maintaining Relationships. *Journal of Social and Personal Relationships*, 10(2), 163-173.

<https://doi.org/10.1177/026540759301000201>

Elhai, J. D., Dvorak, R. D., Levine, J. C. & Hall, B. J. (2017). Problematic smartphone use: A conceptual overview and systematic review of relations with anxiety and depression psychopathology. *Journal of Affective Disorders*, 207(2017), 251-259.

<https://doi.org/10.1016/j.jad.2016.08.030>

Evans, S. K., Pearce, K. E., Vitak, J. & Treem, J. W. (2016). Explicating Affordances: A Conceptual Framework for understanding Affordances in Communications research. *Journal of Computer-mediated Communication*, 22(2017), 35-52. <https://doi.org/10.1111/jcc4.12180>

Ganong, L., & Coleman, M. (2014). Qualitative research on family relationships. *Journal of Social and Personal Relationships*, 31(4), 451-459.

<https://doi.org/10.1177/0265407514520828>

Gaver, W. (1991). Technology affordances. *Proceedings of the SIGCHI conference on Human Computer Interaction*, (pp. 79-84). New Orleans.

Gesselman, A. N., Ta, V. P., & Garcia, J. R. (2019). Worth a thousand interpersonal words: Emoji as affective signals for relationship-oriented digital communication. *PLOS One*, 14(8), e0221297. <https://doi.org/10.1371/journal.pone.0221297>

Gibson, J. (1977). The Theory of Affordances. In R. Shaw, & J. Bransford, *Perceiving, acting, and knowing: Toward an ecological psychology* (pp. 67-82). Hillsdale, NJ:: Lawrence Erlbaum Associates.

Gibson, J. (1979). *The ecological approach to visual perception*. Boston: Houghton Mifflin.

Greeno, J. G. Gibson's affordances. *Psychological Review*, 101(2), 336-342.

<https://doi.org/10.1037/0033-295X.101.2.336>

Grossoehme, D. H. (2014). Research Methodology Overview of Qualitative Research. *Journal of Health Care Chaplaincy*, 20(3), 109-122.

<https://doi.org/10.1080/08854726.2014.925660>

- Guest, G., Bunce, A., & Johnson, L. (2006). How Many Interviews Are Enough? An Experiment with Data Saturation and Variability. *Field Methods*, 18(1), 59-82. <https://doi.org/10.1177/1525822X05279903>
- Han, Q., Cho, D. (2016). Characterizing the technological evolution of smartphones: Insights from performance benchmarks Paper presented at the *Proceedings of the 18th Annual International Conference on Electronic Commerce: E-Commerce in Smart Connected World (ICEC '16)*, New York, USA. <https://doi.org/10.1145/2971603.2971635>
- Hertlein, K. (2012). Digital dwelling: Technology in couple and family relationships. *Family Relations*, 61(3), 374-387. <https://doi.org/10.1111/j.1741-3729.2012.00702.x>
- Hertlein, K. M., & Ancheta, K. (2014). Clinical Application of the Advantages of Technology in Couple and Family Therapy. *The American Journal of Family Therapy*, 42(4), 313-324. <https://doi.org/10.1080/01926187.2013.866511>
- Holst, A. (2019). *Number of smartphone users worldwide 2016-2020*. Statista.
- Hutchby, I. (2001). Technologies, Texts and Affordances. *Sociology*, 35(2), 441-456. <https://doi.org/10.1177/S0038038501000219>
- Jarvenpaa, L. S. & Lang, K. R. (2005). Managing the Paradoxes of Mobile Technology. *Information Systems Management*, 22(2), 7-23. <https://doi.org/10.1201/1078.10580530/45520.22.4.20050901/90026.2>
- Kaptelinin, V., & Nardi, B. (2012). Affordances in HCI: Toward a Mediated Action Perspective. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, (pp. 967-976). New York.
- Kaufmann, K., & Peil, C. (2019). The mobile instant messaging interview (MIMI): Using WhatsApp to enhance self-reporting and explore media usage in situ. *Mobile Media & Communication*, 8(2), 1-18. <https://doi.org/10.1177/2050157919852392>
- Kelly, R., & Watts, L. (2015). Characterising the inventive appropriation of emoji as relationally meaningful in mediated close personal relationships. *Experiences of Technology Appropriation: Unanticipated Users, Usage, Circumstances, and Design*. Oslo.

