

**STAKEHOLDER PERCEPTIONS OF SCIENCE COMMUNICATION  
AT THE UNIVERSITY OF PRETORIA  
CENTRE FOR SUSTAINABLE MALARIA CONTROL**

**by**

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## SYNOPSIS

In current turbulent times, sustainable relationships hinge on the mutual understanding created by a clear communication strategy between a business unit and its stakeholders. The purpose of this research was to develop a corporate communication strategy model for the University of Pretoria Centre for Sustainable Malaria Control (UP CSMC).

Purposive sample testing was conducted to determine the stakeholder perceptions of the main variables of this study, being: *communication management, social media, stakeholder relationships* and the *corporate communication strategy*. Objectives were achieved, the hypotheses stated duly tested and the results applied towards the development of a conceptual framework for a more formal and sustainable corporate communication strategy with a specific focus on communication about science related matters.

This study contributes to effective stakeholder communication between the organisation and its stakeholders through the introduction of communication mediums like social media and traditional media.

This research proposes a corporate communication strategy with integrated social media platforms, which helps organisations manage the relationships with their stakeholders. It suggests that when communicating about science, the UP CSMC should aim to communicate through different forms of interpersonal communication such as one-on-one engagements, events, seminars, exhibitions and other presentations. The Centre's corporate communication strategy should also include objectives to improve communication about science through interpersonal communication with stakeholders.

The new model proposes concepts that focus on an analysis of the environment, identification of strategic issues, development of communication hierarchy, communicating an effective communication strategy, developing a strategic communication plan and monitoring complete embedment.

The new proposed model is founded on an empirical study that comprises a descriptive study based on 45 developed questionnaires developed specifically for this study and answered by stakeholders of the UP CSMC.

The standard corporate communication model presented by Steyn and Puth (2000) was analysed, evaluated and tailored to fit the organisation's requirements. The proposed model developed in this study includes critical components relevant to the establishment and maintenance of sustainable relationships and can be adopted by any organisation with similar communication challenges as covered in this study.

**KEYWORDS** - *Communication management, social media, stakeholder relationships, corporate communication strategy, science communication, perceptions, University of Pretoria Centre for Sustainable Malaria Control, developed measurement instrument.*

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## **CHAPTER 1: INTRODUCTION AND BACKGROUND**

### **1.1 INTRODUCTION**

An organisation's success depends largely on its ability to process information of appropriate richness to reduce uncertainty and to clarify ambiguity that occurs in an environment of constant change (Spicer in Ströh, 1998:39). In current turbulent times, change is constant and sustainable relationships hinge on the mutual understanding of a clear communication strategy between the organisation and its stakeholders.

An organisation's purpose and direction is influenced by its relationships with key stakeholders and the communication strategy that it follows. It is common practice in most organisations to implement a corporate strategy that guide the organisation towards an intended purpose. With the effective use of communication in an organisation, the actions of individuals on whom the survival of the organisation depends can be co-ordinated to achieve the connectivity and alignment of stakeholder relationships (De Beer, 2001:2).

Communication is a major and essential part of the information sharing process and good communication skills are important to managers in the roles they execute. "The best idea in the world can fail if it's not communicated effectively" (Hattersley & McJanner, 2005:3). Excellent communication specialists in organisations in general, and business units in particular, contribute to knowledge sharing and decisions made by senior management by providing them with information about the environment of the organisation, about the organisation itself, as well as the relationship between the organisation and its stakeholders (Grunig, 1992:12).

Effective organisations are able to choose appropriate goals for their environmental and cultural context and then achieve their goals. However, strategic stakeholders can constrain the organisation to meet its goals and achieve its mission. Organisations strive for autonomy from these stakeholders and try to mobilise stakeholders that support their goals (Grunig, 1992:11). Stakeholders play an important part in an organisation. How they perceive the organisation and whether the management communicate efficiently with other stakeholders are also important considerations (Grunig, 1992:11).

An organisation's communication system with stakeholders is central in guiding and executing strategy (Dolphin & Fan, 2000; Van Riel & Fombrun, 2007:9). When it takes a strategic approach towards communication, the latter becomes integral to the formulation and implementation of strategy (Argenti, Howell & Beck, 2005:84).

A strategy indicates an organisation's position for the future and is determined for the purposes of overcoming present and future challenges that it faces. It is the logic behind actions, and illustrates the "*why* or *what* rather than the *how*" (Steyn & Puth, 2000:29). "Without a strategy, an organisation is like a ship without a rudder, going around in circles. It's like a tramp; it has no place to go" (Ross & Kami in Shackleton, 2007:1).

Furthermore, the strategy is the organisational plan for a predetermined period, to motion towards a common goal while simultaneously creating synergy amongst stakeholders (Shackleton, 2007:1). Through effective communication with its stakeholders, the organisation has the ability to reach its strategic objectives; that is, to support the enterprise strategy.

Organisational communication should be aligning to strategic management processes and organisational goals through strategic communication in order to become strategic (Steyn & Puth, 2000; Verwey & Du Plooy-Cilliers, 2002). Miller (2003:1) states that organisational communication "involves understanding how the symbolic nature of communication differentiates it from other forms of organisational behaviour".

Strategic communication on the other hand is described as communication aimed at aligning the entire organisation (the enterprise- and business units) towards the corporate strategy and, for instance, aligning different departments' goals or relationship building strategies with the corporate strategy (Steyn & Puth, 2000:3; Steyn, 2007).

Steyn and Puth (2000:44) elucidate that functional or departmental strategies should support the corporate strategy by ensuring its implementation and execution. The corporate strategy's design, therefore, incorporates the combination of the strategies and measurement instruments, produced by all the departments in the organisation. The entities need to be tightly woven together to form an effective, productive design. Each department in the organisation should understand its role and contribution towards the overall design of the corporate strategy.

The stakeholders (people) from the business unit investigated in this research study (University of Pretoria Centre for Sustainable Malaria Control) include the advisory board, management committee and academic staff of the various science departments at the University of Pretoria. Furthermore, post-graduate students at the University of Pretoria; The National Department of Health; the Departments of Health in all nine provinces in South Africa; the South Africa Malaria Elimination committee; and the Malaria Research Committee (MRC). They are the sources of science messages as communication specialists and facilitators who fulfil a mediation function in conveying the message of science.

Science communication is a term that “encompasses communication between: groups within the scientific community, including those in academia and industry; the scientific community and the media ... or others in positions of power and/or authority (including museums and science centres)..." (The 2000 report of the Office of Science and Technology and Wellcome Trust).

Scientific centres like the University of Pretoria Centre for Sustainable Malaria Control (which is considered in this research as being a business unit of the University of Pretoria) have a need for science communicators to communicate about science. Scientific centres are beginning to understand how communicating about science and improving its communication with their stakeholders can create partnerships to improve reputation and attract funding (Willems in Mullahy, 2004:7).

Science communication is not about promoting a centre, glorifying science without asking questions, or a one-way flow of information. It is rather about dialogue and engagement; having respect for the audience and context; exploring science and how it matters to society; and considering the scientists as the key actors. Harwood and Schibeci (in Palmer & Schibeci, 2014:513) conceptualise science communication as a multifaceted process of knowledge exchange. This process involves particular types of actors who want to communicate their knowledge to others.

Hargie and Tourish (2004:10) take a slightly different view of “how people ascribe meanings to messages, verbal and non-verbal communication, communication skills, the effectiveness of communication in business units, and how meanings are distorted or changed while people exchange messages, in both formal and informal networks”. The



flow of information, communication and the relationships facilitating it, become horizontal as well as vertical, both internally and between the business unit and the stakeholders (Morgan, 1998:2).

At the same time, communication is the responsibility and right of everyone within a business unit. In current times, social media is also a common phenomenon, which is a term used to describe the web-based tools, applications, spaces and practices that people use to interact with each other and to share information online. Examples include social networking sites such as Facebook, Twitter, blogs, news delivery sites and content-sharing sites (Anderson, 2009:1). Currently the primary form of social media between the enterprise and business unit is determined only as a web site that completely supports the lack of sustainable communication efforts and tools to enhance effective communication. Dess and Picken (2000:18) argue that "...to compete in the information age, business units must increasingly rely on the knowledge, skills, experience, and judgement of all their people".

No research has been conducted on the use of social media in the corporate communication strategy of the University of Pretoria Centre for Sustainable Malaria Control. The academic value of this study therefore includes the fact that it will focus on improving communication of knowledge, specifically supported by a formal corporate communication strategy framework designed to influence effective communication between the business unit and its stakeholders. Secondly, it will enhance relationships and embed a lasting corporate strategy of a knowledge-sharing centre. Finally, and most importantly, the intent of the study is to create awareness and positively influence stakeholder perceptions about communication about science at the business unit.

To provide more background on the context applicable to this study, a brief overview of the University of Pretoria (enterprise unit) and the University of Pretoria Centre for Sustainable Malaria Control (business unit) are provided in the next section.

## **1.2 BACKGROUND AND PROBLEM STATEMENT**

### **1.2.1 Background**

The University of Pretoria has its origins in the establishment of the Pretoria Centre of the Transvaal University College in 1908. The colloquial name of the University, Tuks or Tukkies, was derived from the acronym for the college, TUC. The University has nine

faculties and a business school, viz, Humanities; Law; Education; Theology; Economic and Management Sciences; Natural and Agricultural Sciences (includes the University of Pretoria Centre for Sustainable Malaria Control); Engineering, the Built Environment and Information Technology; Health Sciences; Veterinary Sciences; and the Gordon Institute for Business Science (UP Strategic Plan - 2025, 2011:3).

The overarching strength of the University of Pretoria is its diversity in terms of staff, students, the programmes offered and areas of research that define its excellence. Universities in South Africa have a distinct role in developing human capital and generating the knowledge and skills required for addressing the many challenges of our developing economy, society and region (UP Strategic Plan - 2025, 2011:3).

A central challenge over the next 15 years will be to strengthen the University of Pretoria's vision to be a leading research-intensive university. In order to achieve this vision, the University of Pretoria, has to simultaneously develop a model for growth in terms of its unique identity, and focus its core research activities on local relevance and existing strengths, recognised and evaluated on the international stage (UP Strategic Plan - 2025, 2011:3).

The University of Pretoria is recognised internationally for its quality research and education in malaria, which have cumulated in the establishment of the University of Pretoria Centre for Sustainable Malaria Control (UP CSMC). Malaria is a complex parasitic disease confined mostly to tropical areas and transmitted by female Anopheles mosquitoes. An estimated 250 million clinical cases of malaria are reported annually. Malaria-endemic countries are faced with a high cost of prevention and treatment of the disease. To eliminate this disease, integrated, collaborative and multi-partner research is needed for the continued development of new technologies and strategies as sustainable alternative methods in malaria control. The business unit was awarded a DST/NRF SARChi research chair for sustainable malaria control, which had officially commenced on 1 July 2013. The main focus of the business unit will be transmission blocking. A research chair in Integrated Vector Management (IVM) has also been established at the Centre (University of Pretoria Centre for Sustainable Malaria Control, 2015).

The Centre's main vision is to become a national and international renowned multi-disciplinary research centre, making a substantial contribution towards the creation of a malaria-free Africa by: employing sustainable and environmentally safe malaria control technologies; establishing integrated vector management strategies; ensuring effective malaria case management; and promoting health education in affected populations (University of Pretoria Centre for Sustainable Malaria Control, 2015).

The Centre's mission is: striving to generate new knowledge on the topic of safe malaria vector control in Africa through fundamental and applied research; to support and promote research collaboration within the enterprise unit and with regional, national and international partners; and to leverage and coordinate existing research activities in the University's departments (University of Pretoria Centre for Sustainable Malaria Control, 2015).

#### ➤ **Malaria related issues**

In this section the issue of malaria, will be discussed to understand how it fits into this study. Malaria is a life-threatening disease caused by parasites that are transmitted to people through the bites of infected female mosquitoes. About 3.2 billion people – almost half of the world's population – are at risk of malaria. Young children, pregnant women and non-immune travellers from malaria-free areas are particularly vulnerable to the disease when they become infected. Malaria is preventable and curable, and increased efforts are dramatically reducing the malaria burden in many places. Between 2000 and 2015, malaria incidence among populations at risk (the rate of new cases) fell by 37% globally. In that same period, malaria death rates among populations at risk fell by 60% globally among all age groups, and by 65% among children under 5 (World Health Organisation, 2016).

Malaria is caused by Plasmodium parasites. The parasites are spread to people through the bites of infected female *Anopheles* mosquitoes, called "malaria vectors" (World Health Organisation, 2016). In a non-immune individual, symptoms appear 7 days or more (usually 10-15 days) after the infective mosquito bite. The first symptoms – fever, headache, chills and vomiting – may be mild and difficult to recognize as malaria. If not treated within 24 hours, *P. falciparum* malaria can progress to severe illness, often leading to death (World Health Organisation, 2016).

Early diagnosis and treatment of malaria reduces disease and prevents deaths. It also contributes to reducing malaria transmission. The best available treatment, particularly for *P. falciparum* malaria, is artemisinin-based combination therapy (ACT). An ACT contains both the drug artemisinin and a partner drug. In recent years, parasite resistance to artemisinin's has been detected in 5 countries of the Greater Mekong sub-region: Cambodia, Lao People's Democratic Republic, Myanmar, Thailand and Vietnam (World Health Organisation, 2016).

The Global Malaria Programme (GMP) coordinates the World Health Organisation's (WHO) global efforts to control and eliminate malaria by: setting, communicating and promoting the adoption of evidence-based norms, standards, policies, technical strategies, and guidelines; keeping independent score of global progress; developing approaches for capacity building, systems strengthening, and surveillance; and identifying threats to malaria control and elimination as well as new areas for action (World Health Organisation, 2016).

In conclusion, on this issue it is stated that it is important for the business unit to have a clear understanding of effective communication efforts to communicate about malaria related issues and how these issues can be incorporated into strategic objectives to build on long-term stakeholder relationships. In order for the business unit to realise its strategic objectives it requires a well-designed communication strategy in support of its efforts.

The following section will discuss research that was done regarding malaria as an issue.

### ➤ **Research about Malaria**

Malaria is a mosquito-borne infectious disease of humans and other animals caused by parasitic protozoans (a type of unicellular microorganism) of the genus *Plasmodium* (Maharana, 2014:53). It is a preventable and treatable mosquito-borne disease, whose main victims are children below the age of five. According to the latest WHO (World Health Organisation) estimates, there were about 219 million cases of malaria in 2010 and an estimated 627,000 deaths in 2012. During 2000 to 2010, malaria mortality rates fell by 26 percent around the world (Maharana, 2014:54).

There were about 2,020 documents regarding malaria published during 2003 to 2012. In 2003 only 97 (4.81 percent) documents were published but it has grown more than three

times in 2012 (336, 16.64 percent). The literature growth was slow initially but gradually picked up over time. Again, it shows a positive and continuous growth rate as 11.88 percent (Maharana, 2014:54).

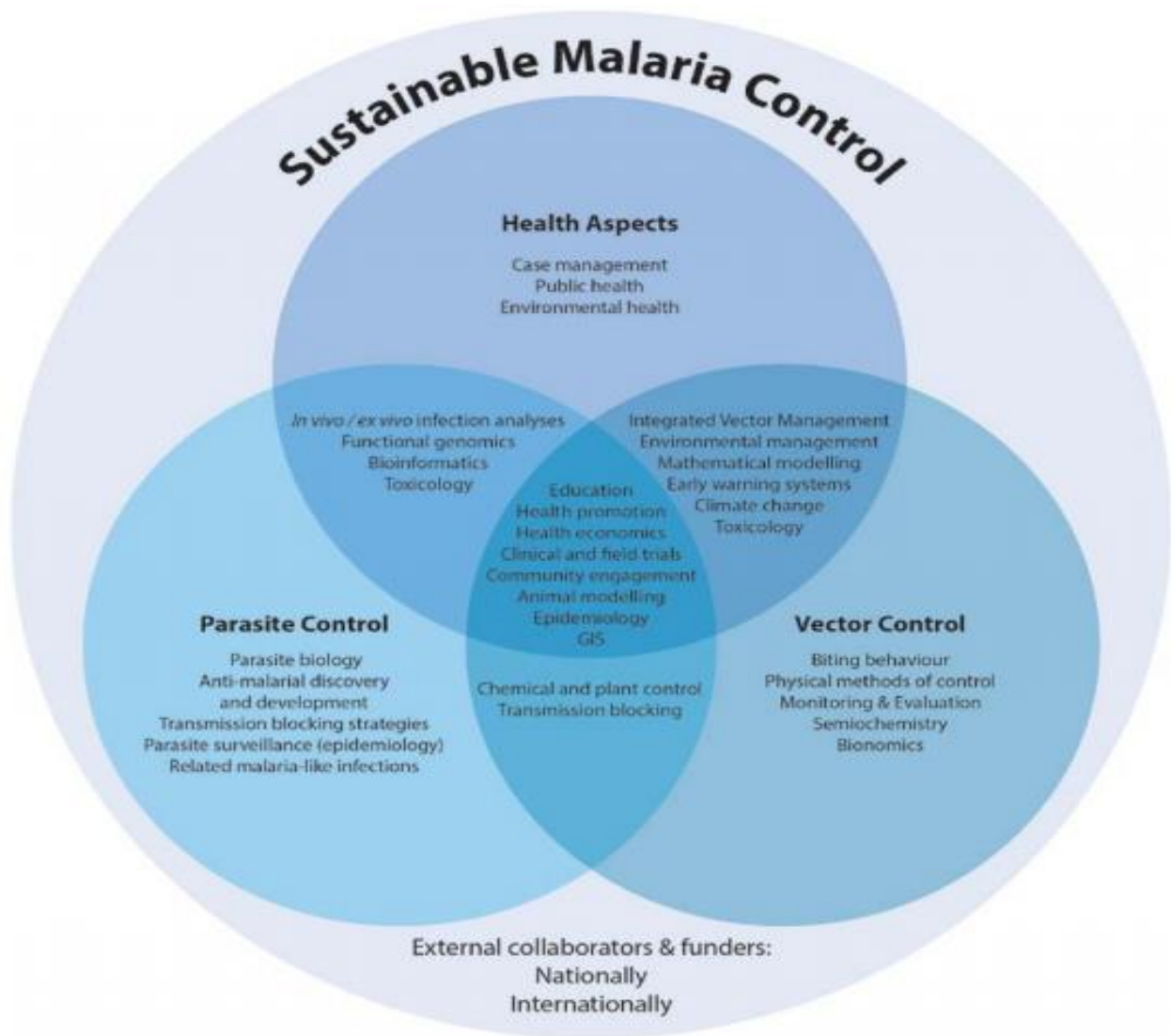
For the purpose of this study, the above research has shown that malaria research is growing and that it is necessary to communicate these findings to stakeholders.

The Centre pioneers research on a range of methods for sustainable malaria control, from the biochemical and the biological to the chemical and the physical. Research is also being conducted on how best to manage these methods at a transdisciplinary level. This business unit will be able to achieve its goal when it develops and sustains a strong internal network through good communication with its stakeholders, which include the advisory board, management committee and academic staff of the various science departments of the enterprise unit, post-graduate students, The National Department of Health, the Departments of Health in all nine provinces in South Africa, the South Africa Malaria Elimination committee and the Malaria Research Council office of malaria research, that are involved in malaria research and education (University of Pretoria Centre for Sustainable Malaria Control, 2015).

The business unit (UP CSMC) is strongly positioned to constructively contribute, through its structures and external networks, to find solutions to Africa's malaria challenges. It can add value through growth in excellence where it strives to support and promote existing malaria research and education activities at the enterprise unit level with the objective to add value to these activities in order to ensure growth in excellence. In addition, it will encourage the development of new malaria research and initiatives within the knowledge pool at the enterprise unit level. By doing so, the business unit supports the enterprise unit's 2025 vision (strategic plan) (University of Pretoria Centre for Sustainable Malaria Control, 2015).

The focus of the Centre is safer malaria control and management. It can be divided into three research groups (clusters) with research occurring within and across clusters. The research clusters are illustrated in Figure 1 below.

**Figure 1: Three research groups of the business unit**

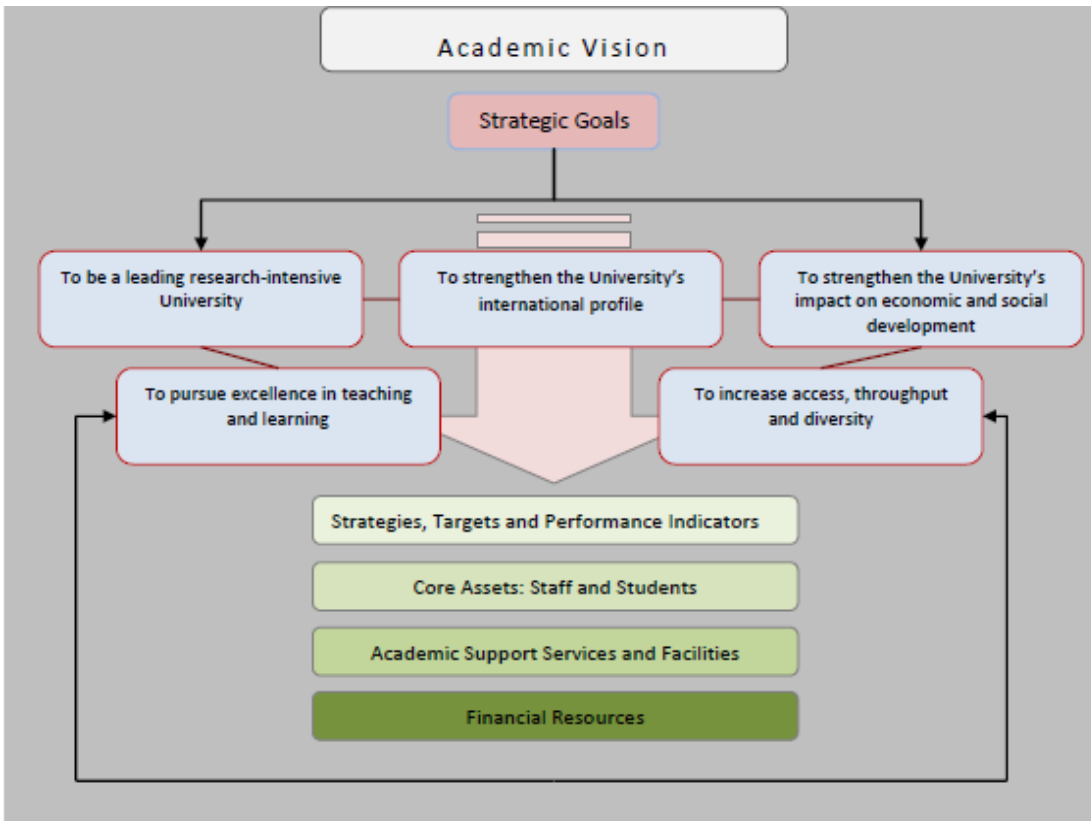


Source: University of Pretoria Centre for Sustainable Malaria Control (2015).

The purpose of the University’s 2025 strategic vision/plan is to capture the cornerstones of a common vision and understanding of its role and identity in the context of multiple and changing demands – nationally, regionally and in an increasingly interconnected global world. The challenge the University faces for the next 15 years will be to strengthen its vision to be a leading research-intensive university. The academic vision of the University, as illustrated in Figure 2 below, indicates that it will locate the core activities of research, teaching and learning; engage with society in national and regional contexts; and project its academic work on the international stage (UP Strategic Plan - 2025, 2011).



**Figure 2: University of Pretoria Academic 2025 vision**



Source: UP Strategic Plan - 2025 (2011).

In a Centre of this nature (business unit), it is necessary for its management committee to use the University of Pretoria's (enterprise unit) corporate strategy in its own strategy development.

The University supports the development of strong multidisciplinary research groups clustered around identified institutional and faculty research themes. Both are led by acknowledged international leaders in their disciplines and fields of study. In order to maximise the international and national impact of the enterprise unit's research, resources will be concentrated in a selected number of areas or Institutional Research Themes (IRTs) and Faculty Research Themes (FRT's). The IRTs as indicated in Table 1 below will enable critical mass and synergies to be achieved (UP Strategic Plan - 2025, 2011).

**Table 1: An indicative list of the IRTs and their related knowledge fields**

THEMES	DISCIPLINES	
Energy	Chemical Engineering Mechanical Engineering	Physics Chemistry
Food Nutrition and Well-being	Health Sciences Human Nutrition Veterinary Sciences: Production Animal Studies Education	Food Sciences Microbiology Botany Human Rights
Genomics Research	Immunology Genetics Veterinary Tropical Diseases	
Zoonotic Diseases	Veterinary Tropical Diseases Biochemistry Genetics	Immunology Public Health
Human Rights & Diversity	Economics Law Political Science Sociology	Psychology Genetics Gender Studies
Ecosystem Services and Livelihoods	Meteorology Biological Sciences	

Source: University of Pretoria (2015).

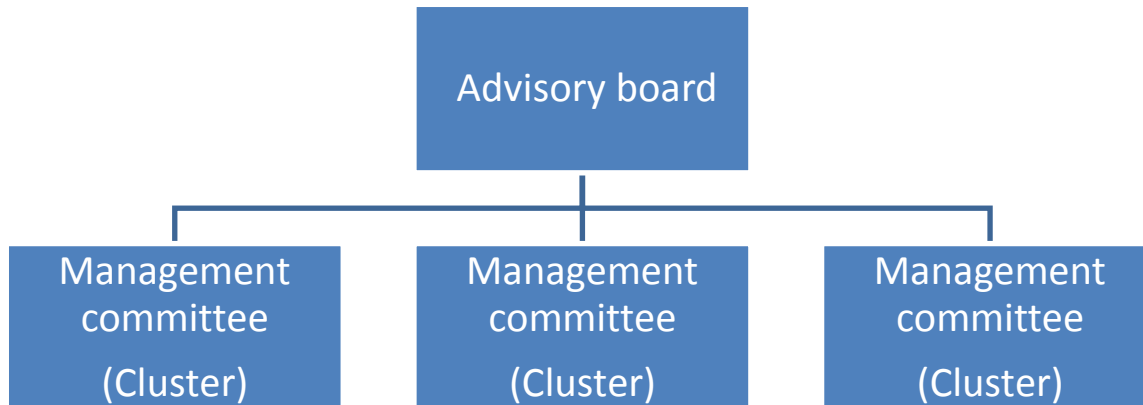
The FRT's are the following: the University of Pretoria Centre for Sustainable Malaria Control; International and Comparative Law; Cellular and Molecular Medicine; and Humanities Research Themes (University of Pretoria, 2015). The University of Pretoria Centre for Sustainable Malaria Control forms part of the FRT's which is also important for the success of the University's corporate strategy (University of Pretoria, 2015).

The strength of the corporate strategy is determined by the consistency of the Centre's performance measurement. The success of the Centre will be determined by the ability of the University's corporate strategy, to manage stakeholder relationships through effective communication. This surety is obtained, by firstly designing a strategy that matches the business unit's abilities, and secondly by ensuring the strength of the strategy's effectiveness with consistent measurement, before, during and after the strategy has been implemented.

For the purpose of this study, the functional organisation structure involves appointing an expert in a particular field/s (advisory board) over a number of departments (management committee clusters) as illustrated in Figure 3 below. The advisory board has the necessary authority to enforce decisions (van Schalkwyk, 2009:54) and in this study manage the relationship with its stakeholders.



**Figure 3: Business unit structure**



Source: Own compilation.

The business unit needs to recognise the benefits of its stakeholders to communicate about science in a more understandable manner. From this perspective, the science communication concept will be discussed in the next section.

### **1.2.2 The science communication concept**

Burns, O'Connor and Stocklmeyer (2003) define science communication as the use of appropriate skills, media, activities and dialogue to produce one or more of the following responses to science:

- Awareness, including familiarity with new aspects of science
- Enjoyment of other affective responses, e.g. appreciating science as entertainment or art
- Interest, as evidenced by voluntary involvement with science or its communication
- Opinions, the forming, reforming, or confirming of science- related attitudes
- Understanding of science, its content, processes, and social factors

Based on the above it is evident that science communication must be purposeful. The purpose of communication and communication about science must be understood by the business unit in order for it to improve its communication. The purpose of science communication is discussed in the next section.

## ➤ Purpose of science communication

According to Fischhoff and Scheufele (2012), science communication performs four interrelated tasks:

- Identify the science message most relevant to the stakeholders
- Determine what stakeholders already know about the science being communicated
- Design communication about science to fill the critical gaps (between what stakeholders know and need to know)
- Evaluate the adequacy of communication about science to be introduced.

Communication about science, also known as science communication, involves expertise from multiple disciplines (Fischhoff & Scheufele, 2012): (a) business unit communicator, to get the facts right; (b) decision scientists at the business unit, to identify the right facts, so that they are not missed or buried; (c) social and behavioural scientists at the business unit, to formulate and evaluate communication, and (d) business unit communication practitioners, to create trusted channels among the parties.

Therefore, communication about science involves the exchange of knowledge and the assumed understanding of that knowledge (Palmer & Schibeci, 2014:513). The difference between good, bad and average science communication (communication about science) requires understanding. According to Bucchi (2013:5) the field – and the topic of science communication in general – has long been dominated by a normative impulse.

For the most part, though, science communicators are on their own, forced to make guesses about how to meet their stakeholder's information/communication needs. That is why tertiary institutions need to improve the training of science communicators to explain their work to stakeholders and to focus on quality communication at all times.

During the 1970s, Kantrowitz's suggestion of an institution of scientific judgment- a science court designed to filter and certify the quality of scientific expertise for the benefit of stakeholders received support as well as severe criticism from scholars and commentators (Kantrowitz, 1967; Jurs, 2010). In the absence of "filters" at business unit level, business units have the challenge to ensure its communication about science is

*fair*. "Fairness" also has a strong historical and linguistic connection with quality. Fairness may be interpreted as the openness to criticism and reflexivity (Bucchi, 2013:910).

Business unit communication about science should also be *clean* as cleanliness is connected with fairness. New communicative scenarios (including at business unit level) have multiplied the number and variety of providers of science communication, who inevitably bring in their own aims and strategies (Bucchi, 2013:911). This probably calls, even more so than in the past, for business units to provide stronger educational infrastructures rather than to invest in short-term, short-sighted communication efforts (Bucchi, 2013:910).

This study intends to provide the University of Pretoria Centre for Sustainable Malaria Control with guidance, direction and traction in formulating a corporate communication strategy framework that will guide it to communicate with its stakeholders more effectively. Furthermore, this study will help business units to use communication methods like for example social media, to communicate with its long-term stakeholders about science.

There is a breadth of possibilities to communicate about science through the following methods (Jucan & Jucan, 2014:464):

- Traditional business unit reports.
- Live or face-to-face events: lectures, debates, dialogue, science centres on campus and science museums on campus.
- Online interactions: online business unit publications, internet sites (business unit website), blogs, wikis, podcasting, Facebook, Twitter and other social media activities.

#### ➤ **Science communication methods and models**

The following main types of science communication methods, described by Rowe and Frewar (2005) as a three-pronged approach, can be used to guide the organisation to communicate about science to its stakeholders. Firstly, communication is information flowing from the organisation to its stakeholders; secondly, the communication process, also known as consultation, is the direction of travel of information from stakeholders to

the organisation. This communication process is also the main focus point for this study. Thirdly, participation, which is the two-way communication between organisations and their stakeholders (if feedback was given).

A three key communication approach described below can be seen as a communication process about science, between organisations and their stakeholders Science for All (2010):

- (1) Transmit (inspire, inform, change, educate, build capacity and involvement or influencing the other's decision);
- (2) Receive (use the experience, views, skills, knowledge of others to inform, inspire, educate or build your own capacity or decision);
- (3) Collaborate (consider, create or decide something together).

Any science communication activity involves a mix of these approaches according to the needs of the stakeholders and the business unit involved.

Models in science communication have shifted from traditional, linear, sender-channel-receiver models (e.g., Lasswell, 1984; Shannon & Weaver, 1949) toward non-linear models. Important changes in these models are: (1) the direction of communication: one-way versus two-way (or multidirectional); (2) the roles of participants: namely a shift from the perspective that scientific illiterate people passively consume science information toward a perspective in which all people can actively participate in the process of information exchange based on people's existing knowledge and previous experiences; and (3) the information that is communicated: the fact that science messages produce inherently uncertain information that has different meanings in different (social) contexts is increasingly recognised (Bos, Koolstra & Willems, 2010:123).

Based on the previous discussion, the need is identified at the University of Pretoria Centre for Sustainable Malaria Control to develop a conceptual framework for a corporate communication strategy that will assist stakeholders to move towards more sustainable and effective communication efforts which form the aim of this study. The research problem statement will be discussed in the next section that will also indicate the context of the study.

### 1.3 RESEARCH PROBLEM STATEMENT

In this quantitative descriptive research, which is also of a hypothesis-testing nature, an explicit problem statement will be stated first.

Stating the problem that will be dealt with in this study will include specifying the unit of analysis. This involves the clear specification of the kind of social “entity” to be studied; the variables that the researcher is interested in and the relationship between them. The research objective or purpose and research strategy will also be clarified (Mouton, 1996:91).

The problem addressed in this study is *that many of the University of Pretoria Centre for Sustainable Malaria Control’s traditional communication efforts towards its long-term stakeholders about malaria-related issues are not strategically sustainable, and in many cases, not effective.*

It is suggested that a conceptual framework for a more formal and sustainable corporate communication strategy be developed for the strategic management of communication about science at the University of Pretoria Centre for Sustainable Malaria Control. The pragmatic corporate communication strategic plan, in support of the scientific corporate communication strategy framework, will involve the enterprise unit (University of Pretoria), the business unit (Centre for Sustainable Malaria Control of the University of Pretoria), and their stakeholders as the key role players. Mutual understanding between the business unit and its stakeholders about malaria related issues must be reached to develop sustainable and long-term relationships with the UP CSMC’s stakeholders through the corporate communication strategy framework, making use of, amongst others, social media.