- Kim, D., Chun, H., & Lee, H. (2014). Determining the Factors that Influence College Students' Adoption of Smartphones. *Journal of the Association for Information Science and Technology*, 65(3), 578-588. <https://doi.org/10.1002/asi.22987>
- Knapp, M., & Vangelisti, A. (2005). Relationship Stages: A communicative Perspective. In Allyn & Bacon (Eds.), *Interpersonal communication and human relationships* (5th ed., pp. 36-39).
- Kotlaja, M. (2020). Cultural contexts of individualism vs. collectivism: Exploring the relationships between family bonding, supervision and deviance. *European Journal of Criminology*, 17(3), 288-305. <https://doi.org/10.1177/1477370818792482>
- Kroeze, J. H. (2011). Interpretivism in Information Systems: A Postmodern Epistemology?". *Sprouts Working Papers on Information Systems*, 11(171), 1-14. <http://sprouts.aisnet.org/11-171>
- Kubacka, K. E., Finkenauer, C., Rusbult, C. E., & Keijsers, L. (2011). Maintaining close relationships: Gratitude as a motivator and a detector of maintenance behaviour. *Personality and Social Psychology Bulletin*, 37(10), 1362-1375. <https://doi.org/10.1177/0146167211412196>
- Lanigan, J. D. (2009). A Sociotechnological Model for Family Research and Intervention: How Information and Communication Technologies Affect Family Life. *Marriage & Family Review*, 45(6-8), 587-609. <https://doi.org/10.1080/01494920903224194>
- Lee, S. (2014). Examining the factors that influence early adopters' smartphone adoption: The case of college students. *Telematics and Informatics*, 31(2), 308-318. <https://doi.org/10.1016/j.tele.2013.06.001>
- Lucier-Greer, M., Birney, A. J., Gutierrez, T. M., & Adler-Baeder, F. (2018). Enhancing relationship skills and couple functioning with mobile technology: An evaluation of the Love Every Day mobile intervention. *Journal of Family Social Work*, 21(2), 152-171. <https://doi.org/10.1080/10522158.2017.1410267>
- Ma, Y., Zhao, G., & Zheng, Y. (2015). Attentional Biases toward Attractive Alternatives and Rivals: Mechanisms Involved in Relationship Maintenance among Chinese Women. *PLoS ONE*, 10(8), 1-16. <https://doi.org/10.1371/journal.pone.0136662>

- Majchrzak, A., & Markus, M. (2012). Technology Affordances and Constraints in Management Information Systems(MIS) In Kessler, E.(ED.), *Encyclopedia of Management Theory*, SAGE Publications, Thousand Oaks, Carlifonia
- Manning, J., & Kunkel, A. (2014). Making meaning of meaning-making research: Using qualitative research for studies of social and personal relationships. *Journal of Social and Personal relationships*, 31(4), 433-441.
<https://doi.org/10.1177/0265407514525890>
- Mason, M. (2010). Sample Size and Saturation in PhD Studies Using Qualitative Interviews. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*, 11(3), Art.8. <http://dx.doi.org/10.17169/fqs-11.3.1428>
- McDaniel, B., & Coyne, S. (2016). 'Technofence': The interference of technology in couple relationships and implications for women's personal and relational wel-being. *Psychology of Popula Media Culture*, 5(1), 85-98.
<http://dx.doi.org.ezproxy.uct.ac.za/10.1037/ppm0000065>
- McGrath, C., Palmgren, P., & Liljedahl, M. (2019). Twelve tips for conducting qualitative research interviews. *Medical teacher*, 41(9), 1002-1006.
<https://doi.org/10.1080/0142159X.2018.1497149>
- McGrenere, J., & Ho, W. (2000). Affordances: Clarifying and Evolving a Concept. *Accepted for publication in the Proceedings of Graphics Interface* . Montreal.
- Mongeau, P., & Henningsen, M. (2008). Stage theories of relationship development. In L. Baxter, & D. Braithwaite, *Engaging theories in interpersonal communications Multiple perspectives* (pp. 363-375).
- Monk, J. K., Vennum, A. V., Ogolsky, B. G., & Fincham, F. D. (2014). Commitment and sacrifice in emerging adult romantic relationships. *Marriage & Family Review*, 50(5), 416-434. <https://doi.org/10.1080/01494929.2014.896304>
- Namey, E., Guest, G., Mckenna, K., & Chen, M. (2016). Evaluating Bang for the Buck: A Cost-Effectiveness Comparison Between Individual Interviews and Focus Groups Based on Thematic Saturation Levels. *American Journal of Evaluation*, 37(3), 425-440. <https://doi.org/10.1177/1098214016630406>