#### 1.3.1 Research objectives

In this study, a survey have been conducted to establish the stakeholder perceptions about communication about science at the University of Pretoria Centre for Sustainable Malaria Control. This pertains specifically to the following variables:

- *Communication management:* As the problem statement states, many of the business unit’s traditional communication efforts with long-term stakeholders are not strategically sustainable and not effective, so therefore, communication is a major

and essential part of this study to ensure that the business unit communicates effectively with its stakeholders and that they have a mutual understanding of what is being communicated.

- *Social media*: This is a new platform for communication – the business unit needs to enhance its ways of communicating with its stakeholders. It also makes communication with stakeholders immediate by forcing business units to respond timeously to communication. Frequency is about how often the business unit is reaching and conversing with the stakeholders in building that relationship.
- *Stakeholder relationships*: As the problem statement for this study states, the communication between the business unit and its stakeholders is not strategically sustainable and therefore a communication strategy framework needs to be developed in order for the communication to improve. It is envisaged that if the communication improves, the stakeholders and the business unit will have a mutual understanding about malaria-related issues communicated by the business unit, which should result in building and maintaining long-term relationships.
- *Corporate communication strategy*: Creating an overall communication strategy can help bring coherence to all the various communication plans of the business unit. Such a strategy ‘provides focus and direction for a business unit’s communication, building relationships with strategic stakeholders ... and providing the framework for the communication plans necessary to carry out the strategy’ (Steyn & Puth, 2000:179). Such a strategic role of communication will ensure excellence in the quality of information shared, while streamlining and prioritizing communication to help achieve a business unit’s objectives effectively (Steyn & Bütschi, 2004).

The purpose of this research is to develop a corporate communication strategy model for the University of Pretoria Centre for Sustainable Malaria Control (UP CSMC). Based on the primary goal for this study, the following objectives are also stated:

- i. To determine whether communication about science can take place through effective stakeholder communication.
- ii. To determine whether communication about science can take place through traditional media channels.
- iii. To determine whether long-term stakeholder relationships can be established by using traditional media channels.

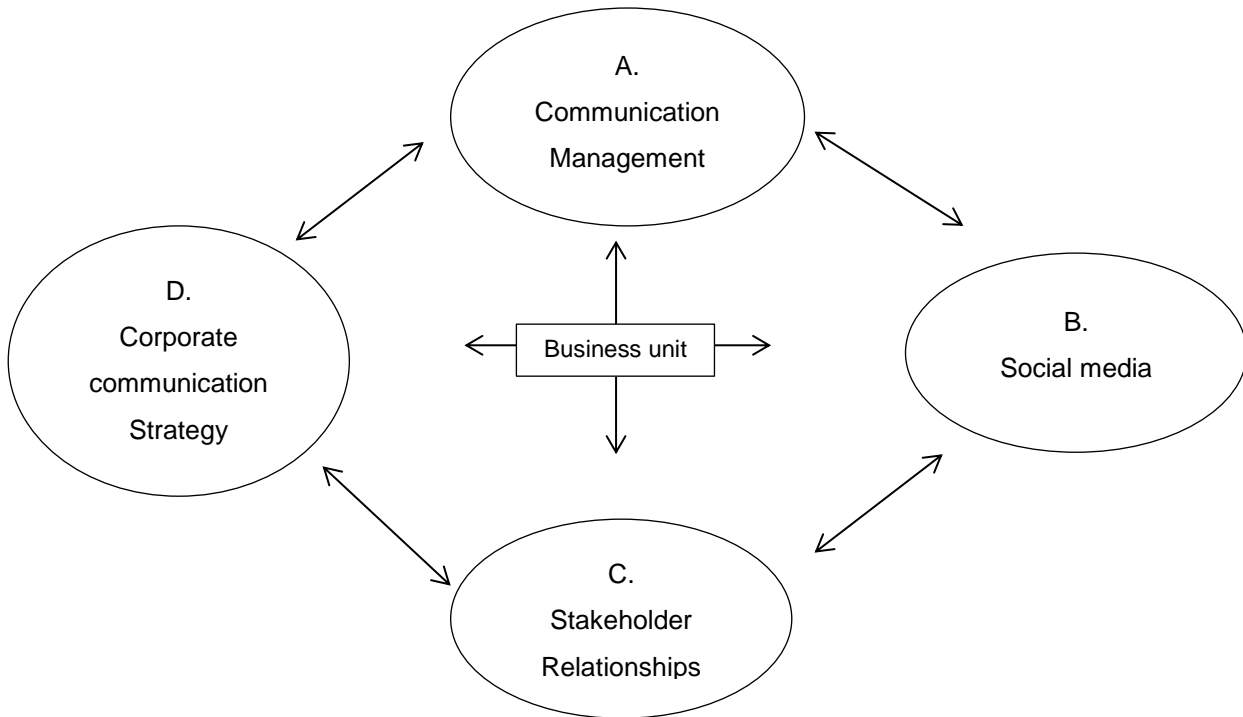
- iv. To determine whether communication about science can take place through social media.
- v. To determine whether long-term stakeholder relationships can be established through social media channels.
- vi. To determine whether long-term stakeholder relationships can be enhanced through two-way symmetrical communication.
- vii. To determine whether long-term stakeholder relationships can be enhanced through two-way asymmetrical communication.
- viii. To determine whether mutual understanding about malaria related issues can be achieved by communicating about science.
- ix. To determine whether mutual understanding about malaria related issues can contribute to the establishment of long-term stakeholder relationships.
- x. To determine whether the corporate communication strategy can include: communication about science; effective stakeholder communication; two-way symmetrical practices; two-way asymmetrical practices; traditional media channels; social media channels; long-term stakeholder relationships; mutual understanding about malaria related issues; and stakeholder perceptions about the University of Pretoria Centre for Sustainable Malaria Control and its image.

### **1.3.2 Research hypotheses**

Although this is a basic or academic study, it also pertains to a typical problem in the social/business world, which indicates that it also has applied facets (Mouton, 1996:104). The relationship between the following variables will be studied (these relationships are depicted in more detail in Chapter 4).

Two or more variables are related, associated or linked to the extent that changes in one variable is accompanied by systematic and sometimes predictable change in another (Mouton, 1996:96; Du Plooy, 1996:37).

**Figure 4: Linkages between variables**



Source: Own conceptualisation.

The research hypotheses link directly to the research objectives mentioned above, but were formulated as tentative concrete and measurable assumptions as obtained from the literature study (Bailey, 2008; Du Plooy, 1996:36; Mouton, 1996:110).

**H1:** Communication about science can take place through effective stakeholder communication.

**H0:** Communication about science cannot take place through effective stakeholder communication.

**H2:** Communication about science can take place through traditional media.

**H0:** Communication about science cannot take place through traditional media.

**H3:** Long-term stakeholder relationships can be established through traditional media channels.

**H0:** Long-term stakeholder relationships cannot be established through traditional media channels.



**H4:** Communication about science can take place through social media.

**H0:** Communication about science cannot take place through social media.

**H5:** Long-term stakeholder relationships can be established through social media channels.

**H0:** Long-term stakeholder relationships cannot be established through social media channels.

**H6:** Long-term stakeholder relationships can be enhanced through the two-way symmetrical model of communication.

**H0:** Long-term stakeholder relationships cannot be enhanced through the two-way symmetrical model of communication.

**H7:** Long-term stakeholder relationships can be enhanced through the two-way asymmetrical model of communication.

**H0:** Long-term stakeholder relationships cannot be enhanced through the two-way asymmetrical model of communication.

**H8:** Mutual understanding about malaria related issues can be achieved by communicating about science.

**H0:** Mutual understanding about malaria related issues cannot be achieved by communicating about science.

**H9:** Mutual understanding about malaria related issues can contribute to the establishment of long-term stakeholder relationships.

**H0:** Mutual understanding about malaria related issues cannot contribute to the establishment of long-term stakeholder relationships.

**H10:** The corporate communication strategy can include communication about science.

**H0:** The corporate communication strategy cannot include communication about science.

**H11:** The corporate communication strategy can include effective stakeholder communication.

**H0:** The corporate communication strategy cannot include effective stakeholder communication.

**H12:** The corporate communication strategy can include two-way symmetrical practices.

**H0:** The corporate communication strategy cannot include two-way symmetrical practices.

**H13:** The corporate communication strategy can include two-way asymmetrical practices.

**H0:** The corporate communication strategy cannot include two-way asymmetrical practices.

**H14:** The corporate communication strategy can include traditional media channels.

**H0:** The corporate communication strategy cannot include traditional media channels.

**H15:** The corporate communication strategy can include social media channels.

**H0:** The corporate communication strategy cannot include social media channels.

**H16:** The corporate communication strategy can support long-term stakeholder relationships.

**H0:** The corporate communication strategy cannot support long-term stakeholder relationships.

**H17:** The corporate communication strategy can support mutual understanding about malaria related issues.

**H0:** The corporate communication strategy cannot support mutual understanding about malaria related issues.

**H18:** The corporate communication strategy can address stakeholder perceptions about the University of Pretoria Centre for Sustainable Malaria Control and its image.

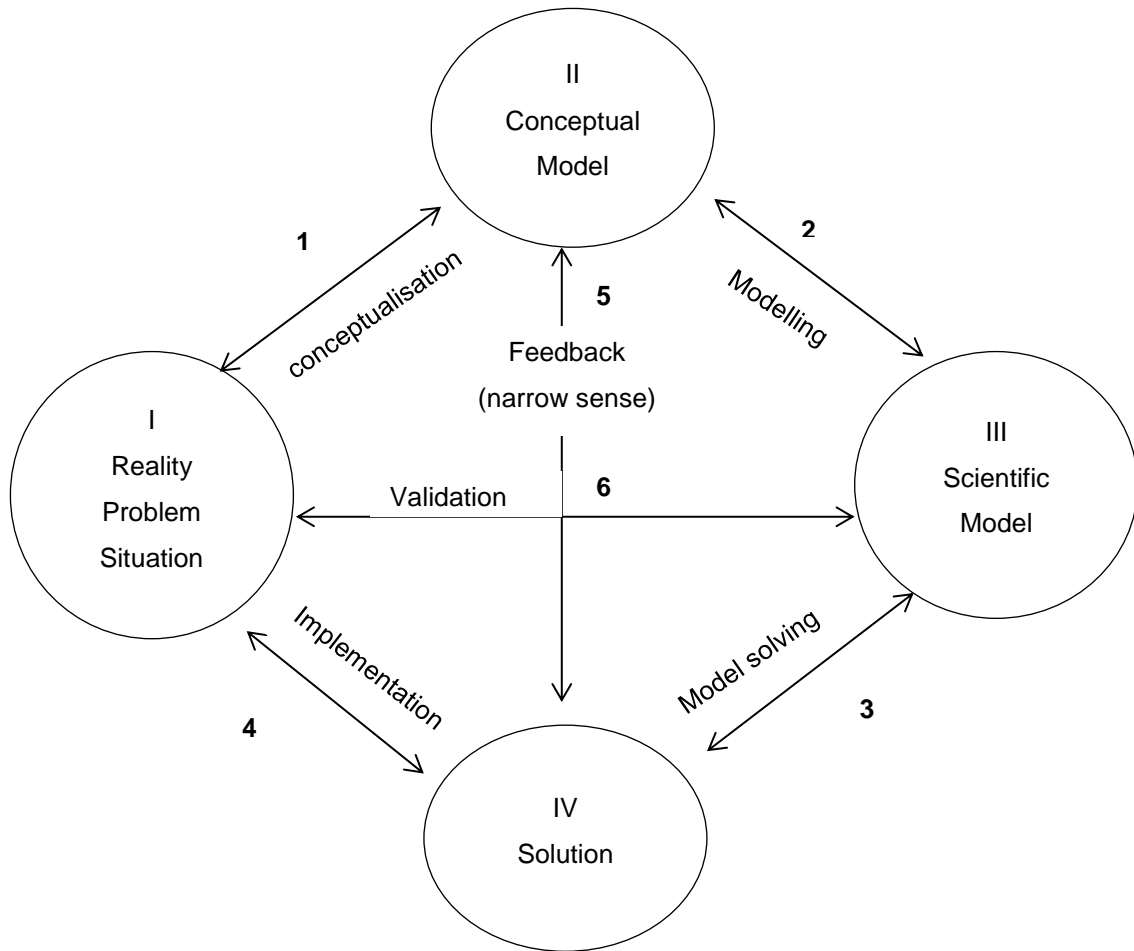
**H0:** The corporate communication strategy cannot address stakeholder perceptions about the University of Pretoria Centre for Sustainable Malaria Control and its image.

The next section discusses the approach the study will follow to solve the problem addressed in this study.

#### **1.4 APPROACH TO SCIENTIFIC PROBLEM SOLVING**

This study approaches scientific problem solving using the model developed by Mitroff, Betz, Pondy and Sagasti (1974). This model is illustrated in Figure 4.

**Figure 5: A systems view of problem solving**



Source: Mitroff *et al.* (1974:48).

Mitroff *et al.* (1974:46) developed their model based on the principle that a holistic view of a phenomenon is necessary in order to understand all its essential characteristics. As such, their model takes a systems' view of problem solving, examining the process as a whole and the many interactions between the different elements. In its simplest form, their model of problem solving contains four key circles – the problem, the conceptual model, the scientific model and the solution – and four key processes – conceptualisation, model solving and implementation. However, Mitroff *et al.* (1974) emphasise that each of these components and processes are dependent on and influence each other. As well, the overall problem-solving process can start and finish at any place in the model using almost any combination of circles and processes, each with particular consequences for the study being undertaken.

This study begins at the problem situation (Circle I), and advances to the process of conceptualisation to create a conceptual model (Circle II). It moves on to the operationalisation process, scientific model (Circle III) to result in the development of a solution (Circle IV). This study explores relationships between variables and ultimately delivers a solution to the centre's pragmatic problem in the form of a communication strategy model.

The process of conceptualisation is concerned with defining the research problem and determining the nature and number of variables to be considered in finding a solution (Mitroff *et al.*, 1974:47).

## **1.5 RESEARCH DESIGN**

A research design is a set of guidelines and instructions to be followed in addressing the research problem. The degree of structure in this design is a direct function of the research goals stated above (Mouton, 1996:107-109). The planning and structuring of this research study contribute to the eventual validity of the research findings.

### **1.5.1 Conceptualisation**

According to Mouton (1996:109), conceptualisation refers to both the clarification and analysis (definition) of the key concepts in the problem statement. However, in this section not only concepts in the problem statement will be defined, but also certain concepts that will be referred to often in this study.

According to Mouton (1996:xi), conceptualisation also means 'integrating one's study into a larger conceptual framework' of theoretical and empirical knowledge. One way of doing this is to frame research hypotheses, either by deriving them deductively from well-established theories, or by basing them on observation of phenomena and events in everyday life.

The conceptual analysis that will be done next involves the clear and unambiguous definition of central concepts (Mouton, 1996:109). This can be considered as the first step in the conceptualisation phase.

## ➤ Defining key concepts

The fact that concepts acquire meaning, or even new meaning within a conceptual framework such as a theory, a model or a typology, has led philosophers of science to refer to such concepts as “theoretical concepts” or “constructs”. The aim in empirical research is to operationalise such constructs meaningfully by rendering them either measurable or observable (Mouton, 1996:109).

The following constructs that will regularly be used in this study are clarified with the aim of being valid, exhaustive and mutually exclusive.

**Communication about science:** It involves the exchange of knowledge and the assumed understanding of that knowledge (Palmer & Schibeci, 2014:513). Communication about science is interdisciplinary in nature, which in this study is specifically related to the context of corporate communication.

For the purpose of this study, the business unit needs to explain its knowledge about malaria related issues to its stakeholders. This will allow them to understand and gain knowledge of the science message communicated. The stakeholders do not always understand what is communicated. As such, this study is explained in the science communication context. The anticipated outcome is more effective communication by the business unit and a better understanding of the science message by its stakeholders.

**Strategic communication:** Strategic communication is seen as “the strategic planning of communication in order to ensure effective internal communication”, thereby enabling the business unit to achieve its short- and long-term goals (Verwey & Du Plooy Cilliers, 2002:4). Strategic communication is described as communication aimed towards aligning the entire organisation (the enterprise and business units) towards the corporate strategy and, for instance, aligning different departments’ goals or relationship building strategies with the corporate strategy (Steyn & Puth, 2000:3; Steyn, 2007).

**Communication management:** Grunig and Hunt (quoted in Grunig, Grunig & Dozier, 2006:35) define public relations as “the management of communication between an organisation (business unit) and its publics (stakeholders)”. The value of public relations lies in how it helps reconcile and build relationships between the identified role players for this study (Grunig *et al.*, 2006:35).

**Corporate communication:** ‘Communication on behalf of an organisation’ – it is managed communication with the aim of increasing organisational effectiveness by creating and maintaining relationships with stakeholders (Steyn & Puth, 2000:5). For the purpose of this study, the relationships between the business unit and its stakeholders should improve based on more effective and sustainable communication.

**Corporate communication strategy:** Corporate communication strategy can be regarded as a pattern in the corporate communication function’s important decisions and actions regarding relationships with strategic stakeholders. Corporate communication strategy makes the communication function relevant in the strategic management process through its focus on communication with strategic stakeholders, aligning communication goals to the operational mission (Steyn, 2002:21).

Based on the problem statement, the aim of this study is to develop a conceptual framework for a corporate communication strategy to improve the strategic management of communication about science at the business unit. It is intended to reach mutual understanding about malaria related issues and to develop sustainable relationships with its long-term stakeholders making use of, among others, social media.

**Stakeholder relationships:** In order for organisations to succeed, it must build and maintain “healthy interactive” relationships with their stakeholders, where the purpose of an organisation’s communication system is to facilitate “engagement” (van Riel & Fombrun, 2007:9). Relationships and communication are therefore intricately linked to organisational effectiveness and therefore also, both directly and indirectly, to the achievement of organisational goals.

**Malaria related issues:** The business unit is strongly positioned to constructively contribute, through its structures and external networks, in finding solutions to Africa’s malaria related challenges. It is important for the business unit to have a clear understanding of the issues related to malaria and how these issues can be incorporated into strategic objectives. In order for a business unit to realise its strategic objectives it requires a well-designed communication strategy in support of its efforts. It is rather unusual to come across a memorable, cogent, sustained and effective communication strategy (Tibble, 1997:356).

For the purpose of this study, the business unit's communication of information regarding malaria related issues to its stakeholders will be investigated. It is therefore important for the business unit and its stakeholders to have a mutual understanding about these malaria related issues.

**Social media:** The use of social media by a centre like the University of Pretoria Centre for Sustainable Malaria Control suggests that social media can have two interrelated promotional roles: firstly, it will enable the institution to talk to its stakeholders; and, secondly, it enables stakeholders to talk to one another (Mangold & Faulds, 2009). Social media is broadly considered to be the generation and sharing of user generated content (Correa, Hinsley & Zúñiga, 2010:247; Kaplan & Haenlin, 2009:61; Multisilta & Milrad, 2009; Zhao, 2011:87). Generally speaking there are six main genres of social media of which two genres are applicable to the University of Pretoria Centre for Sustainable Malaria Control: blogs (which can be implemented) and social networking sites (for example, Facebook).

**Perceptions:** Kotler and Keller (2006:185) explain that perception is the process by which an individual selects, organises and interprets information inputs to create a meaningful picture of the business world. Perception depends not only on the physical stimuli but also the stimuli relating to the surrounding field and conditions within the individual. Therefore, perception can vary among individuals exposed to the same reality.

On the other hand, according to Fielding and Du Plooy-Cilliers (2014:22), perceptions refer to the way in which people see and interpret the world around them and give meaning to the things that happen. Perceptions are influenced by many factors, such as past experiences, education, language and culture.

**Mutual understanding:** The significance of the construct "mutual understanding" is to reveal that the creation of such mutual understanding is only possible if adequate channels of communication exist between The University of Pretoria Centre for Sustainable Malaria Control and its stakeholders. It will be impossible for the business unit to fulfil its purpose satisfactorily unless mutual understanding about malaria related issues exists between the business unit and its stakeholders.

## ➤ **Formulation of research hypotheses**

As the second step in the conceptualisation phase, this study was integrated into the underlying theoretical framework for communication science and based on a quantitative research design by formulating research hypotheses.

Two important epistemic criteria, namely empirical (testability) and exploratory potential were taken into account when the research problem was more specifically formulated in the form of research hypotheses. This will be discussed next (Mouton, 1996:110; Bailey, 2008).

On the basis of the assumptions generated in Chapter 2 and 3, the hypotheses were formulated and fully motivated in Chapter 4. Through deductive reasoning, the general research hypotheses were derived from the literature. These relational hypotheses postulate that a certain kind of relationship exists between two or more variables. These are correlational (or descriptive) hypotheses as opposed to causal (or explanatory) hypotheses. The hypotheses also refer to a class of cases and include general hypotheses, as well as singular hypotheses (which can only apply to one case) (Mouton, 1996:122; Du Plooy, 1996:36).

In Chapter 2 and 3 of this study, the stated hypotheses were embedded in the body of knowledge by stating assumptions about the literature in the text and linking it to the relevant hypotheses. (Assumptions (and presuppositions) have the same epistemic status as hypotheses in that they are also “hypothetical” or “conjectural” statements) (Mouton, 1996:123).

The constructs (variables) discussed in the previous section form the basis from which the eleven hypotheses for this study have been derived. These hypotheses were formulated about: the stakeholder perceptions of communication about science between the business unit and its stakeholders with regards to communication management; and the use of social media as a communication method between the business unit and its stakeholders; stakeholder relationships; and developing the corporate communication strategy. The formulation of the hypotheses was guided by the research objectives as stated above. The hypotheses were discussed earlier in this chapter.



## 1.6 OPERATIONALISATION

Operationalisation is the process to define how a concept is measured, observed, or manipulated within a particular study. This process translates the theoretical, conceptual variable of interest into a set of specific operations or procedures that define the variables' meaning (Baumeister & Vohs, 2007:636-637).

### 1.6.1 The operationalisation of variables

Operational definitions – concrete representations of abstract theoretical concepts – have been created. According to Dane (1990:33), the operational definition of a concept represents the concept and is called a variable – a measurable entity that exhibits more than one level or value.

A variable is a characteristic or attribute of a person, place or object the researcher is studying. In this study, the variables that will be operationalised will be quantitative (Mouton, 1996:95; Leedy & Ormrod, 2014:291). As Wimmer and Dominick (in Du Plooy, 1996:39) and Broom and Dozier (1990:163) point out, variables are classified in terms of their relationship to one another.

Once operationalised definitions for theoretical concepts have been stated, it is possible to form a hypothesis - a statement that describes a relationship between variables, to be tested in the research. Dane (1990:33) refers to a hypothesis as a concrete statement of an abstract relationship described in a theory.

Care has been taken to ensure validity of measures through criteria validity and construct validity (Mouton & Marais, 1989:68). In this study construct validity has been measured by means of the statistical method of factor analysis.

Data or information on theoretical concepts or constructs is gathered through indirect measurement. Items or questions in the measurement instrument measure aspects of the phenomena “communication”, “social media”, “stakeholders” and “strategy”. By asking questions on the aspects of the construct - a total image of a person's position with regard to the construct is measured. The process of operationalisation implies that a list of characteristics denoted by the concept is compiled (for measurement). In constructing a measurement instrument (scale, questionnaire) the items/questions can

be seen as indicators of this list of (denoted) characteristics (Mouton & Marais, 1989:65; Mouton, 1996:126). Table 2 indicates the number of items allocated in the questionnaire.

**Table 2: Table of operationalised variables**

Variables	Items in the questionnaire
<b>Communication Management:</b> I. Communication about science II. Effective stakeholder communication III. Two-way symmetrical model IV. Two-way asymmetrical model	<b>Division A</b> Items 1-5 Items 6-12 Items 13-16 Items 17-20
<b>Social Media:</b> I. Traditional media II. Social media	<b>Division B</b> Items 1-8 Items 9-16; Items 2.2-2.8
<b>Stakeholder relationships:</b> I. Long-term stakeholder relationships II. Mutual understanding about malaria related issues	<b>Division C</b> Items 1-7 Items 8-11
<b>Corporate communication strategy:</b> I. Corporate communication strategy II. Stakeholder perceptions about the University of Pretoria Centre for Sustainable Malaria Control (UP CSMC) and its image	<b>Division D</b> Items 1-9 Items 10-19
<b>Demographic questions</b>	<b>Division E</b>

As mentioned above, the primary objective of this empirical study is to determine the relationship between *communication management*, *social media*, *stakeholder relationships* and *corporate communication strategy*. The investigation took the form of questionnaire/survey research with posited hypotheses that were tested. Information was gathered through questionnaires distributed to all the stakeholders involved with the University of Pretoria Centre for Sustainable Malaria Control.

### **1.6.2 Development of the measurement instrument**

An instrument is the primary device by which measurement is aimed to be accomplished. In the development of a measurement scale that organise and transform information into numerical data, the variables and concepts that need to be measured for the study must be determined (Davis, 2000:193-194). Multiple measures of constructs were used to compile the measurement instrument for this study, which helped to capture more of what is meant by the construct (Broom & Dozier, 1990:165). This determination should flow naturally from the research problem and the objectives

of the study. The research problem and the objectives of this research study were stated earlier in this Chapter.

The final compilation of the measurement instrument and considerations for the questionnaire will be discussed in Chapter 4.

### **1.6.3 Sample design**

The logic of using a sample of subjects is to make inferences about some larger population from a smaller sample. Parasuraman, Grewal & Krishnan (2004:356) and Keyton (2011:121) assert that sampling is the selection of a fraction of the total number of units of interest for the ultimate purpose of being able to draw general conclusions about the entire body of units.

Cooper and Schindler (2001:163) define sampling as the method used to select some of the elements in the population. By doing so, conclusions can be drawn about the entire population. For the purpose of this study, the population of the management committee, advisory board of the business unit (UP CSMC) and the academic staff of the various science departments at the enterprise unit (University of Pretoria) identified as stakeholders of the business unit were considered potential respondents in this study. The sample used for this study can therefore be referred to as purposive sampling (Leedy & Ormrod, 2014:213).

### **1.6.4 Data analysis and interpretation**

The data analysis for this study was done in conjunction with the Faculty of Economic and Management Sciences at the University of Pretoria and the University of Pretoria Centre for Sustainable Malaria Control. The purpose of any analytical method is to convert data into information needed to make decisions to communicate more effectively.

## **1.7 IMPORTANCE AND BENEFITS OF STUDY**

Communication is a strategic management function in organisations. Effective communication programmes help manage relationships with key stakeholders that affect the organisation's mission, goals and objectives. They add value to the positioning of the organisation and become a necessary component of strategic decision-making. This study

will provide management with guidance on how to become involved in strategic management in order to practise excellent communication, but can also be used by anyone wishing to contribute to excellence in the organisation through effective communication. Furthermore, the study intends to add value by contributing to effective communication and introducing a corporate communication strategy framework.

The role of corporate communication management in modern business units has been the focus of many discussions in the past. Communication was once seen as a way to manipulate or merely disseminate information. Now it is seen as a powerful way to establish and manage relationships with long-term stakeholders, while contributing directly to the bottom line of the business unit.

The purpose of corporate communication has shifted from a one-way communication model to a two-way symmetrical communication paradigm. This research study will indicate what the similarities, as well as the differences, are between the traditional communication process and an electronic communication process.

The study aims to contribute to the body of knowledge in science communication through the effective utilisation of social media and other communication methods. Social media has developed into a reality that modern managers cannot ignore. However, there is uncertainty amongst managers on how social media should be incorporated into the business unit's goal achievement processes. These issues focus less on the technical or design capabilities of social media, and more on its contribution to the business unit's goal achievement process, specifically with regards to corporate communication. It follows that if social media contributes to the realisation of corporate communication goals, then corporate communication practitioners should be involved in the management process.

The researcher conceptualises an important activity for the corporate communication manager on the functional level, namely that of developing a corporate communication strategy for the business unit as guide for communication transformation in a late modern society. In creatively applying concepts from one discipline to another, the corporate communication strategy provides the missing link between the corporate communication function and the corporate strategy.

Science communication is still a new concept to the business unit. This study will provide fresh insights into a corporate communication strategy framework for communicators of

the business unit and others from diverse industries who will be able to see the relevance and significance of a corporate communication strategy framework. It will allow them to compare their practices with high performing business units and adapt or change their plans in order to improve communication.

## **1.8 DELIMITATIONS AND ASSUMPTIONS**

As with the forms of research, the execution and interpretation of findings are based on specific delimitations and assumptions, which are briefly mentioned in the following sections.

### **1.8.1 Delimitations**

- In terms of the context of the proposed study, the main focus is on stakeholders of a business unit. A limitation was the exclusion of certain participants, which can be divided into two groups: 1) No other business units were included; 2) No stakeholders other than the particular stakeholders of the business unit were included. This limitation narrows the scope of the generalizability overall.
- There is a limit to the number of questions that any questionnaire can contain if the goodwill of the respondent is not to be presumed too much (Saunders, Lewis & Thornhill, 2012:178).
- The progress of collecting information from the respondents can be delayed by the dependence on others for information (Saunders et al., 2012:178).
- The response rate can be low due to the fact that the respondents don't have time to complete the survey and respondents have reached such a level of exposure to survey research that most of them are not willing to participate in it any more (Conradie, 2004:207).
- Terms were not explained to respondents in the study and can be interpreted differently by respondents than what the researcher intended.

### **1.8.2 Assumptions**

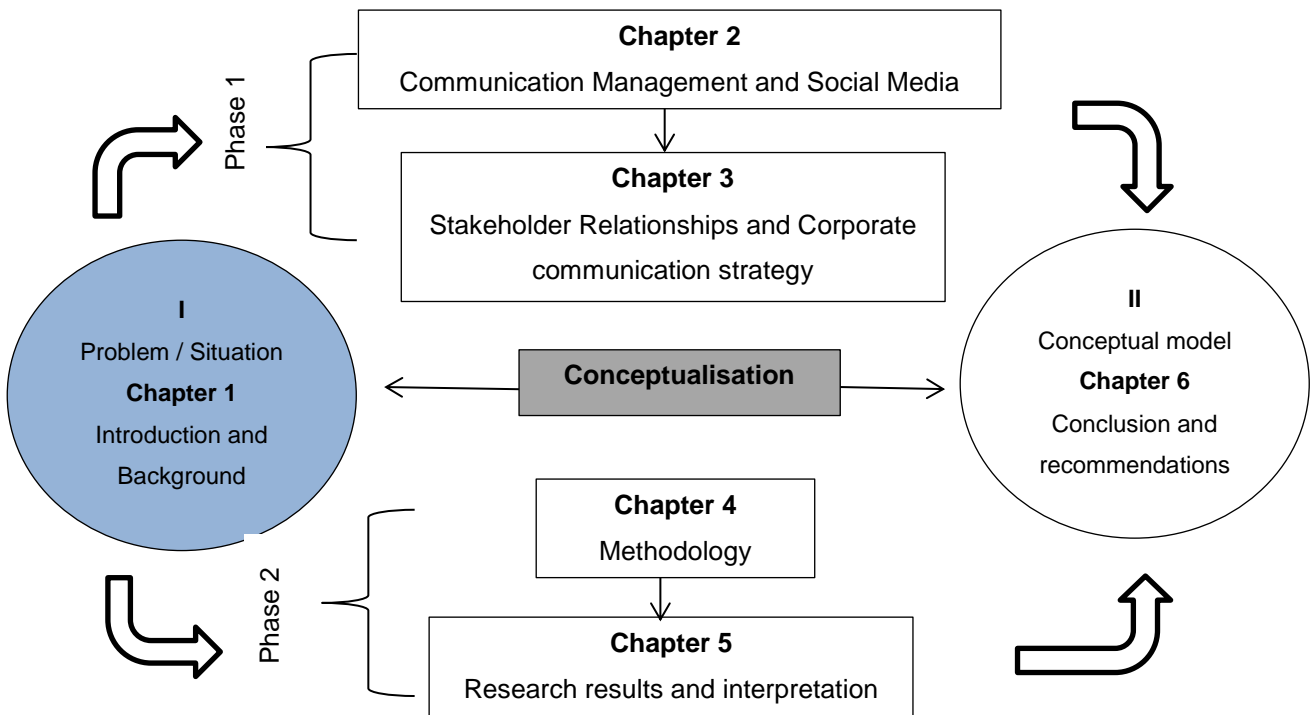
According to Leedy and Ormrod (2005:5), assumptions are those easily overlooked principles, which underlie a specific research quest and without which the study would not exist in the first place. The most fundamental assumptions inherent to this study include that firstly, the business unit does not have a track record of a long- standing relationship

with its stakeholders. Secondly, the researcher assumes that efforts to establish a long-standing relationship with stakeholders have not been successful to date. Thirdly, the researcher assumes that there is no corporate communication strategy framework in place to assist the business unit in building relationships with its stakeholders. Fourthly, it is assumed that the business unit will find it extremely difficult to implement a communication strategy unless a corporate communication strategy framework is adopted. It is fifthly assumed that the measurement instrument that was conducted (See Appendix B), will cover the necessary concerns of stakeholders of the business unit. The researcher also assumes sixthly that the respondents have the necessary language and experience to proficiently answer the questionnaire items which were stated in as simple English terms as possible. Seventhly, it is assumed that the respondents will provide well thought-through answers to all the items presented in the questionnaire without guessing. The eighth assumption includes that the researcher has adequate knowledge and expertise to capture, calculate and interpret the questionnaire results correctly.

## **1.9 DEMARCATION OF THE STUDY**

Mitroff *et al.*'s (1974) model of problem solving (Figure 4) not only provides an understanding of the activities of this study, but also provides a means of demarcating the chapters of this dissertation. Figure 5 illustrates how the chapters fit within the problem-solving model between the research problem (Circle I in the Mitroff *et al.* model); the process of conceptualisation; and the conceptual model (Circle II).

**Figure 6: Demarcation of chapters**



Adapted from: Mitroff *et al.* (1974:48).