- Norton, A. M., Baptist, J., & Hogan, B. (2018). Computer-mediated communication in intimate relationships: Associations of boundary crossing, intrusion, relationship satisfaction, and partner responsiveness. *Journal of Marital & Family Therapy*, 44(1), 165-182. <https://doi.org/10.1111/jmft.12246>
- O'Dea, S. (2020). *Smartphone users worldwide 2016-2021*. Statista research.
- Ogolsky, B. G., & Bowers, J. R. (2013). A meta-analytic review of relationship maintenance and its correlates. *Journal of Social and Personal Relationships*, 30(3), 343-367. <https://doi.org/10.1177/0265407512463338>
- Ogolsky, B. G., Kale, M. J., Rice, T. M., Theisen, J. C., & Maniotes, C. R. (2017). Relationship Maintenance: A Review of Research on Romantic Relationships. *Journal of Family Theory & Review*, 9(3) 275-306. <https://doi.org/10.1111/jftr.12205>
- Orlikowski, J. W., Baroudi, J.J. (1991). Studying Information Technology in Organizations: Research Approaches and Assumptions. *Information Systems Research*, 2(1), 1-28. <https://doi.org/10.1287/isre.2.1.1>
- Pather, S., & Remenyib, D. (2005). Some of the Philosophical Issues Underpinning Research in Information. *South African Computer Journal*, 2005(35), 76-83.
- Pauley, P., Hesse, C., & Mikkelson, A. (2014). Trait affection predicts married couples' use of relational maintenance behaviors. *Journal of Family Communication*, 14(2), 167-187. <https://doi.org/10.1080/15267431.2013.864292>
- Pickens, J., & Whiting, J. (2019). Tech Talk: Analyzing the Negotiations and Rules Around Technology Use in Intimate Relationships. *Contemporary Family Therapy*, 42, 1-15. <https://doi.org/10.1007/s10591-019-09522-9>
- Pozzi, G., Pigni, F., & Vitari, C. (2014). Affordance Theory in the IS Discipline: a Review and Synthesis of the Literature . *Twentieth Americas Conference on Information Systems*, (pp. 1-12). Savannah.

Roberts, J. A. & Davids, M. E. (2016). My life has become a major distraction from my cell phone: Partner phubbing and relationship satisfaction among romantic partners. *Computers in Human Behavior*, 54(2016), 134-141. <https://doi.org/10.1016/j.chb.2015.07.058>

Robinson, O. C. (2014). Sampling in Interview-Based Qualitative Research: A Theoretical and Practical Guide. *Qualitative Research in Psychology*, 11(1), 25-41. <https://doi.org/10.1080/14780887.2013.801543>

Ryding, F., & Kuss, D. (2020). Passive objective measures in the assessment of problematic smartphone use: A systematic review. *Addictive Behavior Reports*, 11(1) 1-18. <https://doi.org/10.1016/j.abrep.2020.100257>

Sarwar, M., & Soomro, T. R. (2013). Impact of Smartphone's on Society. *European Journal of Scientific Research*, 98(2), 216-226.

Schrock, A. (2015). Communicative Affordances of Mobile Media: Portability, Availability, Locatability, and Multimediality. *International Journal of Communication*, 9(2015), 1229-1246. <https://ijoc.org/index.php/ijoc/article/view/3288>

Scotland, J. (2012). Exploring the Philosophical Underpinnings of Research: Relating Ontology and Epistemology to the Methodology and Methods of the Scientific, Interpretive, and Critical Research Paradigms. *English Language Teaching*, 5(9), 9-16. <http://dx.doi.org/10.5539/elt.v5n9p9>

Silver, L. (2019). *Smartphone Ownership Is Growing Rapidly Around the World, but Not Always Equally*. Pew Research.

Slevitch, L. (2011). Qualitative and Quantitative Methodologies Compared: Ontological and Epistemological Perspectives. *Journal of Quality Assurance in Hospitality & Tourism*, 12(1), 73-81. <https://doi.org/10.1080/1528008X.2011.541810>

Smith, A., & Konda, K. (2013). Differences in Relational Maintenance Strategies: A Comparative study. *The Journal of Undergraduate Research*, 11, 89-106. <https://openprairie.sdstate.edu/jur/vol11/iss1/8>

Song, H., Zhang, Y., Zuo, L., Chen, X. C., d'Oleire Uquillas, F., & Zhang, X. (2019). Improving Relationships by Elevating Positive Illusion and the Underlying

- Psychological and Neural Mechanisms. *Frontiers in Human Neuroscience*, 12(2019), 526. <https://doi.org/10.3389/fnhum.2018.00526>
- Stafford, L. (2020). Communal strength, exchange orientation, equity, and relational maintenance. *Journal of Social and Personal Relationships*, 37(8-9) 1-21. <https://doi.org/10.1177/0265407520923741>
- Stemler, S. E., Scott, R. A., & Buchmann, M. C. (2015). Content Analysis. In S. Kosslyn, *Emerging Trends in the Social and Behavioral Sciences*. (pp. 1-15). New York: John Wiley & Sons Inc.
- Stendal, K., Thapa, D., & Lanamãõki, A. (2016). Analyzing the Concept of Affordances in Information Systems. *2016 49th Hawaii International Conference on System Sciences (HICSS)*, (pp. 5270-5277). Hawaii.
- Sternberg, R., & Sternberg, K. (2019). The New Psychology of Love. *Journal of family theory and review*, 12(March-2020) 80-87. <https://doi.org/10.1111/jftr.12356>
- Strong, D. M., Volkoff, O., Johnson, S. A., Johnson, L. R., Tulu, B., Bar-on, I., Trudel, J & Garber, L. (2014). A Theory of Organization-EHR Affordance Actualization. *Journal of the Association of Information Systems*, 15(2), 35-85. <https://doi.org/10.17705/1jais.00353>
- Tamimi, H., AlMazrooei, N., Hoshang, S., & Abu-Amara, F. (2018). Factors Influencing Individuals to Switch from Personal Computers to Smartphones. *2018 Fifth HCT Information Technology Trends (ITT)*, (pp. 67-70). Dubai.
- Taylor, S. & Todd, P. (1995). Decomposition and crossover effects in the theory of planned behavior: A study of consumer adoption intentions. *International Journal of Research in marketing*, 12(2), 137-155. [https://doi.org/10.1016/0167-8116\(94\)00019-K](https://doi.org/10.1016/0167-8116(94)00019-K)
- Thomas, D. R. (2006). A General Inductive Approach for Analyzing Qualitative Evaluation Data. *American Journal of Evaluation*, 27(2), 237-246. <https://doi.org/10.1177/1098214005283748>
- Thomas, E., & Magilvy, J. K. (2011). Qualitative Rigor or Research Validity in Qualitative Research. *Journal for Specialists in Pediatric Nursing*, 16(2), 151-155. <https://doi.org/10.1111/j.1744-6155.2011.00283.x>