The research project is divided into six chapters. **Chapter 1** constitutes an introduction to the study; a background discussion of the enterprise unit’s 2025 strategic plan and how the business unit will play a part in achieving this objective; the science communication concept; the main problem statement and research objectives; conceptualisation; an overview of the research methodology employed in the study as well as the delimitations and assumptions inherent to this study. The delimiting factors and the assumptions are mentioned. The introductory chapter is then concluded.

**Chapter 2 and 3** make up Phase one of this study and provide a theoretical understanding of the research problem. Chapter 5, on the basis of the research method described in Chapter 4, makes up Phase two of this study and provides an empirical understanding of the research problem and compares it to the theoretical understanding. Finally, Chapter 6 provides the final conclusions and recommendations of this study and finally developing a model for a corporate communication strategy model. The following provides a more detailed demarcation of these chapters.

**Chapter 2: Communication management and social media** are the first of two literature chapters in this dissertation, will be dedicated to providing a meta-theoretical framework on the theories addressed in this study; as well as the different categories of communication;



effective communication is also addressed. A discussion on social media, highlighting all the social media platforms and how these could be applied to enhance communication efforts in the business unit, is also included.

**Chapter 3: Stakeholder relationships and corporate communication strategy** is the second and final literature review chapter and deals with communication. In this Chapter the communication process is discussed, as well as literature on corporate communication, with specific reference to the two-way symmetrical model, and the three main forms of corporate communication which includes: management, organisational and marketing communication. Next, literature on stakeholders as well as defining the key stakeholders and their roles for this study are discussed, followed by a discussion on issues management with a focus on malaria control and the requirement thereof for the future. This chapter is concluded with a discussion on corporate strategy and corporate communication strategy.

The research design is outlined in **Chapter 4: Methodology**. This chapter focuses on sampling; operationalisation; statistical procedures; reliability and validity; measures taken to assess and demonstrate the quality and rigour of the study; and the closing summary. The formulation of the hypotheses and the statistical techniques used in this study are discussed in detail.

**Chapter 5: Research results and interpretation** analyse the results obtained from the reliability results and the validity analysis of the measuring instrument, as well as hypothesis testing.

**Chapter 6: Developing a model for corporate communication strategy:** In this final Chapter firstly, the conclusion to the research objectives is discussed. Secondly, the model for a corporate communication strategy model are illustrated and explained. Thirdly, the limitations of the study and lastly, recommendations for future research and managerial implications of the study are detailed.

## 1.10 CONCLUSION

In this chapter, the focus was on the background to the research study, as well as a discussion on the science communication concept. The research problem for this study was discussed as well as the primary objective with its secondary objectives. The research



hypotheses were stated, the conceptualisation of the research design as well as the operationalization was discussed. Attention was also given to the importance and benefits of this study as well as the delimitations and assumptions.

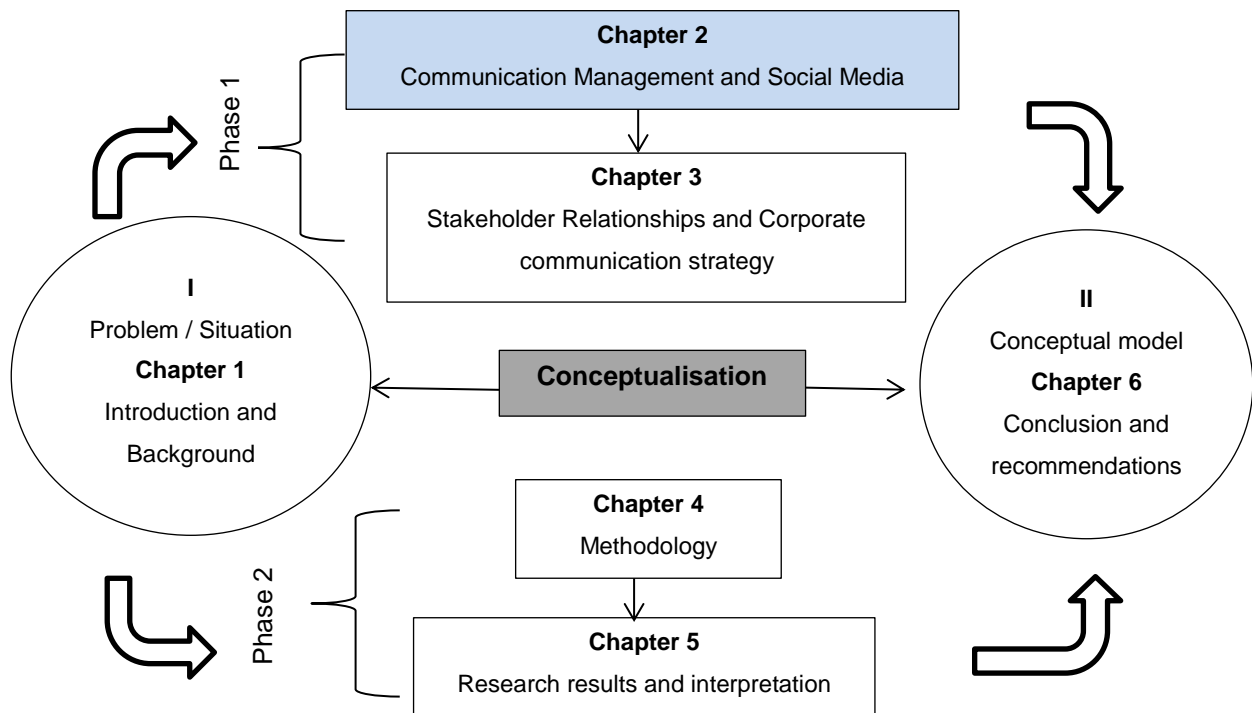
## CHAPTER 2: COMMUNICATION MANAGEMENT AND SOCIAL MEDIA

### 2.1 INTRODUCTION

Chapter 2 is the first of two literature review chapters and will include a discussion on: communication management and social media. In the first section of this chapter the meta-theoretical framework is discussed, as well as the theories identified supporting the domains of communication science and business management.

Figure 7 illustrates the position of Chapter 2 in relation to the other chapters in this study.

**Figure 7: Chapter 2 in relation to the other chapters**



Source: Mitroff *et al.* (1974).

As discussed in Chapter 1, the purpose of this research is to develop a corporate communication strategy model for the University of Pretoria Centre for Sustainable Malaria Control (UP CSMC).

Today, business units have to manage many changes, which offer communication professionals unique opportunities to achieve long-term success, working towards the long-term survival and growth of the business unit in which it operates. Communication professionals need to function as strategists and leaders, and execute a portfolio of internal and external communication strategies that will add value to the business unit, and ultimately ensure sustainable relationships with stakeholders (Niemann, 2005:34). Business units need to listen to, and learn from stakeholders, which mean that communication management should be driven by the strategic intent of the business unit as a whole in order to manage long-term stakeholder relationships (Niemann, 2005:34).

Communication is a major and essential part of the information sharing process and good communication skills are important to managers in the roles they fulfil. “The best idea in the world can fail if it’s not communicated effectively” (Hattersley & McJanner, 2005:3). In a centre like the University of Pretoria Centre for Sustainable Malaria Control, it is necessary for the management committee of this business unit to communicate the University of Pretoria’s (enterprise unit) corporate strategy to stakeholders and to create an environment where they will feel involved in the process of knowledge sharing with the enterprise unit.

Communication professionals need to function as strategists and leaders (Niemann, 2005:32). Excellent communication specialists at business units contribute to knowledge sharing and decisions made by senior management by providing them with information about the environment of the business unit, about the business unit itself, and the relationship between the business unit and its stakeholders (Grunig, 1992:12).

There is a relationship among management based on the kind of knowledge that is being exchanged and their assumed understanding of that knowledge; there is also a purpose for communicating the knowledge; and the mechanisms of knowledge exchange are predicated on the relationship between the management and the purpose for communicating the knowledge (Palmer & Schibeci, 2014:513).

Hargie and Tourish (2004b:10) take a slightly different view of “how people ascribe meanings to messages, verbal and non-verbal communication, communication skills, the effectiveness of communication in business units, and how meanings are distorted or changed while people exchange messages, in both formal and informal networks”. The

flow of information, communication and the relationships facilitating it, become horizontal as well as vertical, both internally and between the business unit and the stakeholders (Morgan, 1998:2).

At the same time, communication is the responsibility and right of everyone within a business unit. Dess and Picken (2000:18) argue that “to compete in the information age, business units must increasingly rely on the knowledge, skills, experience and judgement of all their people”. In current times social media is a common phenomenon describing the web-based tools, applications, spaces and practices that people use to interact with each other and to share information online. Examples include social media platform networking sites such as Facebook, Twitter, blogs, news delivery sites and content-sharing sites (Anderson, 2009:1). Currently the primary forms of social media between the enterprise and business unit are determined only as a website and Facebook.

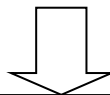
## **2.2 META-THEORETICAL FRAMEWORK**

In order to address the primary research objectives as stated earlier the study was conceptualised starting with a theoretical framework (Table 1). It was customised to the study by pointing out the relevant meta-theory, based on the systems theory from a systems thinking perspective. It is argued that, in order for a business unit to exist, it needs to function from a relationship thinking perspective, therefore two theoretical domains/disciplines (or fields of study) were identified, namely communication science and business management. These two domains are interlinked in that business management, which is responsible for the strategic intent of the business unit, drives the communication in the unit. Each of these theoretical domains consists of various subfields that influence the theoretical domains, with subsequent existing theories, which are pertinent. It is maintained that both of the theoretical domains contribute to the conceptualisation of the implementation framework/model of the corporate communication strategy.

According to Jansen and Steynberg (1991:6-7), a meta-theoretical approach offers a view that applies to an entire phenomenon, based on specific assumptions or presuppositions. It generates a number of individual theories, each representing a particular version of the same view and it contextualises the current chapter within the greater meta-theoretical framework of this study in order to address the relevant research objectives.

**Table 3: Meta-theoretical framework**

<b>Meta-theory</b>	Systems theory			
Domains and theories				
<b>Domains / Disciplines</b>	Communication Science		Business Management	
<b>Sub-fields within domains</b>	<ul style="list-style-type: none"> <li>- Strategic communication management</li> <li>- Corporate communication</li> <li>- Management communication</li> <li>- Organisational communication</li> <li>- Marketing communication</li> </ul>	<ul style="list-style-type: none"> <li>- Mass communication</li> <li>- Media communication</li> <li>- Social media</li> </ul>	<ul style="list-style-type: none"> <li>- Stakeholder relationships</li> <li>- Stakeholder approach</li> <li>- Issues management</li> </ul>	
<b>Theories from respective sub-domains</b>	<ul style="list-style-type: none"> <li>- Excellence theory</li> <li>- Communication process</li> <li>- Cybernetics theory</li> </ul>	<ul style="list-style-type: none"> <li>- Mass communication theory</li> <li>- Media theory</li> <li>- Information theory</li> <li>- Uses &amp; gratification theory</li> </ul>	<ul style="list-style-type: none"> <li>- Stakeholder theory</li> <li>- Strategic management theory</li> </ul>	
<b>Models</b>	<ul style="list-style-type: none"> <li>- Communication process model</li> <li>- Two-way symmetrical model</li> <li>- Two-way asymmetrical model</li> </ul>	<ul style="list-style-type: none"> <li>- Mass communication model</li> </ul>		
<b>Major concept</b>	Stakeholder perceptions of communication about science			
<b>Constructs</b>	Communication management	Social media	Stakeholder relationships	Corporate communication strategy
<b>Empirical methods</b>	Survey	Survey	Survey	Survey
<b>Measurement items</b>	Items (items each variable)	Items ( items each variable)	Items ( items each variable)	items ( items each variable)



Proposed conceptual framework/model for:  
A corporate communication strategy

Source: Own compilation.

### 2.2.1 Meta-theory: Systems theory

Theory can be defined as “a description of concepts and specifications of the relationships between or among concepts” (Metts, 2004:9). On the other hand, Kerlinger and Lee (2000:11) maintain that a theory is a set of interrelated constructs (concepts), definitions and propositions that represent a systematic view of phenomena by specifying relations among variables, with the purpose of explaining and predicting the phenomena.

A theory can also be defined as a statement or a collection of statements specifying the relationships between variables with a view to explaining phenomena such as human behaviour (Welman, Kruger & Mitchell, 2005:21).

The systems theory is driven by systems thinking. According to Montuori (2000:63), systems thinking provides a model for seeing interrelationships among factors, rather than focusing on the individual factors (or circumstances) themselves. According to Backlund (2000:444), systems thinking enables a dynamic, holistic examination of a business unit as it unfolds as a means of ensuring that the changes made are in concert with environmental changes, demands and constraints. Systems thinking can therefore be regarded as the application of the general systems theory within the organisational context, focusing specifically on the interactivity and interdependence of the various segments in the business unit, whereas the emphasis of the general systems theory is on the greater wholeness of the system.

Systems theory as a meta-theoretical approach to corporate communication is important. The systems theory has its roots in General Systems ‘Theory’, which is in fact a scientific approach and not a theory. The theory was originally developed by philosophers in the nineteenth century and expanded upon by researchers from many fields in the twentieth century. The development of the theory signified a new awareness of systems relations as opposed to simple cause and effect relationships (Hamilton, 1987). Von Bertalanffy (1956, 1968) is known as the father of the General Systems Theory, which he first published in the 1950s. Von Bertalanffy “wanted to develop a set of concepts and principles that would apply generally to any type of system” (Papa, Daniels & Spiker, 1997:44).

Systems theory emphasises the interfaces between organisations (in this study the business unit and its stakeholders) (Grunig & Hunt, 1984:95). Systems theory can be defined as a trans-disciplinary scientific domain that studies “the structure and properties

of systems in terms of relationships from which new properties of wholes emerge” (Baldwin, Perry & Moffitt, 2004:31). A system, as the ordered composition of elements into a unified whole, can be as small as the mind of an individual or as big as a nation. It refers to a set of interconnected parts of a group and the way materials are used to meet goals [own emphasis] (Baldwin *et al.*, 2004:31).

The systems theory assists in understanding the total context of management. The systems concept of management incorporates organisational and environmental subsystems into the management’s thinking. One of the assumptions of systems management is that it challenges practice and behaviour (current communication efforts in the business unit) – thereby helping to find innovative solutions to organisational problems (Grunig & Hunt, 1984:95).

There are two types of communication behaviours which systems (including individuals and units within the business units and stakeholders) engage in. Littlejohn (1989:35) describes a system as a “set of objects or entities that interrelate with one another to form a whole”. A system consequently consists of both a structure (for example the business unit, objects or entities) and the processes between these structures that create interdependence between them. In focussing on the stakeholder perceptions of communication about science, the current study emphasises the processes between two structures (business unit and stakeholders) within the system. Systems acquire (seek or listen to) information and they disseminate (give) information. Information is related to communication, as representation, information and communication belong together. Communication has an objective; it is controlled by intentions. To understand an utterance, you must know the speaker’s intention.

In the same context, Steyn (2002:6) proposes: “In order to make business units more effective, practitioners should therefore engage in two types of communication behaviour and on behalf of the business unit acquire (seek or listen to) information from the environment (the role of the corporate communication strategist) so that the business unit can adapt to stakeholder views and societal norms; and disseminate and provide information to the environment (the roles of corporate communication manager and technician) on organisational views, policies and strategies (Cilliers, 2004:10).

According to Dretske, 'information is an objective phenomenon, something that is generated by, transmitted in, received and stocked in physical media, but the existence of which is independent of an interpreting agent' (Broom, Casey & Ritchey, 2000:13). As the structure of a system is defined by the relationship among the units, and communication is the primary exchange between these systems, communication serves as a major determinant of both relationships and the overall functioning of the system (Broom *et al.*, 2000:13).

A primary aim of the general systems theory, according to Backlund (2000:447), is to integrate accumulated knowledge into a clear and realistic framework. For the purposes of this study, based on this aim of the general systems theory and given therefore that a system is, by definition, a set of elements that interact over time. This study takes a general systems theory approach to study the business unit in relation to its environment in order to develop an implementation model for the corporate communication strategy.

### ➤ **Systems concepts**

The following three paragraphs describe the systems concepts according to Grunig and Hunt (1984:94-85), all of which relate to the business unit's relationship with its stakeholders: The systems concepts such as input, output, throughput and feedback are used to describe the behaviour of a system. Systems receive input from the environment, e.g. as information, that identify problems that have put the system out of equilibrium with interpenetrating systems in its environment.

Systems process the inputs from the environment through an activity known as throughput. The systems organise the information inputs they receive and formulate solutions to the problems that generated the inputs. Systems then release outputs into the environment in an attempt to restore equilibrium with interpenetrating systems (Grunig & Hunt, 1984:94-85).

After those outputs affect the environment, the system seeks feedback from the environment to determine if it has solved the identified problem. This process continues until the system is back in equilibrium with its interpenetrating systems (Grunig & Hunt, 1984:94-85).



It is the systems theory that emphasises the importance of feedback, which means any mutual exchange of influence. Acknowledgement of, and response to, this feedback enables the business unit to adjust to environmental demands (Montuori, 2000:64). The idea of feedback is also directly related to the focus of this study of relationship management with a two-way symmetrical approach, as feedback is the key to relationship building.

➤ **Characteristics of systems**

Systems consist of four elements and possess eight common characteristics. Littlejohn (1989:35) proposes a simple conceptualisation of the systems theory and explains that a system can be said to consist of four elements, including, firstly, objects. Objects within the system are the parts, elements or members of the system and may be physical or abstract. Secondly, a system consists of attributes or qualities of both the system and its elements. Thirdly, a system possesses internal relationships among its elements. Relationships are crucial to defining the quality of systems and imply a mutual effect or interdependence and constraint. Lastly, systems possess an environment. In other words, they do not exist within a vacuum but are affected by their surroundings (Littlejohn, 1989:35). From this perspective, the relationship between the business unit and its stakeholders within a system will be investigated in this study.

➤ **Systems theory and its application to strategic communication**

The structure of a system is defined by the relationships among its units - communication is the primary exchange between these systems (Broom *et al.*, 2000:13). From a systems perspective, the terms relationship and communication are inseparable, where the system is constructed of relationships and the means wherein the different parts of the system interact is through communication. Communication serves as a major determinant of both relationships and the overall functioning of the system (Broom *et al.*, 2000:13). In this study, the overall functioning of the business unit refers to its ability to attain goals (Peery, 2001:268). Communication is thus regarded as a key to all processes in a system and is a main part of this study.

The communication within the system facilitates the functioning and therefore the relationships within the system (Baldwin *et al.*, 2004:294). These relationships within a system function as part of the bigger whole in order to attain the system's goals. Applied to



a business unit, this implies that the business unit's relationships between a system and its stakeholders all contribute to the ability of a business unit to attain its goals. These relationships are facilitated through communication, which tries to align the relationships to organisational goals. Communication that is aligned with the business unit strategy and goals is therefore strategic (Verwey & Du Plooy-Cilliers, 2002:4).

An organisation's communication system is a key tool for guiding and executing corporate strategy (Dolphin & Fan, 2000:99; van Riel & Fombrun, 2007:9). The most significant factor accounting for the "total behaviour of the business unit, is its communication system" (Walton in Broom *et al.*, 2000:16; Grunig, 1992:72). Walton states that the dynamics of the organisation can best be understood by understanding its systems of communication. When these systems of communication are aligned to attaining organisational goals, the communication within these systems becomes strategic (Broom *et al.*, 2000:16).

Dolphin and Fan (2000:106) state that further research is needed in a number of areas relating to strategic communication, including the impact of excellent communication and its effect on strategic processes like relationships. One way that recently developed can be used to measure the impact of strategic communication in organisational relationships to measure the outcomes of those relationships.

Organisational relationships where effective communication is practised are those where trust, commitment, relational satisfaction and control mutuality exist (Grunig & Haug, 2000:34; Hon & Brunner, 2002; Jo, Hon & Brunner, 2004; Ledingham & Bruning, 2000; Ströh, 2005:125; Yang & Grunig, 2005). These relationship outcomes are attained, in part, by symmetrical communication: an element of strategic communication. Communication within the system is therefore critical to the existence and functioning of the system (Broom *et al.*, 2000:13).

➤ **Systems theory and its application to the relationship between the organisation and its stakeholders**

Theories on organisational relationships support the notion that there is a connection between the quality of communication and the nature of the relationship between the organisation and its stakeholders (Grunig, 1992:82). Organisational communication is aimed at building relationships and mutual understanding with key stakeholders (Dolphin & Fan, 2000:99; van Riel & Fombrun, 2007:1). Hung (2005:396) states that, stakeholder

relationships arise when the organisation and its stakeholders become interdependent. Interdependence refers to the relationship that is formed in a system and the importance of these relationships to the system.

In order for organisations to succeed - it must build and maintain “healthy interactive” relationships with their stakeholders, where the purpose of an organisation’s communication system is to facilitate “engagement” (van Riel & Fombrun, 2007:9). Relationships and communication are therefore intricately linked to organisational effectiveness and therefore also, both directly and indirectly, to the achievement of organisational goals.

### ➤ **The organisation as an effective system**

According to Pfeffer and Salancik (1978:11) traditional theories of management set forth principles for developing an internal structure to supervise internal processes in order for an organisation to be effective. The process of strategic management can be used where an organisation strives to balance its mission – what it is, what it wants to be and what it wants to do – with what the environment will allow or encourage it to do.

The systems approach according to Grunig (1992:82) recognises the importance of the environment for organisations to be effective – as such the interdependence of organisations with their stakeholders become important. Organisational effectiveness is determined in part, then, by identifying those key stakeholders (Botan & Hazelton, 2009:33).

Traditionally, organisational effectiveness has been defined in terms of goals and the ability of organisations to attain their stated goals. The effectiveness of a system can, according to Etzioni (in Peery, 2001:272), be measured by the relative accomplishment of its goals through the relationships that exist within the system. These relationships, in turn, are created by and facilitated through communication (Broom *et al.*, 2000:13).

In the following section domains and disciplines included in the theoretical framework are discussed, as well as the components it consists of.

### **2.2.2 Domains / Disciplines**

Stinchcombe (1973:3) defines a theoretical domain as a set of possible uses to which a concept might be put. It consists of a set of other concepts, which may enter into theories together with the concept to be measured. Two domains are evident throughout this study. The first is communication science and the second is business management. The first domain explains the basis of the study (communication science) and includes sub-fields such as strategic communication management, corporate communication, management communication, organisational communication, marketing communication, mass communication, (of which social media forms part of) and media communication. The second domain (business management) deals with the sub-fields: stakeholder relationships, the stakeholder approach and issues management.

Within the management of communication, the process of inquiry is aimed at a mutual understanding between the University of Pretoria Centre for Sustainable Malaria Control and its stakeholders. This requires sustainable communication and understanding of the needs of the stakeholders.

In this study, each of the two domains (communication science and business management) relies on each other to ensure sustainable and effective communication efforts within the business unit. Using a quantitative survey, this study seeks to explore what the stakeholder perceptions of the business unit are and how it is being managed in terms of the organisational context. The findings will be scientifically encapsulated from both the constructivist origins as well as its positivist application.

### **2.2.3 Sub-fields within domains**

Sub-fields form the third level of the framework. The domains are divided into two: as discussed earlier, communication science and business management. The first domain's sub-fields consist of strategic communication management, corporate communication, management communication, organisational communication and marketing communication. The second sub-field of the communication science domain consist of mass communication, social media and media communication. On the other hand, business management, the second domain, consists of stakeholder relationships, the stakeholder approach and issues management.

#### **2.2.4 Theories from respective sub-domains**

Theories form the fourth level of the framework. Theories generally deal with fewer concepts and relationships than Meta-theories because they look at more specific elements of the research phenomenon. Each of the disciplines drawn upon for this study provides specific theories that help to clarify the research problem. Theories of corporate communication support the idea that there is a connection between the quality of communication – the excellence of public relations and the nature of relationships between a business unit and its stakeholders (Steyn & Puth, 2000:195).

According to Dozier, Grunig and Grunig (1995:82), the Excellence theory should confirm or modify that connection. The theories on which the meta-theoretical framework is based in the theoretical part of this study can be summarised as: Excellence theory, communication process, cybernetics theory, mass communication theory, media theory, information theory, uses and gratification theory, stakeholder theory and strategic management theory.

The following theories, communication process, cybernetics theory, mass communication theory, media theory, information theory, uses and gratification theory, stakeholder theory and the strategic management theory on which the meta-theoretical framework is based on will be discussed next.

Grunig and Hunt (in Grunig, Grunig & Dozier, 2006:35) define public relations (PR) as “the management of communication between an organisation and its publics”. The value of PR lies in how it helps to reconcile and build the relationships between the identified role players for this study. Within this framework, the value of strategic communication rests on how it maintains and develops the relationships between the business unit and its stakeholders.

According to Yun (2009:287-312), the Excellence theory has established a generally accepted conceptual framework for excellence in communication management. The Excellence theory argues that, in order for an organisation to be classified as excellent, it needs to exist and function in the context of a two-way symmetrical approach. Therefore, the relationships between the organisation and its stakeholders need to be based on symmetrical communication. Symmetrical communication in PR occurs when the organisation engages in dialogue with its stakeholders where it is not only trying to

persuade the stakeholders to the organisation's point of view but it is also open to being persuaded as well (Grunig & White, 1992:39).

Grunig (1992:19) concludes that excellent public relations does not exist in isolation, but is rather a characteristic of an excellent organisation. In addition, excellent communication management can be the catalyst that begins to make organisations excellent and continues to make them more excellent as time passes. The Excellence theory state that excellent departments will design their communication programmes on the two-way symmetrical model which will be discussed later.

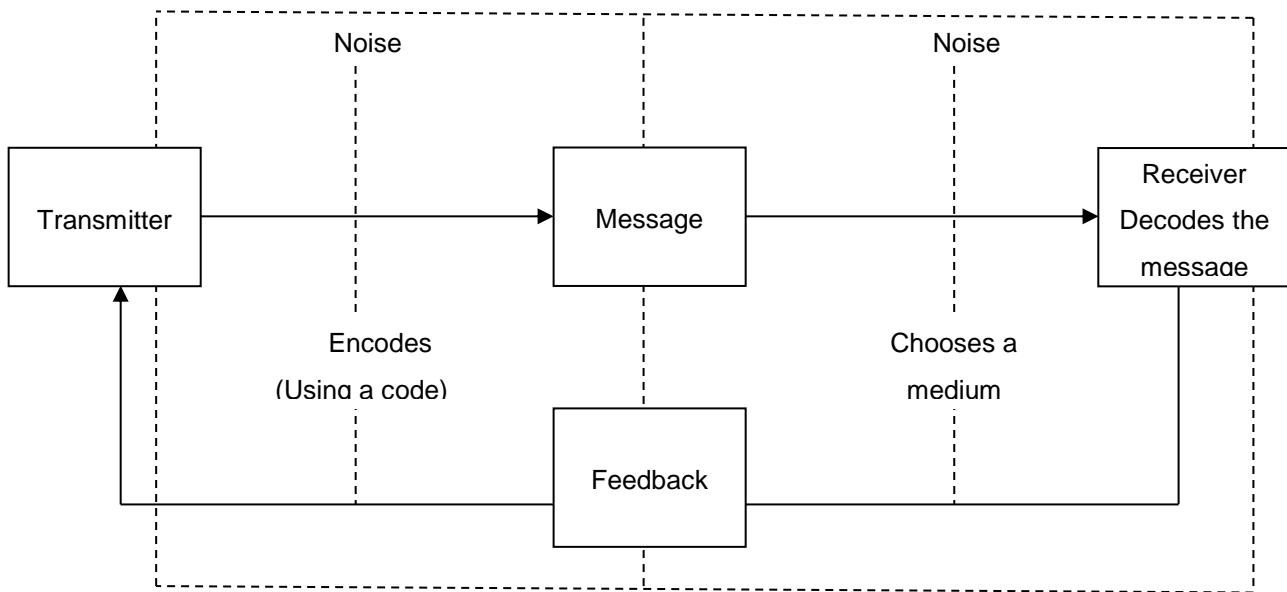
#### **i. The communication process**

Communication in an organisational context can occur on all levels of communication between an organisation and its stakeholders. Ensuring that the correct corporate messages are actually received by the stakeholders is complex, especially when considering factors such as: the correct medium; the disturbance from noise; the incorrect encoding and decoding; and the magnitude of communication that occurs simultaneously (Shackleton, 2007).

The communication process is well-structured and if applied properly will assist the business unit to communicate and measure up to expectations. Communication in an organisational context can occur on all levels of communication between business units and stakeholders. Ensuring that the correct corporate messages are actually received by the stakeholders is complex, especially when considering factors such as: the correct medium; the disturbance from noise; the incorrect encoding and decoding; and the magnitude of communication that occurs simultaneously (Shackleton, 2007).

A model developed by Jacobson, Figure 3 below, illustrates the communication process (van Schalkwyk, 2009:4; Steinberg, 2007:45). According to Steinberg (2007:31) a model can explain the process of communication between two people by showing the relationship between various concepts and helping to visualise communication more clearly. A model can also help to fulfil a control function which helps to recognise and diagnose problems by showing how to control certain conditions that obstruct effective communication.

**Figure 8: A model to illustrate the communication process**



Source: Jacobson (in van Schalkwyk, 2009:4).

According to Jacobson the components for the communication process model can be explained below (van Schalkwyk, 2009:3-4):

- i. *Transmitter* - This person is known as the source of the communication, the sender of the message or the communicator. For the purpose of this study, the transmitter is the organisation. This is the person / organisation who has information to convey and therefore initiates the communication process. One cannot function without information. People communicate to obtain and share information for a number of purposes. Some information can be obtained through observation, some in conversation and some through mass media. The transmitter uses its whole body to encode the message (Steinberg, 2007:20).

The source of a message is the central person or business unit responsible for the communication act (Seitel, 1995:101). Characteristics of message sources affect receiver's initial acceptance of the message, but have little effect on long-term message impact. According to Cutlip, Center and Broom (1994:230), the impact of the source varies from situation to situation, topic to topic and time to time. Source credibility amplifies the value of information and increases the status, reliability and expertness of the message (Cutlip *et al.*, 1994:231).

Although the source knows exactly what the message is that is being sent, there is no guarantee that the receiver will understand it (Cutlip *et al.*, 1994:231; Seitel, 1995:101) Gestures, voice tone and volume can influence the meaning that is being transferred to the receiver.

- ii. *Message via code* - The message is the information the sender intends to convey. For this purpose he/she uses a particular code or set of symbols, e.g. the English language. Alternatively, the sender might use a science code to encode the message. This can be communication about science or for the purpose of this study, a message about malaria related issues. The *encoded* message is transmitted via a channel.
- iii. *Channel (or medium)* - The channel is also referred to as a medium employed for transmitting a specific message. Sending a message through a chosen medium to initiate a response and create an ongoing dialogue is based on communication theory (Bambacas & Patrickson, 2009:10). The channel is what the message passes through between source(s) and receiver(s) (Lubbe & Puth, 1994:62). In mediated communication, messages are carried by electronic impulses. All communication via the internet is carried by electronic impulses. For the purpose of this study, the preferred channel can be by using either traditional media or social media. According to Lubbe and Puth (1994:64), mediums on the other hand refer to the means by which the message is sent (for example, website and e-mail). Organisational communication media are the methods or channels used in the communication process to send and receive information in organisations (Harris, 1993:167). Every time members of an organisation communicate, they choose a particular medium, such as a memorandum, a telephone call or a face-to-face meeting. The choice of medium, affects directly on the effectiveness of the communication process. These decisions help shape the effectiveness, efficiency and ambience of an organisation (Reinsch & Beswick, 1990:801). Conventional media, computer-mediated communication media and unconventional media can be identified.

The idea that the source wants to transmit needs to be translated into communication (Seitel, 1995:101). This message is influenced by a variety of factors (Seitel, 1995:101-103) such as words and semantics. Jargon or slang can for example,



influence the meaning of the message and can cause misunderstandings and confusion. These aspects should also be kept in consideration in an international communication setting.

Once the source's data has been translated into terms a receiver can understand, the ideas are transmitted in the form of a *message* (Seitel, 1995:103). The message can be carried by different print media, face-to-face or through electronic media. Different people can receive the same message, but people might interpret it differently, attribute different meanings to it, and react to it in different ways (Cutlip *et al.*, 1994:231).

- iv. *Receiver* - This person is also known as the destination (receiver) of the message, the respondent or the 'communicatee.' It is the person for whom the message has been intended, and from whom some sort of reaction/decision how to react is required. For the purpose of this study, the receivers are the stakeholders of the business unit. The receiver uses its whole body to decode the message.

After the message has been transmitted, a receiver must decode it before action can be taken (Seitel, 1995:105). In this stage the receiver takes the message and translates it in terms of his or her own frame of reference. Language plays a critical role, because the receiver needs to understand the meaning of the words. Other factors, which influence the translated meaning of the message, are perception, stereotypes, symbols, peer group pressures and the influence of the medium (Cilliers, 2004:31).

The communication process implies that more than one person is involved. Recipients are not merely passive receivers of the message, but actively take part in the process. This process is confirmed in the two-way corporate communication models of Grunig and Grunig (1989), as discussed in Chapter 2. Seitel (1995:108-109) is of the opinion that even if communication is understood or transmitted clearly, there is no guarantee that the motivated action will be the desired one.

- v. *Feedback* - This is the reaction/decision of the receiver to the message of the sender. Feedback may be conscious or unconscious, positive or negative, direct or indirect, and verbal or non-verbal. Feedback indicates the extent to which the intended



message has been understood, and therefore the degree to which the communication has been successful (Seitel, 1995:105).

Feedback is an essential component of the communication process (Lubbe & Puth, 1994:64). According to Verwey (in Lubbe & Puth, 1994:64), feedback reveals how participants assign meanings and how these are negotiated through interaction. Feedback ensures the success of the communicated message and establishes if the objectives of the intended communication have succeeded (Seitel, 1995:109). Feedback can, however, be influenced by 'noise' – such as physical noise, software shortcomings or lack of interest – as well as the frame of reference of the parties involved in the communication process.