- Tuli, F. (2010). The Basis of Distinction Between Qualitative and Quantitative Research in Social Science: Reflection on Ontological, Epistemological and Methodological Perspectives. *Ethiopian Journal of Education and Sciences*, 6(1), 97-108. [https://doi: 10.4314/ejesc.v6i1.65384](https://doi.org/10.4314/ejesc.v6i1.65384)
- Turner, D. W. (2010). Qualitative Interview Design: A Practical Guide for Novice Investigators. *The Qualitative Report*, 15(3), 754-760. Retrieved from <http://nsuworks.nova.edu/tqr/vol15/iss3/19>
- Turvey. (1992). Affordances and prospective control: An outline of the ontology. *Ecological Psychology*, 4(3), 173-187.
- Volkoff, O., & Strong, D. (2017). Affordance Theory and How to Use it in IS Research.. D. Galliers, & M.-K. Stein (Eds.), *The Routledge Companion to Management Information Systems* (1st ed.). London: Routledge .
- Volkoff, O., & Strong, D. (2013). Critical Realism and Affordances: Theorizing It-Associated Organizational Change Processes. *MIS Quarterly*, 37(3), 819-834. Retrieved from <http://www.jstor.org.ezproxy.uct.ac.za/stable/43826002>
- Wang, H., Wang, J., & Tang, Q. (2018). A Review of Application of Affordance Theory in Information Systems. *Journal of Service Science and Management*, 11(1), 56-70. [https://doi: 10.4236/jssm.2018.111006](https://doi.org/10.4236/jssm.2018.111006)
- Yilmaz, K. (2013). Comparison of Quantitative and Qualitative Research Traditions: epistemological, theoretical, and methodological differences. *European Journal of Education*, 48(2), 311-325. <https://doi.org/10.1111/ejed.12014>
- Yum, Y.O., & Hara, K. (2006). Computer-Mediated Relationship Development: A Cross-Cultural Comparison. *Journal of Computer-Mediated Communication*, 11(1), 133-152. <https://doi.org/10.1111/j.1083-6101.2006.tb00307.x>

Appendix A: Ethics approval letter



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@Commerce UCT



UCT Commerce Faculty Office

02nd April 2019

Ms Glitter Mhora
Department of Information
Systems
University of Cape Town

Dear Ms Mhora

REF: REC 2019/000/027

THE EFFECTS OF SMARTPHONE USE ON ROMANTIC RELATIONSHIP MAINTENANCE

We are pleased to inform you that your ethics application has been approved. Unless otherwise specified this ethical clearance is valid for 1 year and may be renewed upon application.

Please be aware that you need to notify the Ethics Committee immediately should any aspect of your study regarding the engagement with participants as approved in this application, change. This may include aspects such as changes to the research design, questionnaires, or choice of participants.

The ongoing ethical conduct throughout the duration of the study remains the responsibility of the principal investigator.

We wish you well for your research.

Shandre Swain

Administrative Assistant
University of Cape Town

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“Our Mission is to be an outstanding teaching and research university, educating for life and addressing the challenges facing our society.”

Appendix b: Research letter



UNIVERSITY OF CAPE TOWN

Department of Information Systems

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Engineering Mall – Upper Campus
OR Private Bag – Rondebosch 7701
Cape Town
South Africa

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Introductory Letter

My name is Glitter Tendayi Mhora and I am a Master's student in the department of Information Systems at UCT. As part of the requirements for my master's program I need to complete a research dissertation.

The title of my research is “**The effects of smartphone use on maintenance of romantic relationships: an affordance perspective**”.

This research seeks to understand how individuals in relationships use smartphones to maintain their relationships as well as how a person's relationship status of cultural background influences the maintenance of their relationship.

I hereby kindly request that you would participate in my research. Your confidentiality and anonymity will be maintained. Your participation in this research will be voluntary and you are free to withdraw at any time. The interview will take approximately 50 minutes. You will not be required to provide any identifier documents.

If you are willing to participate, please respond by sending the signed consent form below to this correspondence address.

Your time and assistance are greatly appreciated.

Kind regards,

Glitter Tendayi Mhora

M.Com Student

Department of Information Systems

University of Cape Town

mhrgli001@myuct.ac.za

Professor Wallace Chigona

Supervisor

Department of Information Systems

University of Cape Town

Wallace.chigona@uct.ac.za

Appendix C: Research participant consent form

Research Participant Consent Form

I, _____, hereby consent to taking

part in the

study on “The effects of smartphone use on the maintenance of romantic relationships: an affordance perspective”. By signing this form understand that;

- My participation is voluntary, and I will not be paid for taking part in this study
- I am free to withdraw from the research at any time.
- Notes will be taken during the interview.
- I agree/disagree to being recorded during the interview
- My confidentiality as a participant in this research will be maintained.