- vi.** *Noise* - At any point during the communication process, noise (also known as interference or barriers) may arise, causing the communication to be less effective or even leading to a communication breakdown. This can also be a language barrier where the organisation can send a message to its stakeholders and they don't understand the language or science message (Seitel, 1995:109).

The communication process is considered important for this study as it serves as foundation for a discussion and development of a corporate communication strategy model. Developing the corporate communication strategy model will be influenced by the relevant type of science communication method decided upon by management.

## **ii. Cybernetics theory**

Many of the concepts used by system scientists come from the closely related approach of cybernetics: information, control, feedback and communication. Cybernetics was first introduced as the science of communication but now cybernetics and systems theory essentially address the same problem, that of business unit independent of the substrate in which it is embodied. Insofar as it is meaningful to make a distinction between the two approaches, the systems theory focus more on the structure of systems and their models, whereas cybernetics focus more on how systems function, that is to say how they control their actions, how they communicate with other systems or with their own components (Heylighen, Joslyn & Turchin, 1999).

### iii. Mass communication theory

Mass communication theory functions in the context of the communication process. However, the various basic terms used in the communication process have different meanings in mass communication theory. Janowitz (in McQuail & Windahl, 1981:4) cite a frequently used definition of mass communication: “Mass communication comprise the institutions and techniques by which specialised groups employ technological devices (press, radio, films) to disseminate symbolic content to large, heterogeneous and widely dispersed audiences.”

McQuail and Windahl (1981:4) describe the roles of the sender, receiver, channel and the message in the context of mass communication. The ‘sender’ in mass communication is always part of an organised group and often a member of an institution or department, which has other functions than communication. The ‘receiver’ is an individual but may often be seen by the sending business unit as a group or collective organism with certain general attributes. The ‘channel’ does not consist of a social relationship, means of expression and sensory organs, but includes large-scale technologically based distribution devices and systems. These systems will, however, still have social components, since they depend on law, custom and expectation. The ‘message’ in mass communication is also not a unique and transitory phenomenon as it is in the usual communication process, but is rather a mass produced and infinitely repeatable symbolic structure, often of great complexity.

The characteristics of mass communication are: its open and public nature; the limited and controlled access to ‘sending’ facilities; the impersonality of the relationship between sender and receiver; the imbalance of the relationship between them; and the intervention of institutionalised arrangements between sender and receiver (McQuail & Windahl, 1981:4).

The development of various new technologies has significantly empowered a wide variety of strategic stakeholders by giving them dynamic new media. A large number of people are using these media to communicate effectively with a variety of stakeholders (Wright & Hinson, 2008:1).

Various mass communication models have been developed, but this study is based on some elements of the model developed by Shannon and Weaver (in McQuail & Windahl,

1981:12). Although there are similarities between the roles of the sender, receiver, channel and the message in the context of the Shannon and Weaver model, the application to the Internet differs. This research study will show that the Internet can be viewed as being both a mass communication medium and a one-on-one interactive communication medium. The era of social connection among different people has become known as a social phenomenon in current times.

#### **iv. Media theory**

Media is the interface between communicators and audiences. The two aspects to mass communication theory are macro and micro (Littlejohn & Foss, 2005:275). Macro mass communication theory considers the relationships between media and society, addressing the ways the media is integrated into society and the effects between social structures and the media. Micro mass communication considers the relationships between audiences and media. In this context audiences may comprise of groups or individuals (Littlejohn & Foss, 2005:275).

Social media is a form of two-way communication through which stakeholders interact and exchange information (Mamic & Almaraz, 2013:853). The traditional model of communication introduced by Lasswell (1948) remains obsolete as any online user can act as a source of information within their spectrum of influence. The understanding of communication as a one-way experience regardless of the context and the stakeholder response belongs to another era. Web 2.0 responds to cumulative changes regarding multiple interactivity possibilities and it is presented as a process of opening up the possibility of a more democratic exploitation of information, ceding control over applications of stakeholders (Tredinnick, 2006).

The new social media platforms are one of the cornerstones of Web 2.0. As Fischer and Reuber (2011) suggested, there is no definitive typology of different sorts of social media, but it is common to differentiate between social bookmarking (e.g. Digg, Delicious) to classify and organise web content, video sharing (e.g. YouTube) and picture sharing (e.g. Flickr). For entertainment and learning purposes, professional networking (e.g. LinkedIn) use forums, weblogs (or blogs) for opinion making and learning, and social networking (e.g. Facebook) and microblogging (e.g. Twitter) for interpersonal purposes.

Each platform covers a large spectrum of exchanges regarding different contexts and ends, but they all have in common openness and interactivity as their defining characteristics. Social media is therefore, a two-way communication platform that allows reciprocal communication between organisations, stakeholders and users (Liu & Shrum, 2002).

#### **v. Information theory**

In information theory a clear distinction can be made between information and knowledge. According to Davenport (1997:5), these two levels of 'information' that exist in Information Science, become more complex with each level.

Information is data endowed with relevance and purpose. It requires a unit of analysis, consensus on meaning and necessitates human mediation. Knowledge is valuable information from the human mind that includes reflection, synthesis and context. It is hard to capture; difficult to capture on machines; often tacit; and hard to transfer (Davenport, 1997:5).

This research study shows that there is a distinct similarity between the information theory and corporate communication theory. In the context of communication, Gibson and Hodgetts (1991:5) elaborate on the meaning of information by stating that communication is seen as the process of transferring messages between sender and receiver, and not merely providing information to stakeholders. Information (or messages) is transferred through various media or channels and if this information is not absorbed, it has not been communicated. There is also a parallel between information theory and the process of developing corporate communication strategy.

The purpose of corporate communication strategy is to realise corporate goals through the organisation's relationships with its stakeholders. It is not enough to simply provide information through media such as websites to the organisation's stakeholders. This process is done through two-way symmetrical communication, where the purpose for the communication exchange is not just to provide information but to provide knowledge or manage relationships between the organisation and its stakeholders (Gibson & Hodgetts, 1991:5; Botan & Hazelton, 2009:47-55).

A major driver for the organisation is the new level of transparency of business activities brought about by the media and the Internet. The information will not only be available freely but it is expected that all levels of business provide information about its business activity. Where Annual Reports are read by only a few of the most interested stakeholders who are directly influenced by the organisation, the disclosure of all aspects of corporate management is demanded. This can also give the organisation the opportunity to promote its good practices and receive recognition for its efforts (Gibson & Hodgetts, 1991:5).

Brookes (in Carr, 2002:14) summarises the link between information and knowledge by stating that: "...knowledge is structured integrated information and information is fragmented knowledge". Davenport (1997:5) states that: "For years, people have referred to data as 'information'; now they have to resort to the high-minded 'knowledge' to discuss information – hence the current boom in 'knowledge management'".

It can therefore be said that data, information and knowledge are not interchangeable concepts (Carr, 2002:14-22; Davenport, 1997:5). In order to create knowledge, stakeholders need to do more than passively access information – they need to do something with the information (Alexander, in Carr, 2002:16). By interacting with information, a stakeholder may become aware of a lack of knowledge and will then be forced to search for new information to overcome this deficiency (Ingwersen, 1992:23).

In recent years, researchers have examined how mass media messages can influence stakeholder beliefs and perceptions of science and how various mediums may differentially affect stakeholder perceptions (Bauer, Allum & Miller, 2007).

#### **vi. Uses and gratification theory**

Ruggiero (2000:3) argues that, in the mass communication field, the uses and gratification theory is a thorough social science theory, so research into mass communication science and speculation on it ought to be based on this theory. The focus of the uses and gratification theory is on what people do with the media (Katz, Blumer & Gurevitch, 1974:19-34). By conceiving of the stakeholder as actively choosing and using media in response to specific needs, the foundations for examining gratifications obtained from the media are put in place.

Quan-Haase and Young (2010:350) point out that what distinguishes stakeholders in the uses and gratification theory from stakeholders in earlier communication theories is that they are classified as active, discerning and motivated in their media use.

According to Quan-Haase and Young (2010:351), early theories on mass communication viewed the mass media as having a uniform and immediate influence on individuals whom they perceived as being susceptible to influence and unable to form their own perceptions. The assumption was that the exposure to standardise cultural goods turned stakeholders into a homogeneous, uncritical and passive mass with little will power to resist the appeal and influence of the mass media. The goal directedness of stakeholders is what distinguishes uses and gratifications theory from early communication theories.

The organisation must be committed to the establishment of relationships through electronic communication mediums if it is to be successful. Organisations cannot engage in electronic communication and then not respond to the message. Many organisations wrongly believe that 'presence' is more important than service, access or content, but it is important to ensure that stakeholder messages are attended to in a professional and timely manner (Cilliers, 2004:122).

Organisations should ensure the usefulness of the information that they offer – via their electronic communication mediums – for all their stakeholders (Kent & Taylor, 1998). In the dialogue model of communication (in contrast to the one-way communication models), information is provided not to stifle a debate or to win the assent of stakeholders but rather to engage them in dialogue as an informed partner (Kent & Taylor, 1998). The object is, however, not just to realise the goals of the organisations, but also to provide in the needs of the stakeholder through the use of media communication.

## **vii. Stakeholder theory**

Stakeholder management is increasingly becoming a key factor in improving business performance, due to the debate of the position of the various stakeholders and their relationships with the organisation (Goodjik, 2003:225). Freeman's seminal work on the stakeholder theory attempted to explain the relationship that an organisation has with its external environment as well as its behaviour within its environment. The stakeholder theory was conceptualised, as organisations realised that an increasing number of stakeholders impacted their ability to attain organisational goals (Goodjik, 2003:225).

Stakeholder theory is a theory of organisational management and ethics (Phillips in Carroll, 2013:339). It is distinct because it addresses morals and values explicitly as a central feature of managing organisations. Attention to the interests and well-being of those who can assist or hinder the achievement of organisational objectives is a central thrust of the theory.

The stakeholder theory attempts to ascertain which groups are stakeholders in an organisation. According to Parum (in Carroll, 2013:339) it is noted that Freeman's definition of stakeholders corresponds with Parum's definition. Stakeholder management includes communicating, negotiating, contracting and managing relationships with stakeholders and motivating them to behave in ways that are beneficial to the organisation and its stakeholders (Carroll, 2013:340).

The application of stakeholder theory results in the organisation no longer being viewed as an isolated unit guided and managed solely by its directors, and under the influence of its stakeholders (Friedman & Miles, 2006:25). Instead, the organisation is seen as interdependent with multiple stakeholder groups whom it both affects and is affected by.

A key component of stakeholder theory for communication management is stakeholder management. Scholes (1997:xviii) defines stakeholder management as "the professional management interactions between all those with an interest, or 'stake' in a particular organisation". It is clear that communication management involves the management of stakeholder relationships through the use of communication. With a foundation in stakeholder theory, communication management is able to both advocate for the benefit of improved relations with an organisation's stakeholders and to build and strengthen those relationships (Scholes, 1997:xviii).

Stakeholder theory as applied within a communication management approach has several implications for internal and external communication. First, it fundamentally validates the importance of this management function, because it identifies the intrinsic value of stakeholders, not just as instruments to furthering the organisation's goals, but also as important groups who need to be considered in their own right (Friedman & Miles, 2006:29). It therefore provides the theory behind justifying communication as a necessary and beneficial management function. Second, an analysis by Welch and Jackson (2007) argues that a stakeholder perspective of communication means that internal stakeholders



must not be considered as a homogenous group, but rather as consisting of various inter-related subgroups.

According to Jones and Wicks (1999); Savage, Dunkin and Ford (2004); and Phillips, Berman, Elms and Johnson-Cramer (2010), the core assumptions of stakeholder theory are:

- Organisations engage in relationships with many groups (stakeholders in accordance with the Freeman (1984) terminology) that either influence or are influenced by them.
- The theory focuses on these relationships in terms of processes and results for the organisation and the stakeholder.
- The interests of all legitimate stakeholders are of intrinsic value and no single set of interests prevails over all others, as proposed by Clarkson (1995) and Donaldson and Preston (1995).
- The theory focuses on managerial decision-making.
- The theory identifies how stakeholders seek to influence organisational decision-making processes so that they become consistent with their needs and priorities.
- Organisations should strive to understand, reconcile and balance the various participant interests.

In the last two decades, a rising number of research projects dealing with strategy and the fundamental factors in stakeholder involvement in organisational decision-making have been published (Asher, Mahoney & Mahoney, 2005). According to Clement (2005), an emphasis may be attributed to the increased pressures on organisations to respond to different stakeholder group interests. As stakeholders are in on-going relationships with an organisation, they are susceptible to generating contributions and important resources. To this end, analysing just who the stakeholders are; what their respective interests are; and how they act is fundamental to the organisation. In particular, attention must centre on identifying the stakeholders most important for the organisation's survival and meeting their respective needs and expectations (Hill & Jones, 1998; Helm & Mauroner, 2007; Julian, Ofori-Dankwa & Justis, 2008; Baron, 2009).

The following stakeholder theory explained by Donaldson and Preston (in Sachs & Rühli, 2011:3; Donaldson & Preston, 1995:65-91) has three dimensions: a descriptive, an instrumental and a normative dimension. For the purpose of this study, only two dimensions will be discussed below: descriptive and instrumental.



- **Descriptive dimension**

The descriptive dimension is justified by the fact that the majority of managers think that stakeholders are to be considered in business decisions. It is *descriptive* as it describes what the organization does, namely a constellation of co-operative and competitive interests possessing intrinsic value. There is a substantial literature on descriptive stakeholder management, which focusses on two questions: who are the stakeholders and what are the interactions between the organisation and its stakeholders?

In a dyadic perspective of stakeholder interactions, the stakeholders' identities as well as the organisation's identity are relevant. Brickson (in Sachs & Rühli, 2011:39) defines the organisation's identity orientation as the perception of the assumed relationship between an organisation and its stakeholders.

Collaborative relationships between the organisation and its stakeholders need a concrete understanding of dialogue used for stakeholder interactions. The dialogue should not only present and advocate solutions or give advice, but it should also search for answers (Sachs & Rühli, 2011:40). Examples of dialogic forms of interaction are roundtables, which are composed of the organisation's representatives and stakeholders, where the organisation and its stakeholders work together on agreements. They will then develop new solutions that integrate the organisation's and stakeholders' perspectives.

In such solutions, the decision-making authority lies not necessarily exclusively with the organisation's advisory board. Solutions arise from mutual agreement. This form of cooperation is a shift in the understanding from the idea that the management committee control stakeholder relations toward dialogue and exchange between the organisation and its stakeholders in reciprocal engagement. It involves increasing dialogical forms of interaction, which are characterised by openness, mutual interest and respectful treatment (Sachs & Rühli, 2011:40).

- **Instrumental dimension**

From the perspective of the instrumental dimension, it is useful to establish the connections between the practice of stakeholder management and the resulting achievement of corporate performance goals. It establishes a framework to examine connections between an organisation's stakeholder management and its performance

goals. Stakeholders have an impact on value creation, where the organisation's management emphasises the risk-avoiding effect. It is well suited to a comprehensive perspective of stakeholder involvement in strategic management (Sachs & Rühli, 2011:42).

Donaldson and Preston (in Sachs & Rühli, 2011:46) furthermore claim that stakeholder theory does not simply describe existing situations or predict cause-effect relationships; it also recommends attitudes, structures and practices that, taken together, constitute stakeholder management. Stakeholder management requires, as its key attribute, simultaneous attention to the legitimate interests of all stakeholders.

The literature identifies two principal reasons for an organisation to adopt a stakeholder perspective in its strategic management: utilitarian reasons and moral or ethical reasons (Bendell, 2002:55; Crane & Livesey, 2002:39; Friedman & Miles, 2006:29). Adopting a stakeholder approach for utilitarian reasons involves engaging with stakeholders with the sole purpose of protecting and furthering the organisation's strategic goals. Approaching stakeholder relations from a normative perspective, based on morals and ethics, requires a broader consideration of all stakeholder interests with the aim of developing win-win situations (Crane & Livesey, 2002:39).

From both these perspectives, an organisation cannot simply be guided by its own rational decision-making, but must adhere to social pressures, as put forth by its stakeholders, in order to maintain its legitimacy and thus its long-term survival. In recent years, increasing attention has been paid to the relationship between an organisation and its stakeholders (Crane & Livesey, 2002:39).

According to Mainardes, Alves and Raposo (2011:230), the basic premises of the stakeholder theory are:

- The organisation enters into relationships with many groups that influence or are influenced by it;
- the theory focuses on the nature of these relationships in terms of processes and results for the organisation and its stakeholders;
- the interests of all legitimate stakeholders are of intrinsic value and it is assumed that there is no single prevailing set of interests;
- the theory focusses upon management decision-making;

- the theory explains how stakeholders try to influence organisational decision-making processes to make it consistent with their needs and priorities; and
- organisations should attempt to understand and balance the interests of the various participants.

Mainardes *et al.* (2011:228) state that, according to stakeholder theory, the organisation should take into consideration the needs, interests and influences of people and groups who either impact on or may be impacted on by its policies and operations (Frederick, Post & St Davis, 1992:226).

Hence, according to Clarkson (1995:92), the stakeholder concept contains three fundamental actors: the organisation; the other actors; and the nature of the organisation-actor relationships.

These concepts represent phenomena in themselves, according to Mainardes *et al.* (2011:228):

- The relationship between the organisation and its stakeholders;
- the attitude of the stakeholders towards the organisation;
- the organisation as dependent upon stakeholders;
- the stakeholder wielding power over the organisation;
- the stakeholder as dependent on the organisation;
- the organisation as holding power over the stakeholder; and
- the organisation and stakeholders as mutually dependent actors.

This stakeholder relationship management practice is important in investigating the management of stakeholder relationships when these relationships exist between the organisation and its stakeholders, via social media platforms.

#### ➤ **Other theories relating to stakeholders and stakeholder relationships**

Askew (in Conradie, 2004:26) in a definition of stakeholder theory states that stakeholders have greater access today to information and behaviour (and misbehaviour) of organisations. As a result, stakeholders have more knowledge and are even cynical about the strategies and tactics of the organisation. Stakeholder loyalty is obtained through trust, and organisations can only obtain complete trust if they pay equal attention to all stakeholders. The flexible intelligent relationship management strategy (FIRMS) theory

underwrites this message. The philosophical core of FIRMS is teamwork, based on principle-centred relationships regulated by sincerity, integrity and trust and it therefore enables the organisation to identify early on any deterioration in key relationships.

The strategic constituencies theories of organisational effectiveness explain why it is important for organisations to communicate messages, (in this study specifically about science), to their stakeholders. If the communication practitioner can identify the strategic stakeholders in the working environment and manage the organisation's response to these interdependencies, these theories of effectiveness can assist to reduce uncertainty and conflict by stabilising relationships with key stakeholders (Grunig, Grunig & Dozier, 2002).

An organisation has a relationship with stakeholders when the behaviour of the organisation or of a stakeholder has consequences on the other. Ongoing communication between the organisation and its stakeholders will help build stable, long-term quality relationships (Steyn & Puth, 2000:65). The key components in determining the quality of any relationship are trust and commitment (Morgan & Hunt, 1994). These are qualities likely to have been developed over a significant period of time, and in circumstances when matters between actors in the relationship progressed to their mutual benefit (Durkin, McGowan & Babb, 2013:423).

Relationship building takes time. Many of the hallmarks of good relationships, trust, mutual respect and understanding are intangibles that develop and evolve over time, based on individual and collective experiences and interactions (International Finance Corporation, 2007:6). In the early stages of any relationship, there would be a need for both parties to understand the potential in developing a relationship based on mutual understanding and appreciation. Implicit in this process are the formulation of perceptions about how the relationship will manifest itself.

Sandin and Simolin (2006:4) explain that strong relationships are based on trust – nothing establishes trust more than credibility. Trust is an essential part of any relationship which holds true of the relationship between the organisation and its stakeholders. The primary goal of corporate communication is therefore to promote an objective image among stakeholders that can manifest trust. The communication and sharing of information in an open, complete, accurate and understandable way contributes significantly to determining the levels of trust and confidence (Tyler & Stanley, 2007).

There are four types of trust relationships for the purpose of this research (Walker, 2012:106):

- Trust in each other (all the personnel who form part of the organisation).
- Trust in the direct line manager (between the academic scientists and their direct management).
- Trust in leaders (senior managers).
- Trust in the organisation (the purpose of the organisation).

If an organisation values a relationship with particular stakeholders and portrays the benefits of being in a relationship, then the sound relationships will lead to greater cooperation between organisations and their stakeholders. The resource dependency theory contends that people enter into relationships in response to the need for resources (Hallahan in Shackleton, 2007:16). For a relationship to be mutually beneficial for both parties, both parties need to believe that they are getting something out of the relationship. Organisations have changed the focus of relationship building from transactional to long-term relations (Shackleton, 2007:16).

To be able to manage relationships between organisations and their stakeholders, the communication between them should be managed to build long-term relationships. For this reason, Du Plessis, Bothma, Jordaan and van Heerden (2003:251) explain that corporate communication identifies and segments different stakeholders, and then fulfils their communication needs through the organisation. Communication must be planned to achieve specific objectives concerning mutual understanding between the organisation and its stakeholders (Sandin & Simolin, 2006:7).

Stakeholder relations should be mutually beneficial and management need to be accountable to all stakeholders (Steyn & Puth, 2000:190). For management to be accountable to all stakeholders they need to be able to communicate to stakeholders. Communication can be linked with relationships and both management and its stakeholders need to understand how communication fits into this concept.

Olkkonen, Tikkanen and Alajoutsijarvi (2000:405) state that communication cannot take place without a degree of relationship, and relationships cannot be understood without having knowledge of the communication processes that take place in relationships. This statement elicits why it is the responsibility of corporate communication to engage in two-

way symmetrical communication, that objectively reflects the situation and status of stakeholder relationships through consistent interaction.

Rensburg and Ferreira (2004:11) furthermore remind practitioners that the key to managing relationships is discovering what expectations stakeholders have of the organisation and how it is measuring up to these expectations. The communication process should, therefore, self-assess the organisation's ability to communicate and measure up to expectations.

Levels of interaction between the organisation and its stakeholders vary in degree of involvement. Steyn and Puth (2000:187-188) rank interaction from inactivity, where stakeholder opinions and values are totally ignored; to reactivity, where the organisation waits for a situation to occur and responds to the situation; to proactively, where responses are anticipatory in nature and have the ability to manage crises better. Steyn and Puth (2000:187-188) identify an additional higher level of involvement, being interactive involvement, where the organisation actively involves itself with stakeholders, which influences its future.

By taking an interactive approach, one can further explore the role that communication plays in maintaining stakeholder relations. As Olkkonen *et al.* (2000:405) state, relational issues can never be separated from communicational occurrences; they may indeed be considered as two sides to the same coin. These authors also note that as suggested in situational theory, communication cannot be understood without considering situational factors (such as structural and contextual characteristics), pertaining to the relationship at hand.

From this, Rensburg and Ferreira (2004:3) emphasise that corporate communication should not only focus on building and sustaining relationships in order to deliver real value to the organisation, must be the visible voice of organisational excellence and continuous improvement. Its role is to assist organisations in becoming good corporate citizens who constantly acquire stakeholder feedback to adjust messages that were misinterpreted (Rensburg & Ferreira, 2004:3).

The organisation's success is inseparably linked to its stakeholders' success (Marx, Bosch, Du Plessis, De Villiers & Crous, 1998:555), because stakeholder relationship encounters involve interpersonal communication with a stakeholder. These authors

emphasise the importance of ensuring that stakeholders realise the significance of their individual contributions, and make sure they have the correct information at hand to engage with other stakeholders.

Organisations should scale their stakeholder engagement strategies relative to the risks and impacts their 'project' is likely to create. There is no one-size-fits-all approach when it comes to engagement. The type of relationship the organisation should try to develop with its stakeholders, and the resources and level of effort that it should invest will differ according to the nature, location and scale of the project; the phase of its development; and the interests of the stakeholders themselves (International Finance Corporation, 2007:7).

Ultimately, communication on behalf of an organisation happens regardless of whether it is generated from a communication department or not. It is corporate communication's responsibility to ensure that communication on behalf of an organisation is planned and purposed, integrated, consistent and beneficial to the identity of the organisation (International Finance Corporation, 2007:7).

Hutton (in Shackleton, 2007:28) speaks of an 'integrated communication' function, where the communication department advises and monitors communication that is sent and received on behalf of the organisation. Organisations normally have many different stakeholders and each organisational function is involved in relationships with targeted stakeholders that are important to them. One of the key reasons for building and expanding stakeholder relationships is to create goodwill (Du Plessis *et al.*, 2003:250). Additionally, effective and strong relationships have proved extremely beneficial in times of crises (Steyn & Bütschi, 2004:7).

### ➤ **Stakeholder classification typologies**

Considering that the model proposed by Freeman (1984) includes a broader spectrum of stakeholders and not only the traditional ones (academic staff, competitors), an issue that has concerned field research from the outset is how to deal with different stakeholders simultaneously. According to Fassin (2008), this is simply not possible and the utilisation of criteria prioritising stakeholders has always been a theoretical requirement.



While meeting every need is not always feasible, there is the necessity of paying attention to certain specific groups to the detriment of others. Hence, the organisation encounters a dilemma: where should it pay its greatest attention? Is the organisation targeting its efforts correctly or is there a need for some kind of restructuring so as to best satisfy the demands of those really important to sustainable survival and success? Thus, these are the questions organisations need to be concerned about (Friedman & Miles, 2006).

According to Friedman and Miles (2006) the typology presented by Mitchell, Agle and Wood (1997) gained in popularity among stakeholder theory theoreticians and practitioners. According to Mitchell *et al.* (1997) stakeholder types are classified as follows:

Latent stakeholders (in possession of only one attribute, probably receiving little attention from the business unit):

*Dormant stakeholder:* Groups and individuals with the power to impose their wills on the organisation but lack either legitimacy or urgency. Hence, their power falls into disuse with little or no ongoing interaction with the organisation. Nevertheless, management needs to be aware and to monitor this stakeholder group and evaluate its potential to take on a second attribute (Mitchell *et al.*, 1997).

*Discretionary stakeholder:* Groups and individuals with legitimacy but that lack both the power to influence the organisation and any urgency. In these cases, attention should be paid to this stakeholder group under the framework of corporate social responsibility, as they tend to become more receptive (Mitchell *et al.*, 1997).

*Demanding stakeholder:* When the most important attribute is urgency. Without power or legitimacy, they do not make great demands on the organisation but require monitoring with regards to their potential to gain a second attribute (Mitchell *et al.*, 1997).

Expectant stakeholders (in possession of two attributes resulting in a more active posture both from the stakeholder and from the business unit):

*Dominant stakeholder:* Groups and individuals that hold influence over the organisation guaranteed by power and legitimacy. Correspondingly, they expect and receive a lot of attention from the organisation (Mitchell *et al.*, 1997).



*Dangerous stakeholder:* When there is power and urgency but stripped of any legitimacy. The coercive stakeholder may represent a threat to the organisation (Mitchell *et al.*, 1997).

*Dependent stakeholder:* Groups and individuals that hold attributes of urgency and legitimacy but which however depend on another stakeholder for their claims to be taken into consideration (Mitchell *et al.*, 1997).

### **viii. Strategic management theory**

According to David (1997:4) strategic management can be described as: "...the art and science of formulating, implementing, and evaluating cross functional decisions that enable an organisation to achieve its objectives". Moss and Warnaby (1997:43) add to this definition by describing the role of strategy in the organisation as "...a continuous and adaptive response to external opportunities and threats that may confront an organisation".

Strategy is first and foremost a position to match an organisation to the concerns, expectations, values and norms of its societal and stakeholder environment – a pro-active capability to adapt the organisation to changes identified through environmental scanning and boundary spanning activities. It creates a competitive advantage for the organisation through the early detection and management of societal and stakeholder issues and expectations, involving strategic stakeholders in decision-making, determining what should be communicated to avoid conflict and obtaining win-win solutions - thereby stabilising societal and stakeholder relationships, giving the organisation the autonomy to concentrate on achieving its mission (Steyn, 2007:2).

Strategic management is defined by Greene, Adam and Ebert (1985:536), and Steyn and Puth (2000:17) as: "a continuous process of thinking through the current mission of the organisation, thinking through the current environmental conditions, and then combining these elements by setting forth a guide for tomorrow's decisions and results". Strategic management focuses on strategic decisions, which deal with the determination of strategy; provide the definition of business; as well as the general relationship between the organisation and its stakeholders.

The management role in the strategic management process can be described as: firstly, identifying the organisation's strategic stakeholders and issues; and secondly, feeding this strategic information into the organisation's strategy formulation processes and suggesting

the appropriate organisational response; thirdly, by managing environmental uncertainty, and developing and maintaining excellent relationships with strategic stakeholders; and lastly, developing communication programmes to address key strategic issues and stakeholders (Steyn & Puth, 2000:18).

Past research has suggested (Sinickas, 2006) that management communication is a strong indicator of stakeholder comprehension of strategy. The relationship between effective stakeholder communication and stakeholder comprehension indicate that timely, relevant, complete and accurate communication received from management is positively related to stakeholder understanding of corporate strategy and goals.

Helping stakeholders understand how their contribution and performance contributes to the organisation's success may be one of the most important things management can do to yield better stakeholder comprehension of corporate strategy and goals (O'Neil, 2008:17). Encouraging stakeholders to act in alignment of organisational goals is one of the most important objectives of stakeholder communication strategy.

### **2.2.5 Major concept**

The major concept is derived from the general aim, and is thus defined as "stakeholder perceptions of communication about science". This concept, as well as the four main constructs for the study, will be explored further in this Chapter and in Chapter 3.

### **2.2.6 Constructs**

Constructs, the sixth level of the framework are the elements that make up concepts. Concepts are generally accepted as bundles of meanings or characteristics associated with certain events, objects, conditions, situations and behaviours (Cooper & Schindler, 2001:39). However, a bundle of meanings do not provide a clear framework for research. Therefore, constructs are used to turn bundles of meanings into an image or idea specifically invented for a given research and/or theory building purpose (Cooper & Schindler, 2001:41). The four main constructs of this study are: communication management, social media, stakeholder relationships and corporate communication strategy.

### **2.2.7 Empirical methods**

A descriptive research approach is adopted in this study. The research method is quantitative (Chapter 4). The purpose is to determine the stakeholder perceptions of communication about science and to develop a conceptual model for a corporate communication strategy.

### **2.2.8 Measuring items**

The four main constructs of the study have all been operationalised in the measuring instrument that was specifically developed for the purpose of this study.

### **2.2.9 Proposed conceptual framework / model**

The concept of 'strategy' is well-known in management theory and practice. However, the concept 'corporate communication strategy' has received little attention in the public relations (corporate communication) body of knowledge. There is mention of a strategic role for the corporate communication practitioner, but there are few explanations or descriptions of what corporate communication strategy means in a strategic organisational context (Steyn, 2002:1).

Strategic management theory differentiates between the enterprise, corporate, business-unit, functional and operational strategy. Corporate communication strategy is seen to be the outcome of a strategic thinking process by senior communicators and top managers taking strategic decisions with regard to the identification and management of, and communication with, strategic stakeholders (Steyn, 2002:iii).

Van Ruler (in Hallahan, Holtzhausen, van Ruler, Vercic & Sriramesh, 2007:263) concluded in a study that practitioners are not able to cope with abstract strategic planning practices. The key problem seems to lie in the application of 'strategy' to corporate communication issues.

The emphasis in definitions of corporate communication and public relations is on corporate communication as a management function identifying and managing issues and stakeholders; building mutually beneficial relationships through communication with those on whom the organisation depends to meet its goals; and assisting the organisation to

adapt to its environment by achieving balance between commercial imperatives and socially acceptable behaviour (Steyn, 2002:2).

The above discussion lays out the meta-theoretical framework that guides this study. Its various components are discussed further in this Chapter and in Chapter 3. The following sections deal with the main constructs of the study.

## **2.3 COMMUNICATION MANAGEMENT**

### **2.3.1 Defining communication**

There are many interesting and innovative ways of communicating complicated concepts. According to van Schalkwyk (2009:3), communication can be defined as “a two-way process during which information is transmitted in a specific code by means of a specific channel (or medium) from a sender to a receiver, who reacts to the stimulus by means of feedback”. Deetz (in Tourish & Hargie, 2009:5) on the other hand explains communication as that ‘... it reflects the relationships between all organisational actors; it also creates those relationships, and defines, shapes and explains them to ourselves and others, with varied degrees of success.’

In the absence of a clear definition or at least a simple understanding of communication in its basic form, misunderstanding of concepts and objectives is predictable. For this study, both the above definitions will be considered because contemporary theorists regard communication not only as an interactive process of exchanging meaningful messages, but also as a transaction between the participants during which a relationship develops. For this study, this refers to the transaction between the organisation and its stakeholders, in order for them to develop mutual understanding and build long-term relationships.

A transactional process is one in which the people communicating are mutually responsible for the outcome of the communication encounter as they transmit information, create meaning and elicit responses. The focus is on the quality of the relationship that develops between them, as well as on the transfer and interpretation of messages. From this perspective, the transactional definition of communication as described by Verderber ‘as the exchange of messages and negotiating meaning to establish and maintain relationships’ (Steinberg, 2007:40).

The concept of 'transaction' suggests that the participant must arrive at some mutual agreement about the meaning of their messages for communication to be effective and for the relationship to be satisfying. Adapting this as a way of communicating with purpose will assist in building and maintaining successful relationships through effective communication.

According to Jucan and Jucan (2014:462-463), being good communicators helps scientists to be better in order to:

- Help stakeholders understand science as part of their real lives; and
- not only seeing the importance of the science and its source of pleasure and wonder, but also to make decisions about it.

The fundamental objective is to establish a deeper and more solid relationship based on trust between the organisation and its stakeholders. Only on this basis will the inevitable communication gap be breached, even if there will always be a difference between those who hold complex knowledge and the rest. It is essential to make a scientifically based voice heard loud and clear, especially in time of crisis or achievement, which can be done through professional and effective communication. The price for not communicating or communicating poorly is becoming higher every day because today those who are not well represented in the relationship risk losing their say, resources or trust (Jucan & Jucan, 2014:462 -463).

Communication can be a strategic function to the organisation because it identifies and justifies them. It "allows them to gain consensus and to work to achieve the objectives that all systems have: to survive, to protect themselves, to obtain resources, and to grow" (Carrada, 2006). Training in communication about science has to be a key component of science education. To be effective, communication has to be a two-way process: organisations should not only present their messages, but also be prepared to take into consideration the stakeholder's needs and views. It requires also responsibility at all levels to carry out and communicate with integrity, respect, fairness, trustworthiness and transparency, recognising its benefits and possible harms (ICSU statute 5, 2001).

The communication that an organisation invests in has a strong impact on various aspects of stakeholders' perceptions and actions. It can also lead to a 'mutual understanding

between stakeholders and influencing behaviour and attitude' (Sharma & Kamalanabhan, 2012).

### **2.3.2 Purpose of communication**

Communication without purpose is pointless and according to Steinberg (2007:19), the purpose of communication is to satisfy a personal or social need. Theorists in many disciplines have established that needs are the driving force behind human behaviour. Needs could generally be described as requirements of life, which can range from the physical need for food and shelter to the overall sense of wellbeing that is derived from knowing for instance, that you achieved success at work.

Communication in general is a major and essential part of the information sharing process. "The best idea in the world can fail if it's not communicated effectively". Communication skills are important to managers in the roles they execute (Hattersley & McJanner, 2005:3). In an organisational structure such as the business units, the risk of miscommunicating through a lack of effective communication is high, especially given that management need communication skills to enable them to acquire and apply knowledge covering a wide range of subjects. Even though managerial tasks may have changed, the challenge with advances in technology, workforce diversity, globalisation and the emphasis of working in teams, accentuates managers' need to communicate effectively. The management of the business unit need to know how to maintain sound relationships - and how to communicate effectively with stakeholders (van Schalkwyk, 2009:2).

The organisation has a major dependency on well-structured processes to achieve its objectives. According to Tripathi (2009:2) communication management equals process creation, where it has to balance three elements: the message(s), media channel(s) and stakeholder(s). It can therefore be assumed that the core functionality of communication management is to manage a message, the channel through which it is communicated and the audience at whom it is aimed.

The purpose of communication also forms part of the understanding of communication at either organisational or corporate levels. Thayer (quoted in Grunig, 1992:287) differentiates between synchronic and diachronic communication. Synchronic communication aims to synchronise the behaviour of stakeholders with that of the organisation – the organisation can thus continue without interference. Diachronic

communication aims to negotiate “... a state of affairs that benefits both the organisation and stakeholders ...” (Grunig, 1992:287).

According to Grunig (1992:287) these two concepts are reflected in asymmetrical and symmetrical approaches to communication management.

### **2.3.3 Effective communication**

One can detect a growing recognition that effective communication requires initiatives that sponsor dialogue, trust, relationships and stakeholder participation across a diversity of social settings and media platforms. Effective communication will necessitate connecting a scientific topic to something the stakeholders already value or prioritise, conveying personal relevance (Nisbet & Scheufele, 2009:1767-1778).

The ability to communicate effectively in an organisational context is complex and should be the focus of the entire organisation, with corporate communication in a leading position. Hamrefors (2004:16) also implies that the corporate communication department should be active in developing the communicative aspect of everything, from structure to process; from micro level to macro level, where communication is viewed as part of leadership, rather than management.

Bovée and Thill (2000:4) believe that effective communication only takes place when participants “achieve a shared understanding, stimulate others to take actions, encourage people to think in new ways”. Effective communication is defined as an interactive two-way communication process resulting in an action or decision (Bovée & Thill, 2000:4).

In order for communication to be effective, communication requires each party to make some effort to understand the other party. Effective communication can help an organisation to achieve satisfied and well-motivated stakeholders, and develop innovative and creative strategies (Blundel, 2004:2). Effective communication is also correlated to the organisation’s goals and the attainment of these goals through organisational relationships with stakeholders.

The following hypothesis was consequently developed to explain the stakeholder relationships with the business unit and how it can be influenced by effective communication.



**H1:** *Communication about science can take place through effective stakeholder communication.*

**H0:** *Communication about science cannot take place through effective stakeholder communication.*

In order for organisations to communicate effectively, they need to view 'internal' communication as strategic rather than skill-orientated, and include management and stakeholders at all levels to ensure the delivery of important messages. This change, however, cannot occur unless stakeholders understand that communication is a core competence for everyone – not a competence required by corporate communication alone (Kalla, 2005:310).

One of the prime purposes for communicating is to develop and maintain high quality exchange relationships with others. Relationship in this context means any connection, involvement or association between two people, regardless of its source (Steinberg, 2007:20). The management of the business unit are expected to have good personal communication which later builds to effective relationships with stakeholders which will establish trust, credibility and high integrity as they progress further. Relationships start with the sense of self and can be permanent, such as a work relationship with a colleague (also known as interpersonal communication) (Steinberg, 2007:20).

Theories on business unit relationships support the notion that there is a functional connection between the quality of communication and the nature of the relationship between the business unit and its stakeholders (Grunig, 1992:82). Business unit communication is aimed at building relationship and mutual understanding with key stakeholders (Dolphin & Fan, 2000:99, van Riel & Fombrun, 2007:1). The stronger the personal relationship between the business unit and its stakeholders, the greater the potential for mutual understanding, the greater the level of informed decision-making will be (Durkin *et al.*, 2013:421).

Hung (2005:396) states that, the long-term stakeholder relationships arise when a business unit and its stakeholders become interdependent as a result of mutual understanding between them. Interdependence refers to the relationship that is formed in a system and the importance of these relationships to the system.



Successful and effective communication depends as much on the receiver's listening skills as on the sender's conversational skills. Listening is a more complicated process than simply hearing noises. Hearing represents the physical experience whereas listening requires the receiver of the message to be actively and consciously involved in the communication situation (van Schalkwyk, 2009:20; Fielding & du Plooy-Cilliers, 2014:19).

- **Listening**

For the purpose of this study, more emphasis is placed on listening *per se* than hearing. People listen for a variety of reasons: to promote social interaction and enjoyment; acquire information, insight and understanding; and study effectively (van Schalkwyk, 2009:20). The rewards people can achieve, by having good listening skills are to enable the listener to broaden his/her basis of knowledge, leading to improved interpersonal relations, reducing the possibility of misunderstandings, improving personal efficiency, saving time and ensuring goodwill (van Schalkwyk, 2009:22; Fielding & du Plooy-Cilliers, 2014:19).

Effective active listening is vital in interpersonal communication (Fielding & du Plooy-Cilliers, 2014:38). One of the most important perceptual processes in communication is the ability to listen efficiently. Researchers report that one of the major limitations in establishing and maintaining relationships is the inability of the partners to listen efficiently (Steinberg, 2007:75; van Schalkwyk, 2009:20).

Listening, like all acts of perception, is a dynamic, active process involving the communicator and the recipient. Listening occurs when the signals or sounds sent to the brain are processed and used. That is, when attending to what is relevant and then understanding and interpreting it. Efficient listening also requires that what is remembered has been conveyed to the receiver and then responded to the communicator (Steinberg, 2007:75; Fielding & du Plooy-Cilliers, 2014:39).

Active and efficient listening helps to interpret messages and responses more accurately and thereby gain a better understanding of the people whom they are in contact with. Active listening is a process where one is deeply engaged with the speaker and pay close attention not only to the facts and opinions expressed but also to the speaker's feelings (Fielding & du Plooy-Cilliers, 2014:39). Poor listening, is in fact one of the major causes of misunderstanding in professional relationships (Steinberg, 2007:76-77).

Therefore, a communication and listening process needs to be followed to understand how the message can be communicated effectively and understood correctly. There is no better way of communicating other than showing respect for the speaker by really listening to him/her. Sometimes the listener does not understand the speaker simply for not paying attention. There is often also a misunderstanding of the message for the reason that it is not heard what is meant to be communicated. This results from not listening at the right level, therefore hearing the facts but for example missing the feelings. Strategic listening allows you to hear the various messages people are communicating (Wittcom.com, 2016). The outcome of communication can have consequences that are intentional or unintentional. The effects of communication are thus interlinked to the purpose of communication discussed earlier.

#### **2.3.4 Categories of communication**

In order to develop a better understanding of communication, certain categories of communication (explained in more detail below) have been identified for purposes of this study. The categories described below can successfully be implemented in the organisation (Fielding & du Plooy-Cilliers, 2014:39).

- **Intrapersonal communication**

This refers to communication with oneself, e.g. thinking, mediating, planning conversations and considering alternatives. Intrapersonal communication is a form of self-reflection. The manner in which one communicates with oneself determines the manner in which one communicates with other people. Sound interpersonal communication is therefore dependent on sound intrapersonal communication (Fielding & du Plooy-Cilliers, 2014:39; Skinner, Mersham & Benecke, 2013:28).

- **Interpersonal communication**

The term 'inter' means 'between' (Steinberg, 2007:62). Trenholm and Jensen (in Carroll, 2013:20) define interpersonal communication as 'dyadic communication in which two individuals, sharing the roles of sender and receiver, become connected through the mutual activity of creating meaning.' The assumption is that interpersonal communication creates and maintains meaningful relationships (for this study, between the business unit and its stakeholders). According to van Schalkwyk (2009:5), interpersonal communication

refers to the transmission of messages between individuals within specific groups, or between different groups of people.

The bulk of business communication is interpersonal; it can be verbal or non-verbal.

*Verbal communication* refers to the transmission of spoken or written words (van Schalkwyk, 2009:5).

- Spoken verbal communication is direct when the sender and the receiver have eye-contact and feedback can be gained without obstruction or delay.
- Written verbal communication is also described as more or less indirect. For example, a personal business letter, addressed to a specific individual, may be regarded as an example of less indirect written communication, since feedback is expected from that particular addressee.

*Non-verbal communication* refers to the transmission of messages by means other than language, e.g. gestures and facial expressions. Successful non-verbal communication relies heavily upon the senses of the receiver of a message – particularly sight, hearing and sense of touch (van Schalkwyk, 2009:5).

Communication skills in the selection of management including interpersonal, verbal, written and listening skills are rated higher than other criteria, suggesting these criteria to be important in achieving organisational objectives (Bambacas & Patrickson, 2009:9).

According to Steinberg (2007:20) the link between the need to form relationships and acquiring a sense of self is expressed by Hora as follows ‘to understand oneself, one need to be understood by another. To be understood by another, one needs to understand the other.’ Understanding others takes place through interpersonal communication.

- **Group communication**

According to Marvin Shaw (in Adams & Galanes, 2009:11) important theorists, defines a *group* as “persons who are interacting with one another in such a manner that each person influences and is influenced by each other person”. The essence of “groupness” is that members have interdependent relationships, act interdependently toward a common purpose, and are aware that, together, they act as part of a unit (Adams & Galanes, 2009:12).

Small, pertaining to groups, has usually been defined either by an arbitrary number or in terms of human perception. A small group can be defined in terms of psychological perceptions as “a group in which individual members perceive each other and are aware of each other as individuals when they interact (Adams & Galanes, 2009:14).

Communication can be defined, for the purpose of this research, as “the perception, interpretation, and response of people to messages produced by other people”. The definition states that group members send verbal and nonverbal messages – words, gestures, facial expressions, and so forth – and that other group members observe, interpret, and respond to these messages. This implies that members of a group pay attention to each other and coordinate their communication behaviour to accomplish the group’s assignment. It is the members’ communication with each other – their perceiving, interpreting, and responding to the other party’s signals – that creates the interdependence necessary for individuals to be called a group (Adams & Galanes, 2009:14).

On the other hand, small group communication can be referred to as the part of the field of group dynamics that focuses on the exchange of verbal and nonverbal information among group members. Small group communication requires interacting. As members create, perceive, interpret, and respond to messages, they are engaging in small group communication. Small group communication is different from the communication that occurs in other contexts, such as interpersonal communication, public communication, and intrapersonal communication (Adams & Galanes, 2009:15). For the purpose of the study, group communication needs to be discussed to understand the different concepts of communication. From this perspective, the concept of organisational communication will be discussed next.

- **Organisational communication**

The organisational communication approach emphasises different internal dynamics of organisations that may enhance or impede efforts to get messages across to stakeholders. The corporate communication approach presupposes that communication is managed on behalf of an entire organisation and emphasises its ability to negotiate both internal and external dynamics in its communication efforts with stakeholders (Grunig, 1992:4).

Tompkins (1984:662) defines organisational communication as the study of sending and receiving messages that create and maintain a system of consciously coordinated

activities or forces of two or more people. Thus, organisational communication in its most basic form refers to the study of how people communicate within an organisational context which similarly applies at business unit level.

Miller (2003:1) states that organisational communication “involves understanding how the symbolic nature of communication differentiates it from other forms of organisational behaviour”. Hargie and Tourish (2004:10) take a slightly different view of “how people ascribe meanings to messages, verbal and non-verbal communication, communication skills, the effectiveness of communication in organisations, and how meanings are distorted or changed while people exchange messages, in both formal and informal networks”. Organisational communication media are the methods or channels used in the communication process to send and receive information in organisations (Harris, 1993:167).

According to Skinner *et al.* (2013:29) organisational communication takes place vertically and horizontally through an organisation, is concerned with the flow of messages within a network of interdependent relationships.

- **Mass communication**

According to van Schalkwyk (2009:5), this involves virtually simultaneous communication of the same message by sending to many receivers, each of them receives and interprets the message individually. The computer is considered to be the main medium of mass communication in the contemporary business environment, and is discussed thoroughly later in this chapter.

Akin (2009:1) defines mass media as all forms of information communicated to large groups of people, from a handmade sign to an international news network. Wimmer and Dominick (2006:2) furthermore define mass media as any form of communication that simultaneously reaches a large number of people.

According to Erasmus (2012:20), the sub-fields of new and traditional mass media are briefly summarised in Table 4.

**Table 4: Subfields of new and traditional mass media**

SUBFIELD	DESCRIPTION	EXAMPLES
<b>Traditional mass media</b>	All forms of mass media, excluding Internet and electronically-based forms of media.	TV, radio, newspapers, books, magazines and outdoor media such as billboards
<b>New mass media</b>	According to van Dijk (in Erasmus, 2012:20), the new media are defined by three characteristics simultaneously; they are integrated and interactive and also used digital code at the turn of the 20 <sup>th</sup> and 21 <sup>st</sup> century. It allows that their most common alternative names are multimedia, interactive media and digital media.	Internet, social media, websites, mobile sites, blogs and social networking sites

Source: Erasmus (2012:20).

The study is investigating the impact of social media on the stakeholder perceptions of communication about science between a business unit and its stakeholders. It is evident from the table above that social media can be considered as a contemporary form of mass media. Therefore, this research study investigates social media in a specifically new mass media context.

Alberts (2010:1) argues that the Internet has decreased the need for traditional media because it has enabled stakeholders to join social societies within their immediate physical and social circles, as well as on an international and broader level. The demise of traditional media can be attributed largely to the following:

- **Decline in readership** – the distribution of information on the web has led to the decline in readership of traditional publications.
- **Real-time updates** – traditional media cannot compete with the instantly updated user-generated content (UGC) that is immediately available for the world to see.
- **The rise of UGC websites** – stakeholders have the unlimited real-time commentary on content, while traditional media are considered to be static and a one-way communication tool.

In a way, mass communication as explained above, is largely dependent on a suitable medium to cater for the extent of the message sent. In this regard, media communication plays a fundamental role.

- **Media communication**

The terms medium and media are used to refer to channels of communication in general (van Schalkwyk, 2009:7). In situations involving mass communication, they are also used as synonyms for the term sender. According to König (in van Schalkwyk, 2009:7) the term medium refers to all the equipment and programme material used by the communicator to ensure that the audience (receivers of the message) gain a clear understanding of the subject matter. This includes charts and graphic representations, notice boards, the overhead projector, recorders, slides and films, just to name a few. The choice of the most suitable medium is mainly determined by: the objective which the sender of the message wants to achieve; and the needs and expectations of the receivers (discussed in detail later in this chapter) which enhances effective communication.

According to Mayfield (2007:1), forms of social media are best understood as a new kind of online media, which share the following characteristics: participation, openness, conversation, community and connectedness. The terms medium and media are used to refer to channels of communication in general. In situations involving mass communication they are also used as synonyms for the term sender.

According to König (in van Schalkwyk, 2009:7), the term medium refers to all the equipment and programme material used by the communicator to ensure that the audience (receivers of the message) gain a clear understanding of the subject matter. This includes charts and graphic representations, notice boards, the overhead projector, recorders, slides and films, just to name a few. There is overwhelming support for the use of social media within a communication strategy, driven by an increasing importance of media communication which leads to more effective communication efforts (Daniasa, Tomita, Stuparu & Stanciu, 2010).

The Internet, blogs, social media platforms such as Facebook and Twitter and other forms of web content (for example: text, images, sounds, videos and animations) allow business units to communicate directly with stakeholders (Scott in Erasmus, 2012:1). The significant growth of the Internet increases the main focus of organisations to manage the communication between them and its stakeholders. With the introduction of new ways of communicating via the Internet and social media, the focus has changed, and the



organisations are being forced to consider and engage with new and sometimes unexpected stakeholders (Scott in Erasmus, 2012:1).

It is therefore clear that the development of new communication technologies and their increasing implementation, as well as the ways in which organisations are communicating with all their stakeholders, have changed. Solis and Breakenridge (2009:165) state that “as part of the new media regime, strategically participating in social media is not only critical in the evolution of corporate communication, but is also necessary to effectively communicate with the people that can help you extend the conversations that impact your business”.

Du Plooy-Cilliers (2001:141) identifies dimensions for comparing communication. Firstly, communication flows freely. Ströh (1998:29-30) also highlights this fact. Wheatley (1999) further describes the relationship between information and the creation of meaning as a natural occurrence within organisations. Communication facilitates both the diffusion of information and the interpretation of information throughout the organisation. The free flow of communication also opens up the possibility for the organisation to benefit and contribute to this process.

### **2.3.5 Communication flow: traditional versus social media**

The two major underlying differences between traditional media and new media are the different flows of communication and the speed at which it flows. In traditional media, the message flows from a sender, who then delivers the message to the receiver (in this case a media organisation). The final step in the flow of communication is when the message is communicated from the media organisation to the stakeholders (Anderson, 2009:1). When it comes to new media, an organisation is able to release its publications directly into a social media sphere. The results are instantaneously available to all stakeholders.

Table 5 contains a summary of the major differences between traditional and new media.



**Table 5: Differences between traditional media and new media**

Elementary differences	Traditional media	New media
One-way vs. two-way communication	Little two-way conversation takes place	Two-way conversation takes place
Real or near real time response	Delay in response time	Instantaneous nature
A spectrum of relationships	Focuses on organisation to stakeholder and stakeholder to organisation relationships	Many different relationships: Organisation to stakeholder; stakeholder to organisation; stakeholder to stakeholder;
Interactive media	No direct involvement	Direct involvement
Self-produced media	No medium for self-produced media	Any individual or organisation can produce own media platforms
Equalisation amongst authorities	One-way communication results in traditional media creator determining authority	Two-way communication results in relationship building between different parties, establishing authority
Adaption and growth	Change and growth are delayed in comparison with social media	Owing to instantaneous nature, growth and change are constant and continuous
Control	The creators of the message traditionally has full control of the message	All participants in the conversation has control over the messaging

Source: Adapted from microgeist.com (2009:1).

The following hypothesis was consequently developed to demonstrate the relationship between traditional media channels and communication about science.

***H2: Communication about science can take place through traditional media channels***

***H0: Communication about science cannot take place through traditional media channels.***

The following section deals with Objective One of this study, which is to determine if effective communication influences the long-term stakeholder relationships between the University of Pretoria Centre for Sustainable Malaria Control and its stakeholders.

### **2.3.6 Effects of communication**

Intentional effects are the direct and predictable changes in the behaviour, opinion, attitudes or feelings of people in response to communication messages. Sometimes the messages do not have the outcome expected/intended. Unintentional effects on the other hand are the indirect influences and unpredictable results of the communication (Steinberg, 2007:22).

The effects of communication are best determined by conducting independent tests in the form of communication audits. A communication audit in essence is a review of the organisation's communication in the past, how effective that has been and how its stakeholders perceived it. The audit process is a rigorous and structured review or assessment and considers the general state of communication by the organisation with stakeholders, the way of communication with stakeholders in the past, and how stakeholders perceive the organisation (Research matters KT Toolkit, 2008:4).

The aim is to understand how stakeholders perceive the organisation. Knowing that, will give the researcher windows into the communication methods (for example, if nobody knows of the organisation, it can be assumed that previous communication efforts have been highly ineffective).

The rationale behind a communication audit for a business unit is to determine answers to the following questions (Research matters KT Toolkit, 2008:4):

- Does the business unit's communication system reach its target population of stakeholders?
- Are the stakeholders receiving the intended messages?
- Are the communication messages achieving the objectives of the business unit?
- What can be done to improve communication not effectively reaching the stakeholders?
- Are there new methods of communication that need to be developed, adapted, or eliminated to meet the business unit objectives or to target different stakeholders?

Literature addressing communication audits is predominantly found in public relations, business, and organisational communication journals and books. The earliest literature relating to communication audits dates back to the early 1950s.

Davis (1953:301) reported a method for analysing and reporting communication patterns in organisations. His approach was called 'ecco-analysis' and focused on timing, subject matter, media, and organisational level as communication pattern variables. Ecco-analysis was tested on an operating organisation and resulted in concrete and useful information about communication patterns. Davis reported ecco-analysis as the first method to use a simple questionnaire to gather large quantities of organisational communication data. Davis (1953:308) also reported that the framework and method of ecco-analysis appeared

to be adaptable to various types of organisations and to both management and operative groups.

In 1954, Odiorne was the first to use the term *communication audit* in literature. His research focused on accuracy and direction of communication and relied on a communication audit devised by the National Society of Professional Engineers. Odiorne used both a questionnaire and interviews to gather data from top managers and project engineers. Although his focus was limited to a “particular organisation at a particular moment” (Odiorne, 1954:235), he paved the way for future researchers to expand the scope and function of the communication audit.

The most expansive communication audit was devised by the International Communication Association (ICA) in the 1970s (Scott, Shaw, Timmerman, Frank & Quinn, 1999). “Termed the *ICA Audit*, the system evolved through three phases: development of audit procedure and instruments (1971 – 1974); pilot-testing of audit procedure and instruments (1974-1976); and implementation of audit procedure and data bank (1976)” (Shelby & Reinsch, 1996:97). The five audit instruments developed to increase breadth of information and validate data were: survey, interviews network analysis, critical incident analysis, and communication diary. Newsom, Turk and Kruckeberg (1996) pointed out the use of the communication audit before a change in the organisation to establish a benchmark or baseline against which subsequent results can be measured.

- **The utility of communication audits**

The process of communication audit implementation should generally encompass the following stages (Tourish & Hargie, 2009:34-41):

- i. Engage management commitment - A variety of studies have suggested that unless management are actively involved in any change process, and passionately committed to its success, it will fail. An intense level of management involvement is needed throughout, to secure such an outcome.
- ii. Prepare the organisation or business unit for the audit - This helps to ensure that management facilitates access to audit participants, and generally engage with what is going on. This makes it more likely that the results of the audit will be taken seriously and used to effect improvements in performance. Recurring stakeholder concerns that tend to arise here include confidentiality; how widely available the

results will be; and the time commitment required of audit respondents. The most difficult of these issues are confidentiality.

Respondents are often wary of honestly expressing themselves and their views, in case what they say will be used against them at a later stage. These issues should be addressed during the initial communication with audit participants. The following general rules may help:

- Participants should be assured, orally (if possible) and in writing, that their responses will be treated confidentially.
  - Wherever possible, participants should be selected randomly. For the purpose of this study the participants will be identified beforehand.
- iii. Data gathering - This will ensure that the management familiarises the researcher with stakeholder views, as well as concerns the management may have. The feedback obtained from the management will help with the design of the structured questionnaire.
- iv. Analysis and action phase - A report is prepared, which comprehensively describes and evaluates communication practices. Action plans should be made available to everyone in the organisation. In this way, the process of audit, as well as the changes to which it gives rise; will help to achieve significant steps forward in open and clear communication.

Based on the discussion above, it can be concluded that communication audits have the following methodological strengths (Tourish & Hargie, 2009:41):

- The subjective interpretations of reality held by all important actors in the organisation's life are identified. This includes all stakeholders recognised as making a vital contribution to the organisation's planning process.
- Stakeholders are permitted to voice their views and feelings in their own words, while also recording their responses to communication issues on objective measurement scales, which can be analysed extensively. Audits explore individual perceptions of communication as well as their perceptions of the organisation itself. Organisational effectiveness is impossible without positive feelings towards the communication process within the organisation itself.

- Common understandings of the organisation's life are identified. Despite the fact that audit participants will inevitably have different perceptions, they will also agree on enough issues to facilitate the development of a strategy that will lead to improvements in communication climate.

In communication science, a theory is needed to help understand, explain, predict and improve communication because communication is vital in every aspect, for individuals or in groups or organisations. Theory in communication is the basis of the scientific understanding of any phenomenon in all disciplines (Steinberg, 2007:29).

The following section deals with the role of social media as a communication medium.

## **2.4 SOCIAL MEDIA**

As the technology for social media is relatively new, it has not been clearly studied. What is clear however is that the way people communicate, learn, interact with each other and make decisions will change and organisations will need to be aware of this in order to develop appropriate stakeholder relationships.

It is therefore important for the purpose of this dissertation to understand what the Internet is in the context of social media; how it came into existence; what it consists of; and which resources are available for use by individuals and organisations.

### **2.4.1 The Internet defined**

Web 2.0 was developed in order to enable the new combination of information collaboration (Addison, 2006). Frost and Straus (1998:11) and Zaviona (1997:23) describe the Internet ('Net') as a vast global network of computers. It is a network inter-linking other networks (De Beyer, 1998:84; Flynn, 1996:201; Lescher, 1995:125; Moody, 2000:6; Murphy, 1997:14; Pieterse, 1995:10; Solheim & Henning, 1998:158; Van Schoor, 1995:10).

It can be seen as a type of global information infrastructure (Peterson, Balasubramanian & Bronnenberg, 1997:331). The Internet, bulletin board systems and commercial services such as CompuServe and America Online (AOL) – cyberspace – represent different new age communication technology (Settles, 1995:4).

For an organisation to utilise the Internet as a medium, it needs to understand what it is and what it consists of in the context of information theory. In the past, the Internet was one-way communication and it was difficult, if not impossible, to add comments, pictures or videos from a variety of different sources. The terms Web 2.0 and Social Media are often used interchangeably.

#### **2.4.2 Defining social media and traditional media**

Communication is becoming more interactive, moving from one-way to two-way communication through to interactive media (Mangold & Faulds, 2009). In recent years, people have witnessed the rapid proliferation of a new class of information technologies, commonly known as social media, which supports interpersonal communication and collaboration using Internet-based platforms. Social network usage has increased in popularity especially among the younger population; however, this does not mean that the older generation has not been attracted to this medium. “The most influential people on the web today are the 24-44 year olds who embrace the Internet, not just as a tool, but as a way of life,” stated Reigner (2007:447).

Despite the popular adoption of social media, its application for organisational purposes, including knowledge management, has only just begun. Although only 18% of managers believe that social media is important for their business today, more than 63% assert it will be important for business within three years (Kiron, Palmer, Phillips & Kruschwitz, 2012).

This chapter will show how the Internet in terms of social media originated as a two-way symmetrical communication medium, used by researchers on a global basis as a communication forum. It reverted, however, to a one-way communication model when it became commercialised. Organisations used it to gain publicity or to influence stakeholders. Its interactive nature, however, is allowing it to again be utilised as a two-way communication medium.

The advent of the Internet has not only changed how organisations conduct their business, but it has also impacted on the social fabric of the global community. Its value – and shortcomings - is therefore witnessed globally. The Internet is seen as a threat to some and an opportunity of a lifetime to others. It is not merely a passing fad, but a hard fact of life (Tennie, Frith & Frith, 2010). Social media has changed the way in which individuals view their work and social environment (Tennie, Frith & Frith, 2010) as well as the way

they share opinions. Individuals can express their opinions, perceptions and feelings with very little effort and using low levels of skill.

Mangold and Faulds (2009:357-365) define social media as “a wide range of online word-of-mouth forums including blogs, company-sponsored discussion boards and chat rooms, stakeholder-to-stakeholder e-mails ... Internet discussion boards and forums, moblogs (sites containing digital audio, images, movies, or photographs), and social websites (such as Facebook and Twitter), to name a few”.

Social media refers to a set of online tools open for stakeholder membership that support idea sharing, creating and editing content, and building relationships through interaction and collaboration (Ninesigma, 2014:126). Social media is the number one activity on the web. Facebook, Twitter and YouTube have replaced face-to-face communication to a large extent.

Social media is described as a group of internet-based applications that build on the ideological and technological foundations of the World Wide Web and that allow the creation and exchange of user generated content (Kaplan & Haenlein, 2009). Within this general definition, the following categories of social media are known, namely: collaborative projects, e.g. Wikipedia; content communities, e.g. YouTube; blogs; personal web pages; social networking, e.g. Facebook; virtual game worlds, e.g. WarLords; Virtual social worlds, e.g. Second Life.

There is no systematic way in which different social media applications can be categorised, as new sites regularly appear in cyberspace. To systematically classify the abovementioned categories, Kaplan and Haenlein (2009) used a set of theories in the field of media research (social presence, media richness); and social processes (self-presentation, self-disclosure), which are the two key elements of social media. Regarding the media-related component of social media, social presence is influenced by the interpersonal nature and immediacy of the medium, and can be lower for mediated (e.g. telephone conversation), interpersonal and asynchronous (e.g. email) than synchronous (e.g. live chat) communication.

The potential use of social media for organisations has become a topic of much debate in management literature and can be considered as an improved tool for ‘open’ practices and engagement with stakeholders (Ninesigma, 2014:138). The implementation of social



media lends itself towards organisational adaptations to facilitate alignment. As technology becomes integrated into operational units and commercialisation processes, significant adaptation in organisational culture and structure is required to socialise managers, combat cultural afflictions, and promote openness to users (Ninesigma, 2014:139).

Social media communication signals the end of the mass communication era, and organisations can no longer just publish information and expect it to be consumed and accepted. Whilst a decline in traditional media is not evident, the growth in social media and social networks can no longer be ignored (Ewing, 2009; O'Brien, 2011).

Traditional media, on the other hand, include all the forms of “old” media used to communicate a message to stakeholders without using Internet technologies. Examples of old media include: television, radio, newspapers, magazines and outdoor media like billboards (Erasmus, 2012:2). In the context of this research study, the relationship between communication, knowledge and social media is to be studied.

The following hypothesis was formulated to determine the relationship between social media and long-term stakeholder relationships.

**H3:** *Long-term stakeholder relationships can be established through traditional media channels.*

**H0:** *Long-term stakeholder relationships cannot be established through traditional media channels.*

The Internet has the ability to circulate messages to a large audience instantaneously (Conway, Ward, Lewis & Bernhardt, 2007) and, therefore, the use of social networks can negatively affect an organisation’s reputation. This is exacerbated by stakeholders’ relationships with each other within the network. Negative perceptions can decrease the value of the organisation, and can have a significant impact on the profitability of the organisation.

### **2.4.3 Media on communication about science**

Social media is a game changer; it accelerates communication and is part of the converging digital world of information, entertainment, social connectivity, digital services and advertising (Ang, 2011; Kirtiş & Karahan, 2011; Mulhern, 2009). Social media needs



to be analysed by the organisation from initiation right through to support and maintenance. If it is perceived as a suitable communication channel, it should be planned from beginning to end (Argarwal, Mondal & Nath, 2011).

Based on research findings about social media, Wright and Hinson's (2009:5-18) results indicated that: blogs and social media have improved the practice of public relations; social media and traditional media complement each other; the increasing use of blogs and social media has changed the ways in which organisations communicate, with a specific focus on stakeholders; blogs and social media have made communication with stakeholders immediate by forcing organisations to respond timeously to communication; and frequency is about how often the organisation is reaching and conversing with stakeholders.

According to Bollen, Hassink and Bozic (2006:273-298) organisations develop websites for a wide range of activities, such as electronic commerce, creating a corporate image, disclosing information and reducing communication expenses. The use of social media by a centre like the University of Pretoria Centre for Sustainable Malaria Control suggests that it can have two interrelated promotional roles: firstly, social media will enable the Centre to talk to its stakeholders; and, secondly, social media enable stakeholders to talk to one another (Mangold & Faulds, 2009).

The first role of social media is consistent with the use of traditional communication tools that push information to stakeholders. The second role of social media is unique, as stakeholders of information can use these media to communicate with one another. This is an extension of traditional word-of-mouth communication, except that stakeholders now have the ability to tell millions of other stakeholders via this medium (Mangold & Faulds, 2009).

The following hypothesis was formulated to determine the relationship between social media and communication about science.

**H4:** *Communication about science can take place through social media.*

**H0:** *Communication about science cannot take place through social media.*

The communication of science, with its inclusion of the area of technical communication, is integrated into the larger scheme of general communication, thus preserving its social character deeply anchored in the realities of the community of speakers (Rus, 2014:655). The strong relation between science and communication is obvious when envisaging science as a direct result of communication.

Science communication should be driven by a desire to meet the needs and interests of stakeholders. All forms of communication (written/spoken) are socially rooted; they arise in a certain social and cultural context. The same can be asserted about science and more specifically about technology (Rus, 2014:655).