Signed On At

Appendix D: Interview procedure

Preparations
Confirm the location and time for the interview
read through interview guidelines
Test the recorder to make sure it is working and carry a backup
Beginning of the interview
Greet the interviewee and introduce yourself
Confirm that they still want to take part in the interview and let them know that they are free to opt out without any consequences
Confirm that they have signed the consent form and aware that their details will remain confidential
Check with them that they are still fine with the interview being recorded
Let them know how long the interview will take and the structure it will follow
Switch on the voice recorder
Briefly explain the purpose of the research
Ask interview questions
Confirm that you have understood what they have said and follow up if you need further information
End of interview
Thank them for participating
Let them know that they can get in touch with you should they want to ask any questions or provide further information
Post the interview
check recordings and start transcribing

Appendix E: initial Interview guideline questions

Section A: Background & demographic Questions

Please give me a brief background about yourself (age, occupation, education level)
You do not have to provide your age if you do not want to.

1. I am going to ask you a few questions about your background first.
2. What is your age? If you prefer not to answer, it is ok we can just move on to the next question.
3. What is your level of education?
4. What is your occupation?

5. What is your gender? If you prefer not to answer it is ok.
6. What is your partner's gender? If you prefer not to answer it is ok.
7. What is your current relationship status?
8. How long have you been in this relationship?
9. What is your ethnical or cultural background? If you prefer not to answer it is ok.
10. If you do not mind me asking, please tell me more about your cultural background and relationships
11. What type of smartphone do you have?
12. How long have you owned a smartphone in general?
13. How often do you use your smartphone in a day?
14. What are your favorite features of your phone?

Section B: Relationship Maintenance strategies

Individual threat mitigation strategies

1. Please tell me if you can about a time when you have felt that your relationship was under threat?
2. In what way have you used your smartphone during moments when you felt your relationship was at threat.?

Interactive threat mitigation strategies

1. During times of conflict or disagreement in your relationship, in what way do you use your smartphone to help you resolve your differences?
2. How does your smartphone help you when you are going through something and need to forgive your partner?
3. When you are going experiencing conflict within your relationship in what way has your smartphone enabled you to give up on what you want for the sake of your partner?
4. When has your smartphone enabled you to be there for your partner in their time of need?
5. On what occasions has your smartphone helped you during a stressful moment in your relationship?

Individual enhancement Strategies

1. Do you spend time thinking about your relationship? If yes how does this help you maintain your relationship and in what way do you use your smartphone to do this?
2. What effect has your smartphone had on you being generous and showing gratitude towards your partner?
3. Are you religious? If yes then how does your smartphone help you to pray for your relationship?

Couple enhancement strategies

1. How has your smartphone enabled you to stay positive in your relationship?
2. Tell me about a time when you have had to disclose information about yourself to your partner using your smartphone?
3. How do you use your smartphone to display your commitment ,loyalty and support to your part?
4. On what occasions do you use your smartphone to get support from your Family and friends for your relationship?
5. When do you use your smartphone to share tasks or chores that you need to do with your partner?
6. What effect has your smartphone had on you being funny or humorous with your partner?
7. How has your smartphone helped you to take part in different social activities with your partner?

Other factors

In what way has your values and background influenced how you use your smartphone within your relationship?

In addition to what we have spoken about , how else would you say that your smartphone is affecting your relationship with your partner?

Is there anything else you would like to add?

Appendix F: Revised interview guideline questions

Interview guideline questions

Section A: Background & demographic Questions

Please give me a brief background about yourself (age, occupation, education level)
You do not have to provide your age if you do not want to.