Borchelt (2001) argued that active involvement (particularly from management) is critical for success. Borchelt (2001) furthermore recognised that emerging information technologies – especially the Internet – may offer science communication unparalleled opportunities to reach stakeholders directly and to allow for direct interaction between management and the stakeholders. Research also shows that interest in science-related issues is highest among respondents who rely mainly on new information technologies for information, as opposed to traditional mass communication channels (Nisbet & Scheufele, 2009).

Most stakeholders seemed to be moderately confident that they could find information if they need it. On balance, more stakeholders tend to believe that they are lacking information other than suffering from an overload (The 2000 report of the Office of Science and Technology and the Wellcome Trust, 2000:31).

Communication about science is an important issue for many stakeholders, although they do not want to be inundated with information which is not relevant to their needs. It is less important for stakeholders to have the information than for them to know where to find it when they need it. Finding information requires connectivity of the stakeholder to the channel of communication in use at the organisation.

#### **2.4.4 Connectivity and the communication process**

The communication environment is becoming increasingly cluttered due to the availability of multiple communication tools, channels and techniques (Garber & Dotson, 2002). The digital era has increased the speed and the volume of communication (Ewing, 2009;

Mulhern, 2009). Connectivity furthermore refers to the coherence that is established as a result of the process of one or more human beings communicating or partaking in an interaction with another being, group and or computer (Kern, 2000:8). Connectivity is therefore a product of the communication process because it encompasses both the human and the technological part of communication. It is the process that creates the link between the human and technology (Kern, 2000:9).

This process results in an increased flow of information. Communication is therefore an outcomes-based process that creates a connection (connectivity) between the various stakeholders (Kern, 2000:10). Connectivity is seen as communication supported by technology, and is therefore more technical in nature (Kern 2000:10). In the context of this dissertation connectivity in the communication process is examined, among other variables.

#### **2.4.5 Information communication technology**

According to Brynjolfssen and Hitt (2000:23-48), information technology (IT) is defined as computers as well as related digital communication technology. The majority of modern industries are being significantly affected by computerisation in the current IT era.

Social media accelerates communication and is part of the converging digital world of information, entertainment, social connectivity and digital services (Ang, 2011; Kirtiş & Karahan, 2011; Mulhern, 2009). McKinsey (in Kane, Alavi, Labianca & Borgatti, 2014:276) estimates that the economic impact of social media on business could exceed \$1 trillion, most of which is gained from more efficient communication and collaboration within and across business units (Chui, Manyika, Bughin, Dobbs, Roxburgh, Sarrazin, Sands & Westergren, 2012).

The impact of social media on organisations represents an important area for information systems. Social media tools also provide users, managers and developers with the capabilities that allow them to act and interact with each other in novel ways that are difficult or were impossible to do in earlier online or offline settings (Kane *et al*, 2014:276).

The importance of social media, and its applications, in the organisation must be identified. Management need to determine (Cronin, 1996:8) if the electronic communication applications will add value to the organisation's core activities. The impact of social media,

including its applications should therefore be considered closely in determining the organisation's corporate communication strategy. Technology should be used to keep in touch with stakeholders and not to distance the organisation (Kent & Taylor, 1998:323).

Electronic communication can be used effectively if integrated into the overall strategy of the organisation. It should also be realised that it is a communication medium whereby users (members of a stakeholder group) come to the organisation seeking information, versus the organisation sending out information to the stakeholders (Kornegay & Grunig, 1998:145).

“The medium is the message. This is merely to say that the personal and social consequences of any medium – that is, of any extension of ourselves – result from the new scale that is introduced into our affairs by each extension of ourselves, or by any new technology” (McLuhan, 2006:107). Research from 2008 shows that social media was already the most dominant source of online information searches, having overtaken company websites (Kirtiş & Karahan, 2011).

Knowledge sharing and related concepts are relatively new phenomena to be discussed in the field of communication (Monge & Contractor, 2003; Kalla, 2005; Management Communication Quarterly, 2002; Zorn & Taylor, 2004). Here, knowledge sharing is understood as the formal and informal exchanges through ongoing social interaction, which mobilise knowledge that is dispersed around the organisation. Interaction and sharing of knowledge through social media have a direct impact on how efficiently an organisation can act and direct its activities, and change its functioning (Kalla, 2005:310).

According to Zorn and Taylor (2004) one of the reasons knowledge management has become an important topic of discussion in recent years is the explosion in the available information, and the subsequent information overload on social media networks.

Effective knowledge sharing on social media networks appears to increase the efficiency of stakeholders, and enhance their motivation. However, efficiency and motivation are not completely independent of one another. Open knowledge sharing often results in more effective work environments, which in turn can also increase stakeholder's motivational levels. Therefore, effective knowledge sharing is important at all levels of the organisation, and it is suggested that true effectiveness can only be obtained through incorporating all

organisational stakeholders. Knowledge sharing is also viewed as a function of integrated communication (Kalla, 2005:311).

In terms of knowledge transfer, the volume of user-generated content on social media often hinders the internationalisation of knowledge for open innovation (Mount & Martinez, 2014:139). Accordingly, the use of external partners and intermediaries are critical to ensure inward transfer at all stages of the innovation process. Cross and Gray (in Mount & Martinez, 2014:139) point out that managing internal collaboration is essential for reducing network inefficiencies. In almost every professional publication someone is making a claim about the power of social media communication technologies to improve the management of a business (Taylor & Kent, 2010:207-214).

The use of social media to connect, interact, and collaborate with stakeholders has also dramatically increased in recent years. Advances in Internet, collaboration tools, and Web 2.0 technologies have been the key driver of this transition, allowing organisations to collaborate more easily at low cost with large numbers of stakeholders. In particular, social media platforms such as Facebook and Twitter are increasingly being used as tools for stakeholder engagement. The increased outreach and richness offered by these platforms facilitate many-to-many interactions which are powerful knowledge sources (Ninesigma, 2014:124).

“Over the last decade, the Internet has remarkably changed the way in which organisations communicate and interact with their stakeholders. With new tools such as blogs, wikis or RSS technologies becoming increasingly more popular recently, the idea of the Internet as the key tool for sharing knowledge, ideas or corporate information is growing” (Alfonso & Valbuena, 2006:267).

In both communication theory and practice there is no doubt that vast development and increased use of technology is having a significant impact on the industry. “Social media, the term commonly referring to blogs and social networks sites online, have been heralded as steering in a change allowing worldwide, networked communication [to be] instantaneous. Such media describe the online practices that use technology and enable people to share content, opinions, experiences, insights, and media themselves” (Larischy, Avery, Sweetser & Howes, 2009:314).

The proposition that biased audiences are motivated to interpret and process information in an unfair manner that reinforces their predispositions is termed “motivated reasoning”, and has been found to operate across a wide range of contexts (Kunda, 1990; Taber & Lodge, 2006). Motivated reasoning highlights the potential for boomerang effects in science communication. A boomerang effect occurs when a message is strategically constructed with a specific intent but produces a result that is the opposite of that intent (Hart & Nisbet, 2011:704). The boomerang effect may occur because unintended constructs are activated in the receiver and drive the resulting attitude (Byrne & Hart, 2009).

Organisations that are planning to use social media, should be certain that their communication managers and strategists are not only comfortable with delegating, motivating and coaching, but are also willing to become adept at using communication technology tools to manage change. Managers who are not able to relinquish complete control should avoid implementing communication technology tools, because they will no longer be able to manage the people, the processes or the results (Marken, 1996:13).

New communication skills are required for the on-line environment (Crawford, 2000:26; Oviatt, 1997:22; Twine, 1997:20). Feedback can be instantaneous and can provide the opportunity for interactive real-time communication. Business writing is also becoming a necessity in a high technology, service orientated marketplace (Parnell, 1996:9). The quality of correspondence must be impeccable. An information explosion over the past two decades has caused increased pressure on managers, increasing the potential of more mistakes to occur. More information is reaching managers via e-mail and other technologies, requiring them to think and react faster and more efficiently (Parnell, 1996:10).

The communication manager must be skilled at identifying issues and trends, evaluating impact, setting priorities and preparing action plans and proactive responses in the on-line world (Kornegay & Grunig, 1998:144; Solheim & Henning, 1998:165). From this perspective, communicators must use technology to reach highly specified segments of stakeholders.

According to Kent and Taylor (1998:323), “technology itself can neither create nor destroy relationships; rather, it is how the technology is used that influences business unit-

stakeholder relationships”. The nature of social media makes building trust with key stakeholders in this world much more difficult than in the offline world (Friedman, 2000:25). It can be an anonymous, impersonal medium lacking visual, non-verbal cues combined with increased competition. On a positive note, social media can enhance mutual understanding if used in a way to create awareness and deeper understanding (if required) of a subject matter.

Friedman (2000:26) identified the following five actions an organisation can take to foster a trusting relationship with on-line stakeholders and overcome the different mediums’ limitations, namely: creating an offline unit where relationships are based on a frank and honest exchange of information; developing a website with an effective communication design; explaining all the unit’s efforts to collect information from and about users at the unit’s website; providing a physical address, phone and fax number on the unit’s website so visitors can choose the most convenient way to contact the unit; and setting a standard for answering messages promptly and with a personal touch.

As with any other strategic effort in an organisation, specific stakeholders must be identified and their needs and goals determined, in order to develop a focused communication effort on an electronic communication platform (Lewis, 1998:99; Vassos, 1996:8). Electronic communication mediums allow an organisation to divide an audience of stakeholders into micro segments (Heilbrunn, 1998:9). It is important to note that the organisation’s concern must be in terms of all its stakeholders.

Given the technological nature of electronic communication mediums, it is also necessary to assess the digital capabilities of the organisation’s stakeholders. It is important to determine what type of equipment stakeholders have and what their level of literacy is (Bishop, 1996:27).

Gilbert, Powell-Perry and Widijoso (1999:575-582) advised organisations to take the following criteria – concerning stakeholders – into consideration in the development of an effective platform for social media communication, namely: treat social media as a new medium and exploit its unique properties, such as interaction with stakeholders; start with stakeholders by defining who they are and what they want to know; build relationships with stakeholders by getting to know them and ensuring relevance to them; build a service, not a website, by giving stakeholders value for time and money and by providing options not



available elsewhere; think radically to achieve the best chance of obtaining the benefits offered by technology.

The success of electronic communication mediums is determined by the degree to which the needs of stakeholders have been satisfied. Research conducted by the Gartner Group in 1995 (Vassos, 1996:83) suggested that 90% of business websites are not meeting their stakeholders' needs. The Gartner study also suggested that stakeholders do not want content such as corporate descriptions and press releases. They want useful applications such as interactive technical support and the ability to query databases to get answers to their questions. They want to be able to access information that specifically meets the needs they defined. The focus should not therefore be on one-way communication, but on two-way communication (Cilliers, 2004:184).

The emphasis should therefore not be on the technology, but on managing communication with stakeholders, not on social media strategy, but on strategic communication management. A specific message must then be designed for all the stakeholders (Maloff, 1997:69).

In the on-line world, technology has not changed the communication needs of stakeholders, but has merely emphasised them. There will always be a need to provide people with information; seek immediate action; create goodwill; convince people of something; persuade them to do something; clarify some point; instruct someone; or to establish a relationship – it will just be done through an electronic medium (Parnell, 1996:13).

Organisations, however, need to remember that one of the reasons for the Internet and other electronic communication mediums becoming a significant communication medium is that it attracts stakeholders who are issues orientated (Heath, 1998). Organisations can therefore use these mediums to monitor and manage issues. It must therefore be part of the organisation's two-way symmetrical communication process, which is based on interactive communication technology.

#### **2.4.6 Interactive communication technology**

Interactivity can be defined as the degree to which participants in a communication process have control over, and can exchange roles in their mutual discourse (Interactive

marketing, 2002; Naude & Froneman, 2001:2). Participants can control the timing, content and sequence of a communication act, search for alternatives and enter message content into storage (Rogers & Allbritton, 1995:180). This control over the exchange of information leads to the use of the term 'participants' rather than sources and receivers, when referring to the individuals in the communication process.

Empathy plays an important role in interactive communication, where the usual non-verbal dimensions of human communication are largely missing. Mutual discourse refers to the cumulative nature of the interactive communication exchange. Participants in the interactive communication process need to be in each other's presence (Rogers & Allbritton, 1995:180).

The internet allows an individual to exchange message content with anyone else on the worldwide computer network. Social distance barriers also disappear between certain individuals (Rogers & Allbritton, 1995:181). Studies have found that e-mail systems lengthen the physical and social distance of person-to-person network links, connecting individuals who are relatively more heterophilous (Heterophily is the degree to which two or more individuals who communicate are different or unlike) (Butler 1997:24; Rogers & Allbritton, 1995:181).

Interactive communication technologies create a 'virtual group'; a pseudo gathering of distanced individuals who dialogue via computer keyboards. These groups have low social presence. This would suggest that these communication technologies are not suitable for every communication situations (Rogers & Allbritton, 1995:182). The greater ease of communication across physical and social distance provided by interactive communication systems may also lead to communication overload (Rogers & Allbritton, 1995:182). This phenomenon is especially true about the Internet. It is very easy to provide an unlimited amount of information, regardless of the needs of the stakeholders or the objectives of the organisation/business unit.

The flexibility of the interactive communication technologies allows the user to have a certain degree of control over the usual limits of time and space; origination and destination of communication; degree of interactivity of a communication system; norms and social standards that develop within a communication system; way in which the technology suppresses, or manipulates the communication process which takes place;

and how the communication system is used (Rogers & Allbritton, 1995:185). Interactive communication technologies are asynchronous; they allow for the sending and retrieving of messages at a time convenient for the user, rather than requiring that all the participants use the system at the same time (Rogers & Allbritton, 1995:185).

Interactive communication technologies furthermore influence the formation and content of communication with new networks of individuals, regardless of the formal organisation/business unit structure (Rogers & Allbritton, 1995:188). External pressure often forces organisations to adopt interactive communication technologies in the hope that they will allow their business units to become more flexible and less hierarchical (Rogers & Allbritton, 1995:192).

The impact of interactive communication (social media) versus traditional communication methods on the relationship between organisations and their stakeholders will be addressed amongst others in this dissertation.

### ➤ **Connections in communication**

The connections individuals make in today's society have been greatly influenced by the new wave of social media and technology. Vallor (2011) stated that pervasive technologies have changed the most basic ways in which individuals communicate and bond with others. This has the basic potential to impact the moral lives and characters of those who choose this method of connecting with others (Vallor, 2011). For this study, it is important for the organisation and its stakeholders to be able to communicate with each other and to bond with each other so that they can build a level of trust and a long-term relationship.

These connections are forming a more significant role in the lives of individuals in multiple social domains such as work, family, friendships and civic life, and it is for this reason that individuals may have a greater potential to shape moral character and habitual practices of individuals that use them (Vallor, 2011). Vallor (2011) also stated that due to the incremental nature of change in the ways these different social connections affect individuals' moral character, the changes may go unnoticed by stakeholders until there is an unavoidable consequence of this process.

### **2.4.7 The social media phenomenon**

Stakeholders share various bits of information with their social circle online, such as similar interest. Kwai Fun Ip and Wagner (2008:242) define social networking web sites as sites used for creating and maintaining social connections among individuals, adding that they have become an important medium whereby people interact in the online world.

Anderson (2009:1) explains social media as a term used to describe the web-based tools, applications, spaces and practices that people use to interact with each other and share information online, which is specifically applicable to this study. For example, social media networks like Facebook, Twitter and MySpace provide online tools that can be used for sharing media and engaging in online conversations, while also providing users with online personal space that forms a repository of shared content and social interactions.

Social media technologies share four features according to Ellison and Boyd (2013) namely:

- Digital profile – The platform provides a unique user profile that is constructed by the user, by members of their network, and by the platform.
- Relational ties – The platform provides mechanisms for users to articulate a list of other users with whom they share a connection.
- Search and privacy – Users can access digital content through and protect it from various search mechanisms provided by the platform.
- Network transparency – Users can view and traverse their connections and those made by others on the platform.

A network is a set of nodes interrelated by dyadic ties. The nodes, or actors, can consist of any kind of entity, from individuals to collectives (for example, business units). Ties typically are conceptualised as a social relation, such as 'friend of' or a dyadic interaction, such as 'talk to' (Kane *et al*, 2014:276).

In a review of social network literature, Borgatti and Foster (2003) attempt to bring order to this diversity by providing a framework for understanding social networks according to content versus structures.

### ➤ **Content versus structure**

Social networks are vital and all people need resources and support from others (for example, social capital) to live and thrive. Researchers attempt to explain the value of social networks or the structure of the networks and the resulting ability to reach or control important resources. Content refers to resources available in a network (for example, information and knowledge); structure refers to identifiable patterns of nodes and ties in a network (Kane *et al*, 2014:277).

The actual content that users exchange creates a web of cooperative relationships that breed norms, trust, common purpose, and coordination – that is social capital (Brehm & Rahn, 1997; Coleman, 1988). In a social media context, network content is the digital content contributed by users, which may provide information, influence, or social support (Butler, 2001). Because ties represent relationships or interactions, they can be difficult to observe and quantify in traditional social networks. Social media platforms quantify or formalise relationships and interaction between nodes by explicitly representing them in a formal data structure, operating on a computerised platform (Butler, 2001).

This formalisation provides relational capabilities in social media networks that are not present in offline social networks, including the ease of visualising and analysing the connections. However, the relational formalism of social media platforms also limits relational capabilities, such as by limiting the amount of nuance people can attribute to labels such as ‘friend’ or ‘follower’ (Kane *et al*, 2014:277; Gilbert & Karahalios, 2009).

Structure and content according to Borgatti and Foster’s (2003) framework, are the ability of users to articulate their relational connections. Viewing and navigating those connections involves a capacity to visualise and manipulate the network structure – that is, how people establish and manage the connections between others in a network. Connecting in a network has perceived advantages and disadvantages, which are discussed in the next section.

### ➤ **The perceived advantages and disadvantages of social media**

Ketsdever (2008:1) suggests that, in general, the advantages of using social media are: democratisation of media, relationships and conversation, the creativity and re-mix culture,

being able to embrace passion and identity, stakeholder sharing and connecting, and increased transparency on the part of organisations.

Hartzer (2007:1) lists several advantages to using social media as: being able to attract and maintain the attention of a vast demographic; the viral nature of social media; level of interactivity; and the high visibility offered on the Internet.

In contrast to the above, there are also several disadvantages to social media. Ketsdever (2008:1) discusses the disadvantages of social media: valuable content is often overlooked, owing to a lack of effective content filters; writers have problems in consistently delivering content; information overload; and a work/life balance is difficult to achieve.

➤ **Social media as a driver of corporate reputational risk**

Social media can result in new expectations or beliefs about an organisation based on information from a single source, which may not necessarily be a reputable source (Aula, 2010). These expectations may be around ethical business practices, or the transparency of the operations within the organisation (Aula, 2010). Reactions to claims posted in the social media environment can also have a significant impact on the reputation of the organisation (Aula, 2010).

Aula (2010) pointed out that stakeholders in the social media environment can create and search for information on an organisation to gain insight and develop a perception of the organisation. Once the stakeholders have built their perception or picture, they share it on their social media site, which then becomes the collected truth for the stakeholder base they interact with. Social media tools are said to be the most important aspect for public relations by European PR practitioners, as they perceive online communities or social networks to be the main driver of this trend (Verhoeven, Tench, Zerfass, Moreno & Vercic, 2012).

Organisations that comprise of stakeholders, who are able to share information with other stakeholders, need to find a way to manage the information that is placed in the communication domain through risk management strategies.

A good corporate reputation has a significant impact on the success of an organisation, from its products and services, to its ability to attract and retain high calibre stakeholders.

Stakeholder interactions with the organisation have an impact on how they perceive the internal workings of the organisation, their overall perception of its legitimacy, and the conduct of the organisation in which they have an interest (Hoy, 2012:38).

Next to a stakeholder's own experience with an organisation, the stakeholder will accept and develop its own perception of the reputation of an organisation based on its experience of information received from stakeholders, who are in turn influenced by their relationship with the organisation. It is important that the management committee of the organisation ensure that stakeholders buy into the corporate vision of the organisation, and develop awareness of how their actions and behaviours affect corporate reputation (Hoy, 2012:38).

Good corporate reputation has significant benefits for an organisation, such as attracting affluent stakeholders and generous investors to the organisation, for example its advisory board (Alniacik, Cigerium, Akcin & Bayram, 2011). A good corporate reputation is built through the stakeholders' interpretations of others on stories, anecdotes and discursive elements around the organisation (Aula, 2010:38).

The organisation's reputation is important as it will determine if the unit's purpose of existence will be successful or not. The focus is on what stakeholders view as acceptable behaviour to make known in the organisational domain that also have an impact on corporate reputation. The study specifically examines social media as a tool, which stakeholders use to gain knowledge and information about the organisation, as it is a form of communication between the organisation and its stakeholders that can lead to a change in the perception of the organisation.

Successful utilisation of social media as an electronic communication medium requires a reasonable understanding of the essential features of social media websites.

#### ➤ **Essential features of social media websites**

Kim, Jeong and Lee (2010:218) list the essential features of social media web sites as: establishing online connections, participating in online groups, communicating with online connections, expressing opinions, finding information and holding the users.

**Establishing online connections** – most social media platforms provide facilities for members to discover connection candidates from other members. The facilities include



automatic discovery of the existing members of a site from the e-mail and messenger address books of a new member; browsing all existing groups on the site; a friend-recommendation engine that suggests friends of friends; and a keyword-based search engine for looking up members' names (Kim *et al.*, 2010:218).

**Participating in online groups** – social media platforms allow and encourage members to form new groups, and/or join them. In most cases, members and non-members can view all the user-created content (UCCs) in all the groups. However, only members may post UCCs (Kim *et al.*, 2010:219).

**Communicating with online connections** – social media platforms provide various facilities for members to use in communicating with their online connections and groups. These include e-mail, instant messaging, text messaging, public and private bulletin boards, and Internet phone services (Kim *et al.*, 2010:219).

**Expressing opinions** – most social media platforms allow members to leave comments on the posts and content created by other users, as well as content generated by them (Kim *et al.*, 2010:219).

**Finding information** – both members and non-members have two types of facilities for finding the information they need on social media platforms. The facilities are keyword-based search engines and browsing. The search engines can be used to look for the names of people, names of groups, and particular UCCs (Kim *et al.*, 2010:219).

**Holding the users** – many social media platforms provide various features designed to have the users spend extended periods of time on the sites, and have them return frequently. Many sites display data related to whatever the users are specifically looking for (Kim *et al.*, 2010:219). A closer look at the social media platforms follows in the next section.

#### **2.4.8 Social media platforms / networks**

The growth of social media is bound to increase and to present challenges to organisations as to how they will monitor this medium, manage the information flow and collaborate with its users. Social networks rely on 'reciprocal trust, the social glue binding participation' within these networks (Boulos & Wheeler, 2007:13).

In the age of the internet, social media tools offer a powerful way for organisations to boost their professional profile and act as a voice for science. As the benefits become more apparent and dedicated metrics are developed to supplement organisational communicator portfolios, social media can soon become an integral part of the organisational communicator's toolkit. Dedicated individuals need to be taught about social media in order to understand how it works, to become aware of social networks and to use them efficiently (Jucan & Jucan, 2014:464). Social networks are also about relationship-building and the conversations that take place between people (Bush, 2008).

According to Bik and Goldstein (2013) organisational visibility and constructive conversation on social media networks can be beneficial for the organisation, impacting communication in a number of ways. Organisations can maximise their reach by implementing:

- a professional website
- locate pertinent online conversations
- navigate the deluge of online information
- interact with diverse participants
- reach all their stakeholders

Social networks allow organisations the potential of communicating in an uncluttered medium. Whatever channel of communication is chosen, effective communication suppose two important things: rationality, that in the planning stage helps to identify opportunities, and limitations of communication; and the ability to construct a dialogue with stakeholders, imagining for a moment what the reaction may be to what is said and consequently adapting it to the answer (Jucan & Jucan, 2014: 464).

At the same time there are some rules to be followed (Jucan & Jucan, 2014: 464):

- To respect the factual truth
- To not disregard the possible negative consequences of the communication (Carrada 2006)
- To not emphasize information more than is rightful because a stakeholder that has been disappointed once, will be sceptical forever
- To not omit other options
- To declare possible conflicts of interest

- To be ethical, accountable and transparent (Science for all, 2010).

Organisations have to declare the values of their work, but also divulge the social implications of their work as well the work of others; and state their own opinion, positive or negative. Nowadays there are enormous ways for organisations to make themselves heard so as to make their work matter and for their stakeholders to be well informed (Jucan & Jucan, 2014: 465).

Boyd and Ellison (2007:211) define social network sites as web-based services that allow individuals/business units to construct a public or semi-public profile within a bounded system; articulate a list of other users with whom they share a connection; and view and traverse their list of connections and those made by others within the system.

While the core features of social media networks have diminished, the platforms have extended their functionality beyond the confines of a website. Many platforms provide an application programming interface that allows other technologies, such as websites and mobile applications, to build on the features and data available in the focal platform (Ellison & Boyd, 2013). For example, Facebook's 'Open Graph' protocol introduced in 2010 enables all websites to integrate some functions of the Facebook platform (for example, the 'like' button, user authentication) into their own sites. For this study, it can be suggested that the organisation considers something similar in order to encourage the generation of user ideas/comments.

Although Ellison and Boyd (2013) continue to describe social network sites as a distinct type of social media, the researchers argue that the extension of these core features to other Internet sites and types of social media platforms require a terminology change. Thus, it will not be referred to as social network 'sites' but rather as 'social media networks'.

The meaning of a medium conveys a number of related meanings: something in a middle position; a means of conveying something (for example, a channel); and a condition in which something may flourish (Kane *et al*, 2014:279). All three meanings apply to the understanding of how current social media platforms mediate social networks. Much of the activities may occur outside the website, but the platform continues to be positioned in the middle of and mediate the relationships of the users it connects. It also conveys digital information among users, serving as a channel of communication. Finally, the features of

the particular platform cause certain types of social interactions to flourish, more so than others (Kane *et al*, 2014:279).

The following hypothesis was consequently developed to explain the stakeholder relationships with the business unit under consideration and how it can be established through social media channels.

**H5:** *Long-term stakeholder relationships can be established through social media channels.*

**H0:** *Long-term stakeholder relationships cannot be established through social media channels.*

The nature of the user profile has changed in recent years. Boyd and Ellison (2007:211-213) describe the user profile as an explicit construction on behalf of the user, that provides the user with an opportunity to “type oneself into being” ... by filling out forms containing a series of questions. The profile is generated using the answers to these questions, which typically include descriptors such as age, location, interests and an ‘about me’ section (Boyd & Ellison, 2007:211-213).

Recent developments in social media platforms have augmented or replaced this user-constructed profile. Specifically, Ellison and Boyd (2013:154) note that profiles now contain information from various sources, such as “user-supplied content, content provided by other users, and/or system provided data”. They noted that people can access content on the platform through means other than viewing the digital profile of others. People can often obtain content by the platform (Naaman, Boase & Lai, 2010).

Social media platforms have been used for a much wider variety of purposes in recent years than originally envisioned. Boyd and Ellison (2007) assert that users primarily use social media sites not to establish new social connections but to maintain existing social relationships. People use social media to support a broad range of social relationships, which may bear little connection to offline social relationships. Organisations/business units also maintain profiles on social media platforms, and how stakeholders interact with organisations (and vice versa) will differ from purely interpersonal relationships.

As organisations increasingly seek to employ social media platforms (which are discussed below) for particular purposes – such as knowledge management, different network structures may be more desirable for some purposes than for others. Understanding how these structures are facilitated or hindered by the design decisions will, therefore, likely become increasingly important as social media is employed in organisational settings (Kane *et al*, 2014:282).

The following sections describe the different social media platforms and channels for communication.

### ➤ **Intranet**

As the Internet has grown into a mass communication channel, the intranet has also risen in importance as a channel for communication. Murgolo-Poore, Pitt and Ewing (2002:114) cite Ford Motor Company and Cisco Systems who claim that intranets let people communicate and collaborate more effectively. They observed that “undoubtedly, intranets have the potential to become powerful mechanisms for management in organisations that are increasingly fragmented and global”.

Emphasising organisational strategy via the intranet has been cited as an important stakeholder communication goal. Sinickas (2006) used results from communication audits conducted with for-profit organisations and non-profits and observed that the understanding of corporate strategy is generally weak.

According to Sinickas’s research among organisations where such understanding is strong, access to an intranet yields higher scores on strategic information. Managements’ verbal explanations of corporate strategy remain the most important predictor of stakeholder comprehension of strategy. Most interestingly, managerial explanation of corporate strategy is most useful if placed in the context of the respective business unit or geography (Sinickas, 2006).

Survey research with 21 large organisations by Sinickas (2005) indicates that organisations should not rely solely on electronic sources of information. According to Sinickas’s research, stakeholders prefer a combination of electronic sources, including e-mails, e-newsletters, and intranets, in addition to face-to-face sources of information.

Research suggests the importance of intranets and managerial face-to-face communication in conveying organisational strategy to stakeholders. Increased understanding of strategy has been shown to be related to increased engagement, collaboration among stakeholders and stakeholder action (O’Niel, 2008:9).

### ➤ **Twitter**

Recent years have witnessed the arrival of a completely different way of understanding the world. Interactivity and collaboration are now the foundation of the Web 2.0. These characteristics, along with the communication technological developments that made them possible, transform the way of being and living in the world, especially how people relate to one another (Mamic & Almaraz, 2013:852).

Social media provide a variety of ways for stakeholders to become involved with organisations, such as collaboration to achieve participatory goals, sharing personal experiences and ideas to create proximity between brand and stakeholders, and empowering stakeholders to express their opinions and expectations (Mamic & Almaraz, 2013:852).

These interactions are now key to any long-term relationship between organisations and stakeholders. User-generated real-time information exchange has become an integral element of stakeholder behaviour anywhere and anytime (Hennig-Thurau, Malhotra, Frieger, Gensler, Lobschat, Rangaswamy & Skiera, 2010). Through social media, stakeholders can know about a new activity, read different reviews of organisations and post different comments, questions and experiences regarding organisations.

Thus, organisations need to work on their social media presence but most important, they need to work on their online communication strategies. Being stakeholder focussed can really help to build up a network of friends and followers with whom organisations can maintain real-time contact and create long-term and supportive relationships (Grunig, 2002; Seltzer & Mitrook, 2007; Carroll & Buchholtz, 2009; Waters & Williams, 2011).

Social media enhance the two-way and synchronised communication potential of interactivity by making roles in communication changeable and by allowing inputs and stakeholder responses to happen simultaneously. Wikis, blogs, social networking sites and

video-sharing platforms represent a significant change in the communicative potential that organisations can develop to engage with its stakeholders (Mamic & Almaraz, 2013:852).

Twitter is part of this broader technology trend; moreover it is regarded as the most popular microblogging service as it recently has passed the half-billion account mark, and its site traffic has grown rapidly too. This social networking site offers organisations access to stakeholders and vice versa (Mamic & Almaraz, 2013:852).

Twitter is an Internet social network and micro-blogging platform with both mass and interpersonal communication features for sharing 140-character messages, called tweets, with other people, called followers (Chen, 2011:755). Twitter can also be defined as “a micro-blogging platform that allows users to post short messages and converse with other users” (Skinner *et al.*, 2013:151).

Research was conducted to investigate whether active use on Twitter gratified the need to feel connected with other people on the Internet. Twitter is a medium that researchers have had little time to study because it is relatively new in comparison with traditional forms of media, such as newspapers, television and film. Even among social networks, Twitter has received less attention than larger and older applications like Facebook (Chen, 2011:755).

Hierarchical regression of survey results from 317 Twitter users found that the more months a person is active on Twitter and the more hours per week the person spends there, the greater gratification of the need for an informal sense of camaraderie, called connection. Controlling for demographic variables does not diminish the positive relationship. Additionally, the frequency of tweeting and the number of direct replies concerning messages between Twitter users mediate the relationship between active Twitter use and gratification of the need for connection (Chen, 2011:755).

Twitter pointed out in February 2011 that the average number of tweets people send per day was 140 million messages; and, according to Malhotra, Kubowics and See (2012), 27% of Twitter users lock in everyday, while 25% say they follow a brand and receive marketing messages from that brand. Hence, it is of great interest to understand how the big corporations are behaving in this context.



## **i. The Twitter phenomenon and stakeholder engagement**

According to Zhang, Jansen and Chowdhury (2011), Twitter is one of the best social tools for empowering organisations to connect with stakeholders, since micro-messages are easy to craft and consume. Java, Song, Finin and Tseng (2007) defined microblogging as a form of communication in which users can describe their current status in short posts distributed by instant messaging, mobile phone, email or the web. Twitter is a popular micro-messaging service that was launched in 2006; it allows users to share a message of up to 140 characters. The message is referred to as a 'tweet'; Twitter prompts users to share tweets by addressing the question 'what is happening?' (Mamic & Almaraz, 2013:855).

From a contingency view, interactivity is conceptualised as a process involving users, media and messages, with an emphasis on how messages relate to one another (Sundar, Kalyanaraman & Brown, 2003). The platform Twitter seems to be a useful channel through which organisations can prompt dialogue and give users the possibility to respond to one another and make the communication roles interchangeable. As a result, there are several communication tools specific to the microblogging application that enhance interactivity and can aid in the research field of corporate communication (Mamic & Almaraz, 2013:856).

On the other hand, public messages (PMs), along with retweets (RTs), allow companies to foster a sense of community by communicating with stakeholders in a more casual, direct and open manner. By using PMs, users can pose questions and comments to organisations, thus, expect an answer. Through these messages, an open dialogue is created between the organisation and the user since the message can be seen by anyone. Retweeting happens when a user reposts a tweet from another user. By sending out RTs, organisations share information from other Twitter accounts, which is often a sign to Twitter users that the organisation is not solely focused on itself, but is open to listening to and engaging with others (Waters & Williams, 2011).

In addition, there are some specific features that give users the possibility to augment the information shared on tweets. Twitter provides different tools that allow organisations to bypass the 140-character restriction, such as the use of hyperlinks, URL shorteners,

hashtags (#), videos and photos. As a result, Twitter's short and real-time updates offer great possibilities for interaction (Mamic & Almaraz, 2013:856).

Twitter offers great advantages for managing strategic online communication. In addition, the numbers of people that can be reached, along with the speed of dissemination, are two of the most interesting characteristics that define the site. Furthermore, the cost of sending out tweets is remarkably low. As a consequence, Twitter is an attractive dissemination tool with great potential for organisations and their fostering of stakeholder engagement (Malhotra *et al.*, 2012).

So far, the researcher described how social media draw new rules and new participants, and how these communication platforms could empower and simultaneously challenge the communication management of organisations. Research has shown how social media facilitate interactions, and different studies have proved how reciprocal and continuing exchanges prompt dialogue, which leads to support and, thus, a sense of community (Mamic & Almaraz's, 2013:869). Consequently, this study is motivated by the aforementioned research on how social media can manage to foster relationships between organisations and their stakeholders.

In light of the growing technologically empowered world of communicators, organisations, according to the findings of Mamic and Almaraz's (2013:869) research study, have to participate actively in the social media sphere, which not only means posting frequent messages but also maintaining listening behaviour by monitoring what users are saying on the web. This task requires organisations to duplicate their efforts in online communication.

#### ➤ **Facebook and text messaging – instant gratification of needs**

Quan-Haase and Young (2010:350) conducted a study based on work that examined the gratifications experienced in using Facebook (identified as the largest social media platform by reach and volume) compared with those of instant messaging. This comparison between media allowed conclusions to be drawn on how user needs can be fulfilled by different social media. Research showed that popular uses and gratifications like “keep in touch with old friends”; “to keep in touch with current friends”. Similarly, uses and gratifications such as “to learn about events”; “to post social functions”, and “to feel connected” indicate that users were fulfilling a need by using the site as a source of information.

The use of different tie types in combination with one another may differ when they are used independently. Many social media platforms support multiple types of ties. For example, Facebook supports all the types of ties: proximities (groups or location), relationships (friends), interactions (messages) and flows (trends) (Kane *et al*, 2014:283).

- **The profile-network relationship**

One main question facing studies in social media networks pertains to how the features of the user profile influence the way content spreads across and affects others in a network. Ellison and Boyd (2013) refer to three sources of content in the user profile – content type, digital activity trace and third party contributions.

First, the type of content contained in the profile may influence how content flows across the platform. Digital profiles generally allow users to contribute different types of content, such as text, multimedia (pictures and video), and hypermedia (links) (Lampe, Ellison & Steinfield, 2006:167-170; Zhao & Jiang, 2011). The availability of hypermedia creates opportunities to connect the profile to other content, both inside and outside the social media platform, which thus broadens the types of information presented on the platform.

Second, digital profiles are increasingly augmented or even superseded by digital trace features or users' activity contained in the digital profile. The digital trace may be a record of content that the user has viewed (automatically reporting what content was read). Digital traces encourage certain types of behaviours in the network that might facilitate the flow of certain types of information (Ellison & Boyd, 2013). For example, if the digital trace indicates that a trusted other or a substantial proportion of the person's business contacts have viewed particular content, it may encourage the focal user (other stakeholders) to view it as well, increasing the tendency toward herding behaviour (Oh & Jeon, 2007) or the viral spread of information (Aral & Walker, 2011).

Third, other users in a network can add to or modify content in user profiles. Users might post new content to others' profiles, link other content to profiles and to tags, or comment on existing content in the profile. People can post recommendations of others, which can be an advantage for the case where the organisation post information and other users can recommend the organisation's profile to other users (Kane *et al*, 2014:288). Sundin (2003) states, that a digital profile organises various types of information about the user in a single place that is accessible by others.

### ➤ **LinkedIn**

LinkedIn is a professional network, which has monetised its connections through its tremendous power as a corporate recruitment platform. With around 160 million members (mostly professionals), LinkedIn has become the “virtual rolodex” for business people. LinkedIn’s business value is driven by its ability to grow, monetize and expand this professional network. LinkedIn is a magnificently well-run company, filling a huge need for professional networking and recruitment (Forbes, 2012).

### ➤ **ResearchGate**

ResearchGate is a professional network for scientists and researchers. It started when two researchers discovered first-hand that collaborating with a friend or colleague on the other side of the world was no easy task. Researchgate was founded in 2008 and today has more than nine million members. ResearchGate’s mission is to connect researchers and make it easy for them to share and access scientific output, knowledge and expertise (ResearchGate, 2008-2016).

#### **2.4.9 Different communicative uses of social media**

Communication, when defined as the sharing of meaning between people, is the process that enables stakeholders to share information, create and co-create meaning and ultimately make decisions. Information changes continuously; based on the continuous changes in the internal and external environment of the organisation (Du Plooy-Cilliers, 2001:141).

Several studies have examined the role of social networking as an interpersonal communication tool. Ellison, Steinfield and Lampe (2007) studied the ability of Facebook to create and maintain social capital. Scholars have also focused their work on the ability of Twitter to serve as a vehicle for opinion making and information sharing where dialogue can be created (Java *et al*, 2007; Stelzner, 2009; Naaman *et al*, 2010). These studies agree on the idea of social media as spaces in which users talk about their daily activities, post their current status, and seek or share information, giving users the possibility to interact with one another on topics of mutual interest. Moreover, users not only provide information about themselves but they also provide real-time updates of current events (Gayo-Avello, 2011).

The applicability of social media goes beyond an interpersonal self-centred interaction. People go beyond from simply being readers to becoming active sources of information. At the organisational communication level, social media enable new ways of communicating. Stakeholders can have conversations with people inside brands, and moreover it allows businesses not only to see what people are saying about their brands in real-time, but also to respond to their stakeholders directly. Related to this issue is electronic word-of-mouth. Prior studies have identified how this communication can influence business (Davis & Khazanchi, 2008).

Nowadays it is of great use for organisations to incorporate social media as part of their social media communication strategy. Continuing interactions and dialogue represent important features for initiating and maintaining long-term satisfying relationships (Jo & Kim, 2003; Taylor, Kent & White, 2001; Bruning, De Miglio & Embry, 2006). In order to foster their long-term relationships with stakeholders, organisations have to stimulate dialogue that includes key stakeholder input, interaction and participation, but also proactively develop their online presence.

As a result, the frequency with which an organisation sends out tweets is used to understand how active that organisation is (Mamic & Almaraz, 2013: 855). Lovejoy, Waters and Saxton (2012) state that, since organisations are held to a different standard than individual users in terms of 'activeness', they should post at least three tweets per week in order to be considered active.

The applicability of social media goes beyond an interpersonal, self-centred interaction. Researchers have illustrated how social media enhance interactivity, and empower people to express their opinions and expectations regarding organisational activities. Organisations that maintain a dialogic approach, and ask for stakeholders' input, stimulate reciprocal and frequent interactions with their stakeholders and strengthen a sense of community. The aforementioned elements are important for management to consider when developing an online communication strategy that seeks to improve stakeholder engagement (Mamic & Almaraz, 2013:855).

The high levels of media-rich modalities for cooperation – including text, pictures, and videos, large membership, and wide range of thematic topics characterised by the

technology – provide firms with a powerful means of knowledge exchange and generation that can be applied to open innovation (Ninesigma, 2014:126).

#### **2.4.10 Social media for open innovation**

‘Open innovation is also known as external or networked innovation and is focused on uncovering new ideas, reducing risks, increasing speed and leveraging scarce resources. It also enables an organisation to connect with someone who has already developed the technology in need or who is further along the development path’ (Ninesigma, 2014). Benefits of open innovation include risk reduction of innovation projects, which greatly increases the chance of success (Ninesigma, 2014). In terms of this, study innovation can assist to find solutions for the lack of effective communication.

In the context of innovation, social media is used with great success in the following areas: creativity, expertise and collective intelligence (Mount & Martinez, 2014:126).

- **Creativity** emerges from network interactions across a mass of users with diverse knowledge – engagement with stakeholders helps organisations tap into this knowledge, which in turn boosts internal creativity and innovativeness. Mount and Martinez (2014:139) found that creativity is facilitated by collective action. Social media acts as a knowledge repository, which users with diverse knowledge use for novel combination and recombination during open ideation activities to facilitate ambidexterity.
- **Expertise** refers to the ability of social media to provide an improved mechanism for insight and industry foresight. Organisations effectively leverage its online social community to source ideas that can provide them with a constant ideation source for innovation. Mount and Martinez (2014:139) found that expertise is developed through analysis of user-generated content and the ability to access local knowledge via engagement.
- **Collective intelligence** refers to the knowledge synergies that emerged from crowd collaborations on social media. Collective intelligence also helps to reduce cognitive bias by allowing stakeholders to focus on processes, problems and solutions that occur naturally. Mount and Martinez (2014:140) found that collective intelligence emerges from the many-to-many interactions supported by social media during open innovation

activities, which is applied to support ambidexterity, exploration and exploitation across the sequential stages of ideation, research and development and commercialisation.

#### **2.4.11 The use of social media for ideation**

The use of social media facilitates a broad international perspective and cross-fertilisation of ideas. Analysis shows that by using social media for ideation, the speed and quality of ideas developed, significantly improved. In Mount and Martinez's (2014:134) study, it was found that users' utilised technology for interaction, and that there was no restriction on generating new or improved ideas. It was found that social media could be implemented more openly by layering multiple platforms to enlarge crowd interactions and facilitate novel combination and recombination of knowledge from a diverse network of users. Against the background of the above, organisations may consider increasing its investment in technology / social media. Common reasons for further investment in technology include those discussed in the section below.

#### **2.4.12 Reasons for investing in technology / social media**

The changing technological environment will impact communicating, contracting, competing and capitalising. New technologies and developments in communication and connectivity are seeing an increase in mobile, remote and absolutely virtual stakeholders. Information technology will change the way we live, communicate and obtain information (Austin & Jones, 1997:1; Graham, 1997; Moody, 2000:5; Negroponte, 1996:39; Ross, 1998:4; Simeon, 1999; Twine, 1997:21). Technology has also become an integral part of the organisations vision and has tailored a service that no other institution can offer. It has affected all communications and relationships (Haus, 1995:19) and data and information is moving closer to stakeholders (Amezcu, 1997:76).

Technology has affected the very nature of organisations and how they conduct business. One of the most influential products of technology is the Internet. Before discussing the role of the Internet in a strategic business model, it is important to understand the reasons for organisations to invest in technology (Cilliers, 2004:79).

Firstly, investment in new enabling technologies and infrastructures is fundamental to long-term growth and competitiveness of organisations, and boosts the capital return and margins of these organisations. Technological investment decisions need to be made,



which will ensure the broadest set of possible outcomes for the organisation (Smith, 1997:10).

Secondly, as with any new technology, the risks are apparent long before the benefits. Organisations therefore invest in the future when they invest in technology. The returns on new technology investment can usually be plotted in an ‘S’ – curving down before curving up. The only way to benefit from this growth market is to be in a position to serve it (Smith, 1997:10).

Thirdly, open markets and growth go hand-in-hand. The digital revolution truly will be worldwide, as communication technology wipes away the limitations of geography and natural resources. For the first time, the developing world will potentially have the same access to capital and employment as the rest of the world (Smith, 1997:10).

Fourthly, organisations need to be adaptable to survive in this new fast-paced environment. Today, windows of opportunity open fast – and close just as quickly. Organisations need to prepare themselves to be flexible and must be willing to implement change even when pursuing to become a market leader. In an increasingly competitive business world, organisations will be challenged to re-create themselves continuously to succeed in the digital era (Smith, 1997:10).

Investments in technology should not be regarded as short-term capital expenditure, but as long-term strategic positioning. By maintaining a healthy balance between strategic investment in new technology and the management of existing technology, organisations will be able to survive in the competitive world of the global information economy (Smith, 1997:10).

Technology offers powerful new tools with the promise (and sometimes hype) of revolutionising corporate communication, bringing the organisation closer to stakeholders and improving management decisions (Oliva, 1997:8). By using new technology tools such as the Internet, intranets and extranets, knowledge and proficiency are being built. Technology will change how the organisation reacts to projects and assignments (Hauss, 1995:18). The following section discusses the managerial implications for managers of organisations seeking to operationally implement and utilise social media for open innovation.

- **Managerial implications**

In Mount and Martinez's (2014:141) research study their recommendation in this regard is guided by the locus of social media integration and managers' need to coordinate a specific process of organisational and technological adaptation to align the technology with internal procedures of the organisation. To benefit from ambidexterity during ideation, managers need to create an open and inclusive virtual environment in which participants with diverse knowledge can easily contribute, share and edit content. This requires an extensive network of users that can be created by bridging and linking multiple platforms for the benefit of the organisation.

In terms of research and development, a more intense routine of technological and organisational reconfiguration is required for organisations to benefit from increased innovativeness during their exploratory or exploitative development. Therefore, interactions on social media require a higher specificity to dictate the direction of user-generated content towards development goals (Mount & Martinez, 2014:140).

Management need to become more socialised and engaged with users through adapting the use of built-in modalities to communicate and stimulate knowledge generation that is closely aligned with internal processes. To ensure internalisation, however, management also needs to appoint a body that is capable of managing the knowledge boundary for inward transfer, as indicated earlier. The deployment of internal training initiatives and cultural change ensure that external knowledge is absorbed into the organisation (Mount & Martinez, 2014:140).

Finally, when implementing social media for exploitation, a similar process of internal reconfiguration for research and development is required. Management needs to coordinate technological and organisational adaptations to harness stakeholder interactions on social media for exploitative development. By using the technology's built-in modalities for mass communication, it is possible to reach a wider cross-section of stakeholders to stimulate viral effects among influential peers. Their results suggest that by empowering stakeholders in simple co-creative activities, the organisation can significantly increase its communication efforts (Mount & Martinez, 2014:140).

At this juncture, the organisation has not been exposed to social media at the level explained in this study. However, management should consider the risks and impact when implementing social media as a tool to enhance effective communication efforts.

When regarding the use of social media (including the Internet) as a strategic issue for the organisation, the following needs to be considered (Cilliers, 2004:84):

- Which technologies should be utilised, for example a website, only electronic mail, newsgroups, electronic commerce – to name but a few - or a combination of these existing applications? The organisation's corporate communication strategy and the plans derived from the strategy will determine the tools to be used.
- What are the specific needs of the organisation in terms of electronic communication applications? It is crucial to ask whether the Internet for example is a suitable communication channel for the organisation, and not to get stampeded into believing that it must be.
- Should the electronic communication mediums be managed by the organisation? Or should it be partially or completely outsourced?
- What does the organisation need in terms of hardware and software to utilise electronic communication mediums? Which software programmes should be purchased? Do the benefits justify the expenditure?
- How should the communication mediums be managed? Should it be a function managed by a specific person or department or should it be managed by all departments in the organisation?
- Should the use of the electronic mediums be introduced to the stakeholder group? Should it be done as a launch or should it be necessary to introduce it formally?

Some answers to the above-mentioned questions will only be obtained when specific communication plans have been developed for specific communication issues, aimed at specific stakeholders. It is, however, important to consider these issues from the onset of the development of the corporate communication strategy.

The impact of the outcome for organisations and stakeholders will connect through different forms of technology and should not be underestimated. Managers need to understand how and if value can be added to the communication process, as well as how technology will affect the communication process. Interactive communication technologies

will also influence the communication process and the relationship management strategies of the organisation (Cilliers, 2004:86).

Communication about science is an important issue for many stakeholders, although they do not want to be inundated with information, which is not relevant to their needs. Social media lends itself to selective choices of communication exercised by the stakeholders as and when required. As with any other business model the organisation's strategic goals should drive its strategy (Andrews & Trites, 1997:14; Bishop, 1996:26; Colombo, 2001:14; Trembly, 1998:26) and should therefore direct how communication technology like mass communication are utilised in the organisation. Organisations must define the goals they want to achieve before assessing which digital tools to use. Tools can be decided upon once a thorough understanding is obtained of what the organisation wants to achieve through the use of social media tools.

## 2.5 CONCLUSION

In this Chapter, a detailed discussion of the concept, communication, was embarked on to assist in obtaining a thorough understanding of the problem statement for this dissertation being: *'that many of the University of Pretoria Centre for Sustainable Malaria Control's traditional communication efforts towards its long-term stakeholders about malaria-related issues are not strategically sustainable, and in many cases, not effective.* It is suggested that a conceptual framework for a more formal and sustainable corporate communication strategy be developed for the strategic management of communication about science at the University of Pretoria Centre for Sustainable Malaria Control'.

The research included a discussion on communication in general overarching the definition of communication, the purpose of communication and the communication process. It continued with different categories of communication, specifically intra- and interpersonal communication, leading up to mass – and media communication. This chapter also touched on the listening process and the effects of communication.

In the latter part of this chapter, the focus was on social media. It was highlighted that the concept of social media can be considered a corporate communication medium and not a strategy in itself. This Chapter also showed that although social media can be considered as part of the operational strategy, it could add value at a functional level if it contributed to the realisation of corporate communication goals.

Senior communication practitioners can therefore use the Steyn and Puth (2000) model to integrate social media and its applications, into the development and implementation of corporate communication strategy. The use of this model will ensure that social media communication is employed strategically and that the most comprehensive approach to stakeholder management is followed.

The danger for the communication manager lies in the fact that electronic communication mediums are viewed by many as mere technology and not as a means to an end. As with any other medium, the business unit's corporate communication strategy is almost entirely based on its objectives (that flows from the corporate communication goals, derived from the strategic issues); the stakeholders that need to be reached; and the most effective way of getting to them. If employed strategically, electronic communication will have a direct impact on the realisation of the business unit's corporate communication goals.

A strategic corporate communication model should therefore add the most value to the business unit's electronic communication by achieving corporate communication goals. Communication managers who are not equipped to manage this medium will become a part of the past. The question is no longer if social media should be integrated into the corporate communication strategy, but how this should be done most effectively.

This chapter included a discussion on the meta-theoretical framework and several theories relating to sub-domains. The following chapter will include a discussion on the Excellence Theory, which determines that in order for a business unit to be classified as excellent, it should practice symmetrical communication.

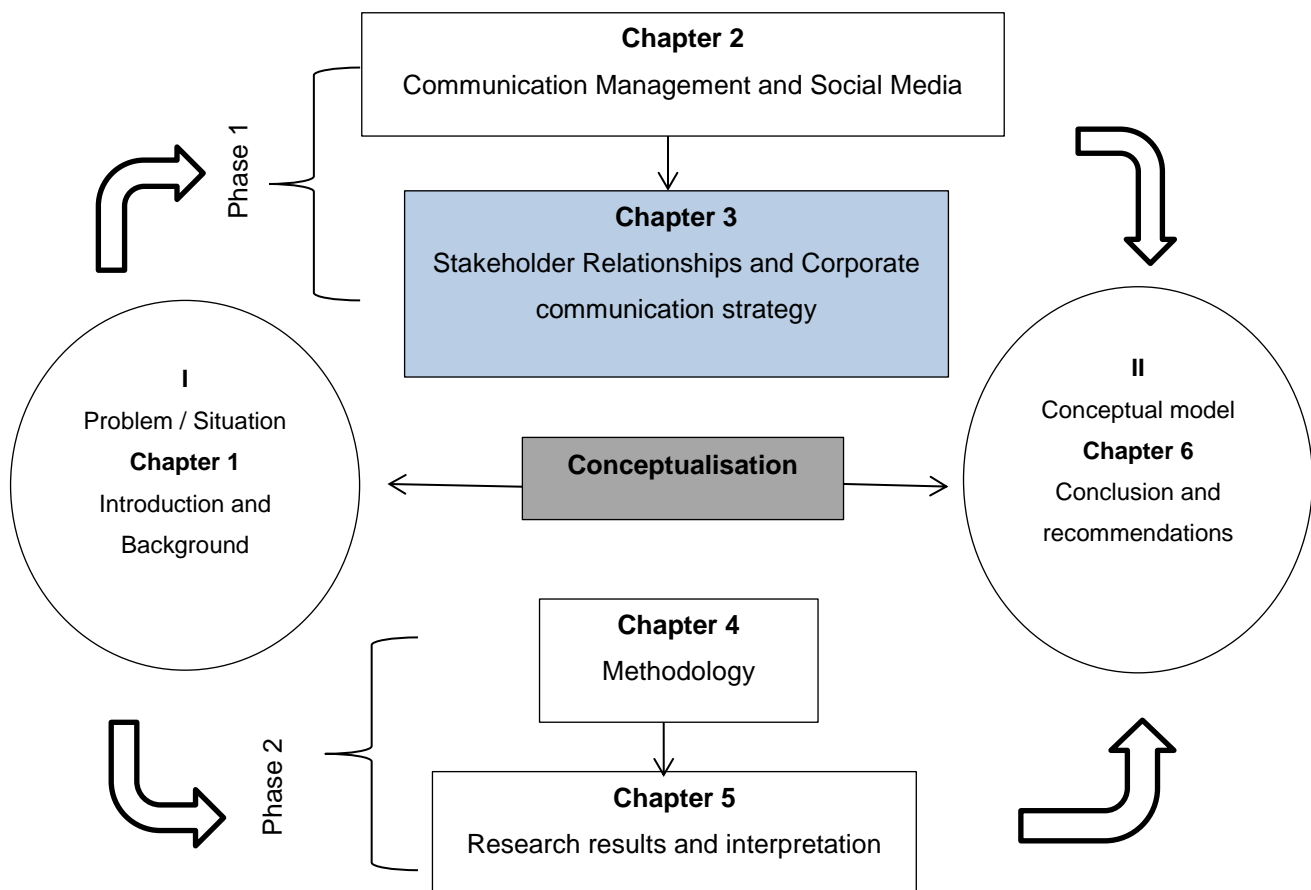
In the detailed discussion of corporate communication as a sub-field within the communication science domain, focus is placed on corporate communication models. This includes different types, characteristics and a more detailed discussion of the Press Agency model, Public Information model, Two-way Asymmetrical model and the Two-way Symmetrical model. Chapter 3 will also touch on the main forms of corporate communication being: management, organisational, and marketing communication.

## CHAPTER 3: STAKEHOLDERS AND CORPORATE COMMUNICATION STRATEGY

### 3.1 INTRODUCTION

Chapter 2 provided an overview of the communication management and social media context. Chapter 3 is the second of two literature review chapters and will include a discussion on: corporate communication; stakeholders; issues management; corporate communication strategy; and corporate strategy. The elements of the communication strategy will conclude Chapter 3. Figure 9 illustrates the position of this Chapter in relation to the other chapters in this study.

**Figure 9: Chapter 3 in relation to the other chapters**



Source: Mitroff *et al.* (1974).

As discussed in Chapter 1, the purpose of this research is to develop a corporate communication strategy model for the University of Pretoria Centre for Sustainable Malaria Control (UP CSMC).

Today, organisations locally and internationally have to manage many changes which offer communication professionals unique opportunities to achieve long-term success as well as the long-term survival and growth of the organisation in which it operates. Communication professionals need to function as strategists and leaders, and involve a portfolio of internal and external communication strategies that will add value to the organisation, and ultimately ensure sustainable relationships with stakeholders. Organisations need to listen to, and learn from stakeholders, which mean that communication management should be driven by the strategic intent of the organisation as a whole in order to manage stakeholder relationships (Niemann, 2005:34).

## **3.2 STAKEHOLDERS**

### **3.2.1 Definition of stakeholders**

People are stakeholders when they are affected by decisions of an organisation or if their decisions affect the organisation. Many stakeholders are passive. Steyn and Puth (2000:5) 'identify stakeholders as individuals or groups of individuals who influence the organisation' or 'those groups or individuals that an organisation has a relationship with'. According to Freeman (1984:46) stakeholders can be defined as 'any group or individual who can affect or is affected by a firm's operations in achieving its objectives.'

According to the International Finance Corporation (2007:10) stakeholders can be described as persons or groups who are directly or indirectly affected by a project, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively. "Stakeholders are also seen as those individuals or groups that influence the firm's strategy" (Sachs & Rühli, 2011:38).

An organisation's purpose and direction are affected by its relationships with key stakeholders in its environment (Dozier *et al.*, 1995) since it influences the way stakeholders support the organisation's goals (Ströh, 2005:111). One way in which management can therefore contribute to organisational success is by aligning these relationships to organisational strategy (Steyn & Puth, 2002).

### **3.2.2 Strategic stakeholders**

Strategic stakeholders according to Steyn and Puth (2000:65) are those that are 'critical, essential, important or vital for an organisation in the accomplishment of its mission'.



Management cannot pursue their goals without these stakeholders. The stakeholders have their own set of values, needs, desires, wants, goals and objectives (Steyn & Puth, 2000:198), which differ from those of the organisation.

Strategic communication entails the identification of strategic stakeholders and incorporating their needs into organisational goals in order to build mutually beneficial relationships with these stakeholders (Steyn, 2007:139). Goodjik (2003), Post, Preston & Sachs (2002), Scholes and Clutterback (1998), Steyn and Puth (2000) and Wheeler and Sillanpää (1998) emphasise the importance of the strategic stakeholder approach, while pointing to the implications for the management of communication. The same authors emphasise the importance of viewing stakeholders as strategic assets – a perspective that governs this study.

One method for the identification of key stakeholders is to analyse strategic linkages that are critical for an organisation to survive. The following linkages can be identified (Steyn & Puth, 2000:65):

- Enabling linkages are with groups that provide authority to the organisation/business unit and control its resources (advisory board)
- Functional linkages are with groups that provide inputs to the organisation/business unit (management committee)
- Normative linkages are with professional or industry associations. These linkages provide connections to similar organisation/business units that can assist in solving shared problems (academic staff and professional associations)
- Diffused linkages are connections to groupings of individuals who are not part of any organisation/business unit (students) - for this study they form part of the identified stakeholder group.

Managing communication with stakeholders as if they were discrete and unconnected groups of people does not add value to the organisation/business unit. What is needed is a more integrated approach, supported by well thought-through strategies, systems and behaviours that enable organisations to prioritise between stakeholder's needs; to align strategies and activities directed at stakeholders; and to build bridges between them. The most important way that communication practitioners can do this is through building and maintaining excellent relationships with strategic stakeholders. Positive matching of the

needs and objectives of stakeholders and the organisation is required for a lasting quality relationship (Steyn & Puth, 2000:66-67).

Any science communication effort needs to be based on a systematic empirical understanding of intended stakeholder existing values, knowledge and attitudes; their interpersonal and social contexts; and their preferred media sources and communication channels (Nisbet & Scheufele, 2009).

### **3.2.3 Stakeholder management**

A key component of stakeholder theory for communication management is stakeholder management. Scholes (1997:xviii) defines stakeholder management as “the professional management interactions between all those with an interest, or ‘stake’ in a particular organisation”. It is clear that communication management involves the management of stakeholder relationships through the use of communication. With a foundation in stakeholder theory, communication management is able to both advocate for the benefit of improved relations with an organisation’s stakeholders and to build and strengthen those relationships. Stakeholder management includes communicating, negotiating, contracting and managing relationships with stakeholders and motivating them to behave in ways that are beneficial to the organisation and its stakeholders (Caroll, 2013:340).

Organisational success and survival consequently depend on the organisation’s network of relationships, which provide it with otherwise inaccessible resources. Organisational relationships offer the best solution towards illustrating the value of public relations and communication. These relationships enable the organisation to attain its long- and short-term goals (Coetzee, 2008:iii).

Communication is a key influencer of the success of these relationships and management are consequently better adept to manage them. A shift has consequently occurred from purely communication management towards building mutually beneficial relationships between an organisation and its key stakeholders (Coetzee, 2008:iii).

Aiming to align stakeholder relations programs with organisational relationship goals, Kreps published an article in 1989 and presented a six-step cyclic model of therapeutic organisational communication consultation. Steps include (Kreps: 1989:4): (1) collaboration, (2) data-gathering, (3) feedback and diagnosis, (4) intervention planning, (5)

intervention implementation, and (6) intervention evaluation. In sync with public relations professional's beliefs and with the goals of a communication audit, Kreps (1989:4) wrote: The ability to gather information about the critical reactions others have about organisational behaviours enables members to evaluate the relative effectiveness of messages sent and to develop appropriate communication strategies for future interactions to best achieve stakeholder and organisational goals.

### **3.2.4 Stakeholder approach**

In the traditional production view of the organisation, owners thought of stakeholders as individuals or groups who supplied resources or bought services (Freeman, 1984:5). In the stakeholder view of the organisation (Freeman, 1984:24-25) managers had to undergo a major conceptual shift in how they saw the organisation and its multilateral relationships with stakeholder groups - perceiving stakeholders not only as those groups that management thinks have some stake in the organization but also those that themselves think they have a stake. (In actual practice, however, many managers have not yet come to appreciate the need for the stakeholder view.)

Organisational wealth can be created (or destroyed) through relationships with stakeholders of all kind. Therefore effective stakeholder management – that is managing relationships with stakeholders for mutual benefit – is a critical requirement for corporate success (Botan & Hazelton, 2009:33).

Freeman and Gilbert (in Botan & Hazelton, 2009:34) state that organisations need to understand that stakeholders are in it together, rather than competing for limited and scarce resources, and that the fundamental reason that organisations as connected networks are effective is that they are built on the principles of cooperation and caring. Each stakeholder is “adding to the value of the organisation, creating a good deal for all”.

All organisational activities occur in the context of interpersonal relationships. As explained above, relationships are the essence of living systems and the basis of an organisation and it is through relationships that systems maintain balance. Relationships in the workplace are particularly important and consequently also interpersonal relationships. The term workplace relationship generally refers to all interpersonal relationships in which individuals engage as they perform their duties, including advisory board and management; and management and academic staff (Sias, 2008:2-3). One of the most

important relationships is with management; questions about management style will provide them with useful feedback.

Early engagements with stakeholders provide a valuable opportunity to influence a positive perception and set a positive tone with stakeholders. Engaging with stakeholders from the start as part of the corporate strategy enables a proactive cultivation of relationships between the organisation and its stakeholders (International Finance Corporation, 2007:6).

By understanding stakeholder's value and engaging in active dialogue and interaction, organisations are able to develop superior value propositions that are more relevant to their stakeholders. Stakeholders' direct involvement in the organisation's activities helps forge a deep emotional bond with the company that can lead to enhanced loyalty, satisfaction, and good perceptions (Mount & Martinez, 2014:125).

Within communication theory, the process of inquiry explains a systematic study of experience (direct/indirect) that leads to understanding and knowledge (Littlejohn & Foss, 2005:4-5). Within communication management science, the process of inquiry is aimed at building relationships, which are of benefit to the organisation. This requires creatively communicating and understanding the needs of each stakeholder. One of the key reasons for building and expanding stakeholder relationships is to create goodwill (Du Plessis *et al.*, 2003:250). Additionally, effective and strong relationships have proved extremely beneficial in times of crises (Steyn & Bütschi, 2004:7).

The traditional profit-centred approach to management that originated during the Industrial Age (1990-1950) presumed that capital formation was the only legitimate role of business. Managers were obliged to pursue profits to enhance the wealth of the corporate owners (their shareholders) who were legally entitled to receive it. Other stakeholders could benefit from this approach, but they were only considered the means by which to achieve the end, namely profitability (Halal, 2000:10). This approach is personified by Friedman (1961:16) who saw business as having a limited role in society. He contended that the "business of business is business", and not social issues or politics. The social responsibility/ethical duty of business was to maximise profits, bound only by legal restrictions.

Botan and Hazelton (1989) and Grunig (1992) point to the value of ongoing stakeholder engagement via processes of dialogue and two-way symmetrical communication, to invite stakeholders input into organisational decision-making.

There is indeed substantial evidence in the stakeholder and communication management literature to suggest that enlightened organisational strategy-making is best informed by a process of continuous dialogue with stakeholders and that “the social performance of any organisation should be judged not by what it does, but by the extent to which it facilitates interested parties in negotiating what it does” (King, 1998:43).

### **3.2.5 Dialogue/communication with stakeholders**

Dialogue should firstly be understood as a phenomenon that resembles many of the elements of the co-orientation model as described by Dozier and Ehling (in Grunig, 1992:179-182) and the vehicle through which the relationships between stakeholders and organisations are maintained (Post *et al.*, 2002).

Post *et al.* (2002) highlight the need and potential for two-way symmetrical communication (discussed earlier Chapter 3) goals and outcomes. The process of dialogue is based on constant interaction between and balancing of the interest or views of the business unit and its stakeholders. Business units should recognise the need for and allow for mechanisms to facilitate dialogue in order to manage the strategic relationship between the business unit and its stakeholders (Post *et al.*, 2002).

Steyn and Puth (2000:187-188) identify an additional higher level of involvement, being interactive involvement, where the business unit actively involves itself with stakeholders, which influences the future of the business unit. An interactive communication approach, according to Steyn and Puth (2000:189) entails the identification of stakeholders and a deep understanding of the issues they face.

According to Steyn and Bütschi (2004:7), “the stakeholders and organisations engage in a productive dialogue ... that can provide requisite knowledge required to resolve the longer-term challenges of sustainable development and triple bottom line performance”.

The challenge of stakeholder management is to see that primary stakeholders achieve their objectives, and that other stakeholders are dealt with ethically and responsibly to achieve a 'win-win' situation (Steyn & Bütschi, 2004:7).

To build and maintain quality relationships, the business unit needs to understand what the stakeholders think and expect of the business unit. "The fundamental tenant is that the business unit undertakes stakeholder engagement with good intent, i.e. that there is a willingness and capacity to receive and respond to stakeholder feedback in the development of organisational strategies and initiatives ... that the business unit responds to the perceptions and views of its stakeholders in ways which accommodate their views and values" (Sinclair, 2002:5). In order to understand the concepts: stakeholder opinions, expectations, engagement and perceptions they need to be discussed in more detail.

### **3.2.6 Stakeholder engagement, opinions, expectations and perceptions**

Early engagement with stakeholders provides a valuable opportunity to influence a positive perception and set a positive tone with stakeholders. Relationship building takes time. Many of the hallmarks of good relationships, trust, mutual respect and understanding are intangibles that develop and evolve over time, based on individual and collective experiences and interactions (International Finance Corporation, 2007:6).