15. I am going to ask you a few questions about your background first.
16. What is your age? If you prefer not to answer, it is ok we can just move on to the next question.
17. What is your level of education?
18. What is your occupation?
19. What is your gender? If you prefer not to answer it is ok.
20. What is your partner's gender? If you prefer not to answer it is ok.
21. What is your current relationship status?
22. How long have you been in this relationship?
23. What is your ethnical or cultural background? If you prefer not to answer it is ok.
24. If you do not mind me asking, please tell me more about your cultural background and relationships
25. What type of smartphone do you have?
26. How long have you owned a smartphone in general?
27. How often do you use your smartphone in a day?
28. What are your favorite features of your phone?

Section B: Relationship Maintenance strategies

Individual threat mitigation strategies

3. Please tell me if you can about a time when you have felt that your relationship was under threat?
4. In what way have you used your smartphone during moments when you felt your relationship was at threat.?

Interactive threat mitigation strategies

6. During times of conflict or disagreement in your relationship, in what way do you use your smartphone to help you resolve your differences?
7. How does your smartphone help you when you are going through something and need to forgive your partner?
8. When you are going experiencing conflict within your relationship in what way has your smartphone enabled you to give up on what you want for the sake of your partner?
9. When has your smartphone enabled you to be there for your partner in their time of need?
10. On what occasions has your smartphone helped you during a stressful moment in your relationship?

Individual enhancement Strategies

4. Do you spend time thinking about your relationship? If yes how does this help you maintain your relationship and in what way do you use your smartphone to do this?
5. What effect has your smartphone had on you being generous and showing gratitude towards your partner?
6. Are you religious? If yes then how does your smartphone help you to pray for your relationship?

Couple enhancement strategies

8. How has your smartphone enabled you to stay positive in your relationship?
9. Tell me about a time when you have had to disclose information about yourself to your partner using your smartphone?
10. How do you use your smartphone to display your commitment ,loyalty and support to your part?
11. On what occasions do you use your smartphone to get support from your Family and friends for your relationship?
12. When do you use your smartphone to share tasks or chores that you need to do with your partner?
13. What effect has your smartphone had on you being funny or humorous with your partner?

14. How has your smartphone helped you to take part in different social activities with your partner?

Other factors

In what way has your values and background influenced how you use your smartphone within your relationship?

In addition to what we have spoken about , how else would you say that your smartphone is affecting your relationship with your partner?

Is there anything else you would like to add?

Appendix G: Respondents Demographic data

Name	Gender	Age	Relationship Status	Partner's Gender	Relationship Duration	Culture	Type of phone	Occupation	Education level
Respondent 1	Female	36	married	Male	15 years	Xhosa	iPhone 7	IT Manager	Tertiary degree
Respondent 2	male	28	engaged	female	2.5 years	English	iPhone Se	Junior Software Engineer	Tertiary degree
Respondent 3	male	33	engaged	female	13 years	Afrikaans	Samsung S9	Senior Software Engineer	Diploma
Respondent 4	Female	36	married	male	18 years	coloured	iPhone 7	Test Analyst	Diploma
Respondent 5	male	41	married	male	3 years	Afrikaans	Samsung S9	Systems Architect	Tertiary degree
Respondent 6	Female	31	married	Male	13 years	Venda	iPhone 6	PHD Student	Tertiary degree
Respondent 7	female	24	single	Male	9 months	Xhosa	Huawei	master's student	Tertiary degree
Respondent 8	Female	48	married	Male	25 years	Afrikaans	Nokia 5	Ceramic Potter	Matric
Respondent 9	Female	49	married	Male	4 years	Afrikaans	Samsung S8	Décor and Gift shop owner	Tertiary degree
Respondent 10	male	54	married	female	28 years	Cape Muslim	Huawei	Test Analyst	Matric
Respondent 11	Female	30	dating	Male	2 years	Karanga Shona	Samsung S8	Operations control	Certificate
Respondent 12	male	29	dating	female	1.5 years	Shona	Nokia 5	Investment Analyst	Tertiary degree
Respondent 13	Female	34	married	female	5.5 years	Irish	Huawei P30	Personal Trainer	Certificate
Respondent 14	Female	36	married	Male	3 years	Asian Hindu	Samsung A30	Scrum Master	Tertiary degree