Communication can be linked with relationships and both management and its stakeholders need to understand how communication fits into this concept (Steyn & Puth, 2000:190). The organisation's success is inseparably linked to its stakeholders' success (Marx *et al.*, 1998:555).

There is no one-size-fits-all approach when it comes to engagement. The academic and practice evidence suggests that a best practice approach to stakeholder engagement is moving away from the tactical and towards the strategic and systematic. These go beyond organisational buffering and reactive issues management (Svendsen, 1998).

As previous studies have proven, stakeholder engagement is providing an effective management system for corporate stakeholder engagement within the business unit. It has proven to be successful in enhancing stakeholder engagement and associated organisational performance and it is a core function that informs strategy development. It also supports symmetrical, ethical and continuous engagement with stakeholders who can

contribute substantially to the development of the organisation and provides the platform for effective sector-wide collaboration on matter of mutual interest (Sinclair, 2002:15-16). For this study, the mutual interest can be based on communication about science, like malaria related issues between the business unit and its stakeholders.

The intention of key stakeholders must be “integrated into the very purpose of the organisation and stakeholder relationships must be managed in a coherent and strategic fashion” (Hitt, Freeman & Harrison, 2001:193). The type of relationship the organisation should try to develop with its stakeholders, and the resources and level of effort that it should invest will differ according to the nature, location and scale of the project; the phase of its development; and the interests of the stakeholders themselves (International Finance Corporation, 2007:7).

Rensburg and Ferreira (2004:21) highlight an additional function of corporate communication. Virtually all public relations and communication evaluation models suggest that the programmes and plans do not take place without proper investigation into the opinions and perceptions of their stakeholders (Macnamara, 2002:2).

According to Ellis and McClintock (in Steinberg, 2007:69) perception can be defined as ‘information which is taken in by the senses, processed by the brain, stored in memory and produces some form of physical or mental response’. Perception is therefore the process whereby information is acquired about the environment through the five senses. People perceive through a frame of reference, which is a set of interlocking facts, ideas, beliefs, values and attitudes. This frame of reference provides the basis for the understanding of people, events and experiences as it filters people’s perceptions (Steinberg, 2007:69).

Kotler and Keller (2006:185) explain that perception is the process by which an individual selects, organises and interprets information inputs to create a meaningful picture of the business world. Perception therefore depends on not only the physical stimuli but also the stimuli relating to the surrounding field and conditions within the individual. Therefore, perception can vary among individuals exposed to the same reality.

On the other hand, according to Fielding and Du Plooy-Cilliers (2014:22), perceptions refer to the way in which people see and interpret the world around them and give meaning to the things that happen. Perceptions are influenced by many factors, such as past experiences, education, language and culture.



- **The perception process**

The process of perception occurs in three principal stages: selection, organisation and interpretation. The three stages take place relatively unconsciously and almost simultaneously. The three principal stages according to Steinberg (2007:70-72) are discussed in detail below:

**Selection** - The first step in the perception process consists of two factors: selective exposure and selective attention. A key factor is the way people are open to stimuli and experiences. When communicating with others, people limit their exposure to messages or parts of messages that may create inaccurate perceptions. Factors that influence selective attention are interests and needs. People tend to only select what they want to hear.

**Organisation** - Once the relevant information is selected, meaningful patterns are created in the mind according to the frame of reference. This is also known as perceptual organisation (Steinberg, 2007:71). The organisation of what are perceived is largely affected by expectations and desire to form a whole image.

**Interpretation** - After sensory input has led to selected stimuli and organised information, meaning can be given to it by means of the frame of reference in what is called perceptual interpretation (Steinberg, 2007:72). Interpretation is the process of explaining and evaluating what has been selected and organised. People are unlikely to select the same sensory information to interpret and organise it in the same way. This special aspect of knowledge sharing contributes to strategic management; it's the systematic inclusion of the perceptions of stakeholders in strategy formulation and implementations.

The perceptions of the participants in stakeholder interactions can be shaped by individual experience, values, education and group dynamics. The precondition for the clarifying process requires that the organisation and stakeholders are willing to listen to each other, and to acknowledge that solutions can be found even when perceptions differ. Stakeholders among themselves may have different perceptions on common issues like for this study, communication about science. However, the level of agreement or disagreement influences the strategic activities of the organisation and stakeholders.

Comparing and discussing perceptions of an issue thus helps the organisation and the stakeholders to better perceive and appreciate their values. This serves as a basis for developing strategies (Sachs & Rühli, 2011:110).

Similarities and differences of stakeholder perceptions need to be determined in order for the organisation to determine whether changes are necessary and what level of change is needed for more effective stakeholder communication and understanding.

According to Copley (2004:54), perception is an individual process. It depends on internal factors such as a person's beliefs, experiences, needs, moods and expectations. The perceptual process is also influenced by the characteristics of the stimuli and the context in which it is seen or heard. The way a stakeholder perceives stimuli depends on how it is received, selected and organised (Lombard, 2007:30).

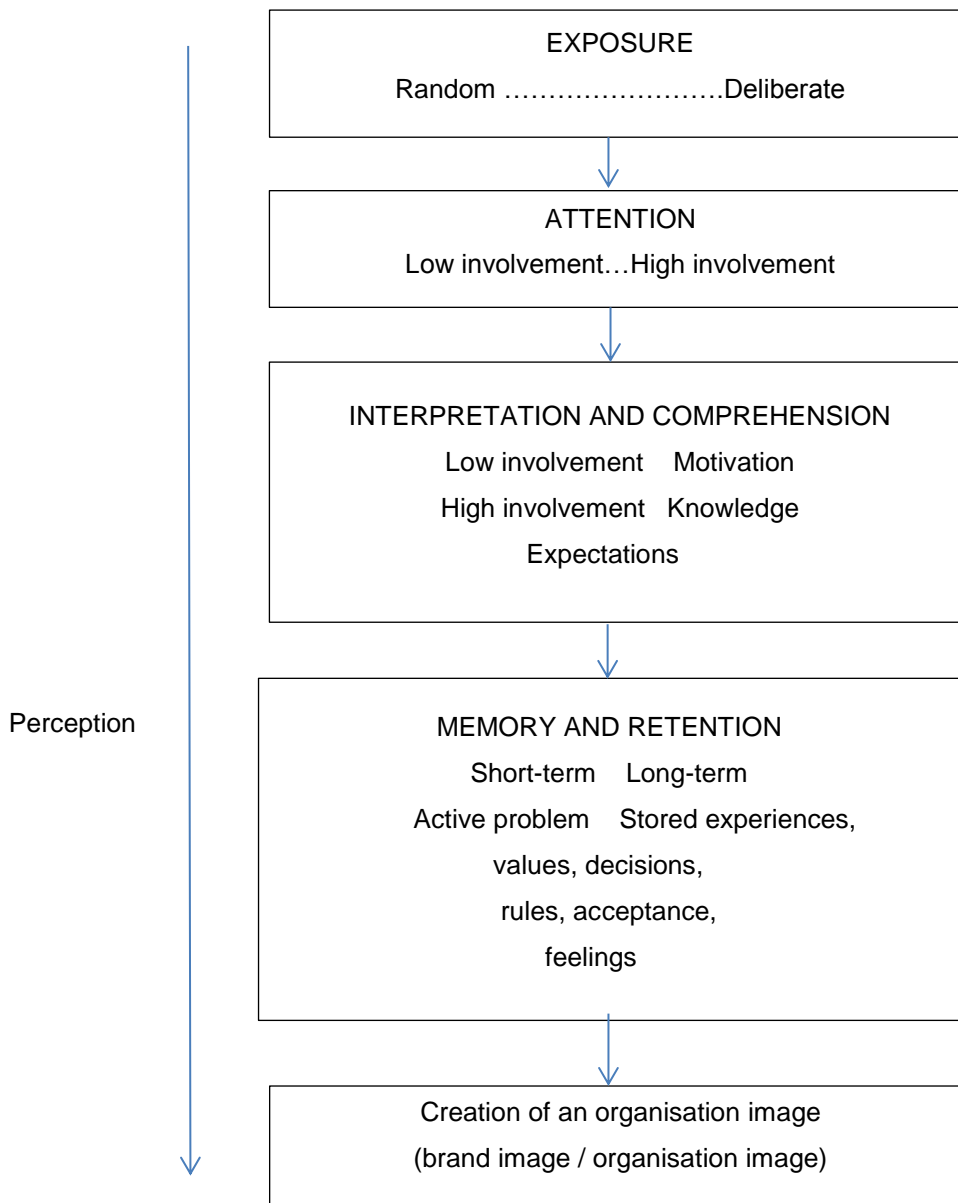
Perceptions of a stakeholder are therefore created by the stakeholder's experience of communication about science relating to goals and objectives of the organisation as a knowledge-sharing centre. In the next section information processing is explained and the creation of perception is divided into different stages.

- **The role of stakeholder information in the forming of perceptions**

This section explores behaviour, focusing on understanding how stakeholders process information and how they make decisions about an organisation. The different stages of information processing are simply mentioned to create a high level understanding of the process and how it enables the stakeholder to form perceptions of an organisation by retaining the message in his or her memory as an organisational image (Lombard, 2007:30).

Hawkins, Best and Coney (2001:284) define information processing as a series of activities by which stimuli are perceived, transformed into information and stored. Information processing commences when the stakeholder is exposed to an external search. Figure 10 illustrates the stakeholder information-processing model reflecting the four major steps namely exposure, attention, interpretation and memory that leads to the creation of an organisation's image.

**Figure 10: Stakeholder Information processing**



Source: Hawking *et al.* (2001:238).

By the early 1980's there was a shift from the idea that organisations should be socially responsible for *how* business units should respond to business-related social issues (responsiveness), and what ethical behaviour actually entailed – generally referred to as The Corporate Social Responsiveness Approach. This shift is clearly enunciated by Sethi (in Carroll, 1996:44) who classified organisations in responding to social or societal needs as follows:

- *Social obligation* is the organisation's behaviour in response to market forces or legal constraints (based on legal and economic criteria only);

- *Social responsibility* implies that the organisation's behaviour should conform to prevailing social norms, values and expectations;
- *Social responsiveness* places emphasis, not on how organisations should respond to social pressure, but rather on what their long-term role in a dynamic social system should be. As Carroll (1996:46) terms it, how organisations should operationalise their social responsibilities.

The distinguishing feature of the corporate social responsibility and responsiveness approaches is that they apply the stakeholder concept to non-traditional stakeholder groups usually thought of as having adversarial relationships with the organisation. However, these approaches failed to indicate ways of integrating social and political concerns into the strategic systems of organisations in a non-*ad hoc* fashion (Freeman, 1984:38).

Davis and Blomstrom (in Carroll, 1996:34) define corporate social responsibility (CSR) as “the obligation of decision makers to take actions which protect and improve the welfare of society as a whole along with their own interests”.

Hargreaves and Dauman (1975) differentiated the responsibilities of organisations as:

- *Basic responsibilities*, referring to technical and routine obligations;
- *Organisational responsibilities*, securing the well-being/needs of strategic stakeholders;
- *Societal responsibilities*, referring to becoming involved in the wider community by assisting in the creation of a healthy overall environment, and emphasising the welfare and prosperity of society. For the purpose of this study, is to become involved in malaria-related issues.

Carroll's (1979:497) four-part corporate social responsibility model focuses on the types of social responsibilities organisations have, and can also be regarded as a stakeholder model (Carroll, 1996):

- The *economic* obligations of an organisation, namely to be productive and profitable and meet stakeholder needs - impact especially on management and employees.
- The *legal* expectations, which are to achieve economic goals within the confines of written law, are crucial. In today's society the threat of litigation comes largely from employees and stakeholders.

- The *ethical* responsibilities, which are expected in a moral/ethical sense (to abide by unwritten codes, norms and values implicitly derived from society even though they are not codified into law); affect all stakeholder groups.
- The *voluntary/discretionary* responsibilities, which are guided only by the organisation's desire to engage in social activities that are not mandated, required by law or generally expected of the organisation in an ethical sense, most affect the stakeholder morale.

### **3.2.7 Goals and roles of corporate communication applied to stakeholders**

Sandin and Simolin (2006:8) explain the tremendous variability in organisational explanations of communication goals. These goals vary from organisation to organisation. As discovered, however, in definitions of corporate communication, the most prevalent goal of corporate communication is to manage the multitude of stakeholder relationships to achieve mutual benefit for both parties.

Sandin and Simolin (2006:4) explain that strong relationships are based on trust and nothing establishes trust more than credibility (Marx *et al.*, 1998:560). Therefore, the primary goal of corporate communication is to promote an objective image among stakeholders that can manifest trust. Simply disseminating information about a good corporate image is not going to guarantee strong relations and trust. Stakeholder relations should be mutually beneficial and management need to be accountable to all stakeholders (Steyn & Puth, 2000:190).

Olkkonen *et al.* (2000:405) state that communication cannot take place without a degree of relationship, and relationships cannot be understood without having knowledge of the communication processes that take place in the relationships. This statement elicits why it is the responsibility of corporate communication to engage in two-way symmetrical communication, that objectively reflects the situation and status of the stakeholder relationships through consistent interaction.

Rensburg and Ferreira (2004:11) remind communication practitioners that the key to managing relationships is discovering what expectations stakeholders have of organisations and how the organisation is measuring up to these expectations. The communication process should therefore, self-assess the organisation's ability to communicate and measure up to expectations.

Levels of interaction between the organisation and stakeholders also vary in degree of involvement. Steyn and Puth (2000:187-188) rank interaction from *inactivity*, where stakeholder opinions and values are totally ignored; to *reactivity*, where the organisation waits for a situation to occur and responds to the situation; to *proactivity*, where responses are anticipatory in nature and have the ability to manage crises better. Reactive communication typically deals with macro environmental changes that have had a negative consequence (Olkkonen *et al.*, 2000:404). It is more difficult to communicate trust in reactive communication than in proactive communication (Sandin & Simolin, 2006:4).

Steyn and Puth (2000:187-188) identify an even additional higher level of involvement, being *interactive involvement*, where the organisation actively involves itself with stakeholders, which influence the future of the organisation. An interactive communication approach, according to Steyn and Puth (2000:189) entails the identification of stakeholders and a deep understanding of the issues they face.

Stakeholders are not only those groups that management think have some stake in the organisation, but are also those groups who themselves think they have a stake (Steyn & Bütschi, 2004:6). The challenge of stakeholder management is to see that primary stakeholders achieve their objectives, and that other stakeholders are dealt with ethically and responsibly to achieve a 'win-win' situation (Steyn & Bütschi, 2004:7).

By taking an interactive / network approach, one can further explore the role that communication plays in maintaining stakeholder relations. Olkkonen *et al.* (2000:405) states; relational issues can never be separated from communicational occurrences; they may indeed be considered as two sides to the same coin. These authors also note that as suggested in situational theory, communication cannot be understood without considering situational factors, pertaining to the relationship at hand.

From this, Rensburg and Ferreira (2004:3) emphasise that corporate communication should not only focus on building and sustaining relationships in order to deliver real value to the organisation, but must also be the visible voice of organisational excellence and continuous improvement. Their role is to assist organisations in becoming good corporate citizens who constantly acquire stakeholder feedback to adjust messages that were misinterpreted (Rensburg & Ferreira, 2004:3).

Stakeholder communication is complex, with numerous responsibilities and concerns. It must be noted that the full cooperation from the rest of the organisation is needed to ensure that communication is effective. Steyn and Bütschi (2004:7) explain that corporate communication and stakeholder communication is positioned as a 'boundary spanning' function that mediates the organisational and environmental relationship. It contributes to organisational effectiveness by incorporating the values of strategic stakeholders into corporate goals, ensuring that the expectations of stakeholder groups are taken into account (Rensburg & Ferreira, 2004:21).

- **Stakeholder relationships**

The relationship approach is based on the thought that two (or several) parties establish a business engagement that enables both (or all) parties to gain something. In other words, it is assumed that a win-win situation can be achieved between the two parties (Christopher, Ballantyne & Payne, 2004; Grönroos, 1994; Morgan & Hunt, 1994; Sheth & Parvatiyar, 1995; Storbacka & Lehtinen, 2001; Little & Marandi 2003; Tzokas & Saren, 2004). For the purpose of this study, the two parties can be referred to as the business unit and its stakeholders. The parties may have differing and even conflicting ambitions and goals, but according to relationship theory, the possibilities to achieve mutual gains exist.

Furthermore, long-term relationships can be referred to as "investing in stakeholders... (and having) an opportunity to make communication about science relevant for stakeholders and top management at the business unit" (Grönroos, 2003:172). Although benefits for stakeholders of relationships exist, relationships normally looks at this approach from the supplier side only and as spending a budget instead of as an investment. In this way, the win-win assumption is either implicitly taken for granted, or neglected (Grönroos & Helle, 2012:344).

However, long-term relationships are two-sided. It takes two for a relationship to exist, and this has to be true for a relationship-based approach as well (Grönroos & Helle, 2012:344). In order to establish the outcome of investments made collaboratively in a relationship, the benefits that can be created mutually have to be calculated in some way (Grönroos & Helle, 2012:345). If a relationship is to aim at helping the organisation/business unit to create a win-win situation with its stakeholders, conceptual models and metrics geared towards one-sided measurements only are not theoretically sound, nor are they helpful for



business practice. Two-sided models and corresponding metrics are needed (Grönroos & Helle, 2012:345).

In the relationship literature the concept return on relationships, or ROR, is used (Gummesson, 2004, 2008). Although there are other, non-monetary gains to be obtained as well, such as favourable word-of-mouth behaviour and reference, usually return on relationships refers to monetary gains only. Gummesson (2008:257) defines it in the following way: ““ROR” is the long-term net financial outcome caused by the establishment and maintenance of an organisation’s network of relationships”.

According to this definition, return on relationships is a financial outcome over time, attributable to the fact that a relational business engagement has been established and functions. The definition also points out that an organisation’s relationships exist in a network. This definition implies that return on relationships is an outcome of a mutual reciprocal process, and can be assessed on a relationship level as well as separately for the parties in the relationship (Grönroos & Helle, 2012:345).

In order for organisations to serve its stakeholders well, and effectively support its relationship outcome, the organisation must align its resources, competencies and processes with the corresponding stakeholder resources, competencies and processes. At least, those which are important for the stakeholder’s relationship outcome need to be aligned (Grönroos & Helle, 2012:345).

However, as the organisation’s long-term relationship with its stakeholders is a mutual engagement, such relationship processes are needed on both sides. Hence, it is a matter of mutually innovating and aligning ways of operating, and of resources and competencies used in various processes. This mutual process of innovating and aligning relevant processes, resources and competencies is called practice matching (Grönroos & Helle, 2012:347).

The practice matching concept, introduced by Grönroos and Helle (2010), is based on the notion of adaptation between the organisation and its stakeholders (Hakansson, 1982; Hallén, Johansson, Seyed-Mohammed, 1991; Brennan & Turnbull, 1999). Brennan, Turnbull and Wilson (2003:1639) define adaptation as, “... a behavioural or organisational modification at the individual, group or corporate level, carried out by one organisation, which is designed to meet the specific needs of one other business unit”.

One of the prime purposes for communicating is to develop and maintain high quality exchange relationships with others. Relationship in this context means any connection, involvement or association between two people, regardless of its source (Steinberg, 2007:20). The management of the organisation are expected to have good personal communication that later builds to effective relationships with stakeholders, which will establish trust, credibility and high integrity as they progress further. Relationships start with the sense of self and can be permanent, such as a work relationship with a colleague (also known as interpersonal communication) (Steinberg, 2007:20).

Theories on organisational relationships support the notion that there is a functional connection between the quality of communication and the nature of the relationship between the organisation and its stakeholders (Grunig, 1992:82). Organisational communication is aimed at building relationships and mutual understanding with key stakeholders (Dolphin & Fan, 2000:99, van Riel & Fombrun, 2007:1). The stronger the personal relationship between the organisation and its stakeholders, and the greater the potential for mutual understanding, the greater the level of informed decision-making will be (Durkin *et al.*, 2013:421).

Hung (2005:396) states that, the long-term stakeholder relationships arise when an organisation and its stakeholders become interdependent as a result of mutual understanding between them. Interdependence refers to the relationship that is formed in a system and the importance of these relationships to the system.

In order for organisations to succeed, it must build and maintain “healthy interactive” relationships with their stakeholders where the purpose of an organisation’s communication system is to facilitate “engagement” (van Riel & Fombrun, 2007:9). Relationships and communication are intricately linked to organisational effectiveness and therefore also, both directly and indirectly, to the achievement of organisational goals.

- **Increased stewardship over previously established relationships**

It is critically important to maintain positive relationships with stakeholders once they’ve been formed. A positive relationship is based on factors such as trust, commitment, and involvement that are developed through multi-year efforts (Kelly, 2001). Kelly (2001) breaks down the concept of stewardship into four elements: 1) reciprocity or how the organisation demonstrates its gratitude for supportive beliefs and behaviours; 2)

responsibility - meaning that the organisation acts in a socially responsible manner to those who have supported it; 3) reporting - keeping stakeholders informed about the developments related to the opportunity or problem for which support was sought; and 4) relationship nurturing - letting stakeholders know on a regular basis that the organisation cares about them, respects their support, and wants their interest and involvement. This can also be done through frequently communicating with the stakeholders through any communication method.

“Reporting to stakeholders reinforces positive attitudes and behaviours, and it increases the probability that supportive stakeholders will react similarly in future situations” (Kelly, 2001:2850).

- **Implications for management**

Stewardship provides a system for analysing how relationships can be developed with an aim to making both the organisation and the stakeholders better off by engaging in a relational communication engagement. It demonstrates the need for stakeholder-side antecedents for successful practice matching. The parties must understand each other’s business logic and be prepared to engage in matching practices with each other; and in the final analysis, if needed, be prepared to change their operational processes and routines. A willingness to do this; and ability to communicate one’s intentions in a trustworthy manner, are imperative (Kelly, 2001).

As Canning and Brenna (2004:12) observe in their discussion of inter organisational adaptation: “... managers from each company are involved in exchanged episodes in order to decide how to realise the sought after change”. To be prepared to open up one’s books and engage in the practice matching process requires that a considerable amount of trust in the other party exists, or is allowed to develop during the process (Canning & Brenna, 2004:356). As previously discussed, communication has a fundamental impact on the organisation’s operations and often results in implications for management. Creating an understanding for the real impact requires of individuals and organisations to give meaning to events. The discussion that follows elaborates more about this.

### 3.2.8 Sense-making approach

Mills, Thurlow and Mills (2010:182) explain that a day in the life of an organisation contains literally thousands of communication events, each building on previous ones and setting the stage for future ones. Communication is intrinsic to organisations - it actually builds, maintains and activates the intentional and unintentional dimensions of the organisation. In 1995, Wieck developed, what he called, “sensemaking” as an alternative approach for the understanding of the process of organising. Instead of a focus on organisational outcomes, sensemaking provided insights into how individuals and organisations give meaning to events (Mills *et al.*, 2010:182).

“Over time, sensemaking has been refined and explained so that in addition to being a stand-alone theoretical framework, it is now being used as a method of analysis” (Mills *et al.*, 2010:182). Weick offered sensemaking as an alternative to conventional ways of looking at the process of organising and describing it as “a set of ideas with organising possibilities”. He suggested that sensemaking provided a useful way of uncovering the social psychological processes that contribute to organisational outcomes, rather than focusing on the outcomes themselves (Mills *et al.*, 2010:183).

Mills *et al.* (2010:184) explain that stakeholders engage in sensemaking not only to figure out what to do next, but also to deal with anxiety and fear that may accompany the experience. Stakeholders may be driven by plausibility rather than accuracy, which mean that they do not rely on accuracy of their perceptions when they make sense of an event. Instead, they look for cues that make their sensemaking seem plausible. In doing so, they may distort or eliminate what is accurate and potentially rely on faulty decision making in determining what is right or wrong.

*Applications of sensemaking* - An investigation of sensemaking processes would start from, or at least relate to, an important organisational event. This event might be the arrival of a new chief executive officer, a merger, layoffs, expansion, or anything that could have disrupted the existing organisational routines (Mills *et al.*, 2010:191). For this study, sensemaking was discussed for the event of disrupting of existing organisational routines to rather concentrate on multidisciplinary activities including an effort to motivate each other to contribute resources to creating value.

### 3.2.9 Mutual understanding

Public relations are a sophisticated, multi-faceted discipline that helps to forge effective two-way communication between an organisation and its various publics (Skinner *et al.*, 2013:3). The Institute of Public Relations firstly defined the practice of public relations as “The deliberate, planned and sustained effort to establish and maintain mutual understanding between an organisation and its public” (Hindson, 1965:260). On the other hand, Public Relations Institute of South Africa (PRISA) states that “public relations is the management, through communication, of perceptions and strategic relationships between an organisation and its internal and external stakeholders”.

For this reason, individuals and organisations think about its image in the marketplace, the public’s perceptions of the organisation are all – important. Public relations have a key role to play in developing understanding and support. Essentially, it helps to define and explain relationships of mutual benefit between organisations and its key stakeholders (Skinner *et al.*, 2013:4).

The prime purpose of public relations is the creation of mutual understanding between the individuals in the business unit and its stakeholders. The creation of such mutual understanding is only possible if adequate channels of communication exist (Hindson, 1965:260).

The fundamental part of public relations is the establishment of mutual understanding between different parties, namely the organisation and its stakeholders. Ideally, mutual understanding should form the basis of a sound relationship between the different parties, a relationship based on open, two-way communication that enables the organisation to explain to its policies and procedures, whilst enabling it to monitor feedback (Skinner *et al.*, 2013:5).

Communication is a key component in any relationship, its central to the practice of public relations with the general aim of establishing understanding. In trying to achieve the goal of mutual understanding and the creation of shared meaning, the organisation should constantly evaluate the communication process and the meaning of the message amongst the stakeholders, in order to determine the effectiveness of the communication activities (Skinner *et al.*, 2013:32).

For the purpose of this study, the stakeholders identified in this study must have a mutual understanding of the communication about science communicated to them by the business unit through the various communication tools, for example social media platforms which are aimed at maintaining a harmonious and balanced relationship that are based on trust and open transparent communication.

The following hypothesis was developed to demonstrate the relationship between mutual understanding about media related issues and communication about science.

**H8:** *Mutual understanding about malaria related issues can be achieved by communicating about science.*

**H0:** *Mutual understanding about malaria related issues cannot be achieved by communicating about science.*

Communication efforts are described in terms of its research base as well as the use of communication in improving understanding with key stakeholders. It presents the classic win-win situation, and implies that both the business unit and its stakeholders are benefitting (Botan & Hazelton, 1989:29; Dozier *et al.*, 1995:13). The organisation is adjusted to fit the environment. It requires bargaining, negotiating and using strategies of conflict resolution to bring symbolic changes in the ideas, attitudes and behaviours of the organisation and its stakeholders (Botan & Hazelton, 1989:29; Dozier *et al.*, 1995:13). If persuasion occurs, it is as likely for the organisation's behaviour and attitudes to change as it is for the stakeholder's behaviour and attitudes to change.

Dozier *et al.* (1995:46) describe the typical tasks of a manager in using the two-way communication model as follow:

- To negotiate with activist stakeholders;
- to use theories of conflict resolution in dealing with stakeholders;
- to help management to understand the opinion of particular stakeholders; and
- to determine how stakeholders react to the organisation.

Corporate communication in this model facilitates long-term relationships among individuals and organisations in society. It can be viewed as a deliberate, planned and sustained effort to establish and maintain mutual understanding between an organisation and its stakeholders (Dowling, 1990:6; Lubbe & Puth, 1994:6).

The two-way symmetrical model attempts to balance interests of the organisation and its stakeholders; is based on research; and uses communication to manage conflict with other stakeholders. As a result, two-way symmetrical communication produces better long-term relationships with stakeholders. Communicators can develop relationships more effectively when they communicate with stakeholders symmetrically (Botan & Hazelton, 2009:47-55). Symmetrical communication programmes also develops and maintains quality relationships with “strategic stakeholders” (Yang & Grunig, 2005:3).

Broom and Dozier (in Holtzhauzen, 2007:23) state that in order for a two-way flow of communication to be established, the communication department in an organisation needs to be designed around organisational relationship goals with communication strategies employed to support the achievement of these goals. Measuring how effective communication strategies are in the organisation rests upon their ability to achieve relationship objectives and goals (Holtzhauzen, 2007:23). This study specifically investigates the relationship between the organisation and its stakeholders and contributes towards measuring how effective communication contributes to organisational success.

Spicer (2007:38) concluded that: “The two-way symmetrical model of public relations / corporate communication suggests that the public relations / corporate communication practitioners in the organisation may well find themselves leading the charge for collaborative engagement with the dependent stakeholders”, as key outcomes like trust are achieved through effective communication (Grunig & Haung, 2000).

### **3.2.10 Mutual value creation**

When relevant resource contributors have been identified, the next question is how business units and stakeholders can motivate each other to contribute their resources to the value creation process (Sachs & Rühli, 2011:123). Moran and Ghoshal (in Sachs & Rühli, 2011:123) mentioned three conditions that must be satisfied for an exchange of resources. First, an opportunity must exist; second, parties must expect such an exchange to create value; and third, those involved must be sufficiently motivated for a knowledge exchange. The dynamics of stakeholder relations is often considered positively as they can open opportunities to access untapped resources. Long-term collaboration of organisations with stakeholders creates social contracts, which in turn can influence access to resources. The stakeholders have value in themselves, as they regulate and



simplify the interactions. As trust is built based on social contracts, knowledge and experience, sharing is more likely to occur in older than in new interactions (Sachs & Rühli, 2011:126).

Walker (2012:68) states that key performance indicators (measures) (KPIs) drive communication performance by developing numerical measures of outputs and outcomes of communication channels and messages. Measurement and evaluation are essential in the creation of successful communication programmes for the various stakeholder groups.

### **3.3 ISSUES MANAGEMENT**

Issues management is a seductive concept. It is all about facilitating communication leadership in organisations. Issues management is a process that helps to detect and respond appropriately to emerging trends or changes. These trends or changes may then crystallise into an “issue”, which is a situation that evokes the attention and concern of influential stakeholders. At its best, issues management represents stewardship for building, maintaining and repairing relationships with stakeholders (Heath, 2002).

Organisations engage in issues management if decision-makers are actively looking for, anticipating and responding to stakeholder expectations and perceptions likely to have important consequences for the organisation. Such responses may be operational and immediately visible. Issues should precipitate action when a collective, informed assessment demonstrates that the organisation is likely to be affected (Heath, 2002).

Issue communication is an important strategic component of issues management, but good decisions about communication strategies and tactics are more likely to be made by practitioners who understand the full scope of issues management, have an extensive knowledge of the organisation and its environment and are skilled collaborators equipped to negotiate within and across organisational boundaries (Heath & Cousino, 1990).

In the context of corporate issues management, issues are controversial inconsistencies caused by gaps between the expectations of organisations and those of their stakeholders. These gaps lead to a contestable point of difference, the resolution of which can have important consequences for an organisation (Heath, 1997; Wattrick & Mahon, 1994).

Issues are commonly described as having a lifecycle comprising five stages – early, emerging, current, crisis and dormant. In simple terms, as the issue moves through the first four stages, it attracts more attention and becomes less manageable from the organisation’s point of view. As the issue matures, the number of engaged stakeholders expands; positions on the issue become more entrenched; and the strategic choices available to the organisation shrink. When the issue becomes a crisis for the organisation, the only available responses are reactive and are sometimes imposed by external parties. Not all issues reach the crisis stage and many crises are not the result of an underlined issue (Heath, 1997).

Heath (1997) argues that issues management is the proactive application of four strategic options: (1) strategic business planning, (2) getting the house in order – corporate responsibility, (3) scouting the terrain – scanning, identification, monitoring, analysis and priority setting, and (4) strong defence and smart offence – issues communication. The steps involved in evaluating the success of issues management initiatives will vary as much as the issues themselves.

The following hypothesis was stated to determine the relationship between mutual understanding about malaria related issues and long term stakeholder relationships.

**H9:** *Mutual understanding about malaria related issues can contribute to the establishment of long-term stakeholder relationships*

**H0:** *Mutual understanding about malaria related issues cannot contribute to the establishment of long-term stakeholder relationships.*

For the second part of this chapter, corporate communication will be discussed next. This is one of the important concepts for this study as it will also discuss the corporate communication strategy.

### **3.4 CORPORATE COMMUNICATION**

The field of corporate communication is vast and wide, and research has uncovered numerous definitions. For the purposes of this study, corporate communication forms the link between categories of communication and the forming of a conceptual model to

improve communication between the organisation and its stakeholders (the latter to be discussed in Chapter 2).

Although a consensus of the interpretation of the term corporate communication does not exist in industry or academia, many authors place emphasis on the fact that mutually beneficial relationships should be managed strategically, between an organisation and all the persons and institutions with which the organisation should communicate, since its success or failure depends on them (Marx *et al.*, 1998:4; Rensburg & Ferreira, 2004:11; Sandin & Simolin, 2006:6).

According to van Riel (1995:24) corporate communication can be defined as the “integrated approach to all communication produced by an organisation, directed at relevant target groups”. Corporate communication is an instrument of management by means of which all consciously used forms of internal and external communication are ‘harmonised’ as effectively and efficiently as possible, so as to create a favourable basis for relationships with groups upon which the organisation is dependent (van Riel, 1995:26) – in this study the stakeholders of the organisation.

Steyn and Puth (2000:3) describe corporate communication somewhat more extensively as the ‘management function that establishes and maintains mutually beneficial relationships between an organisation and stakeholders on whom its success or failure depends’ or ‘corporate communication is communication on behalf of an organisation’. It is communication managed with the aim of increasing organisational effectiveness by creating and maintaining relationships with stakeholders.’ Corporate communication can thus be seen as a management function, which manages the relationships that the organisation enters into (Steyn & Puth, 2000:3).

A further definition of Marx *et al.* (1998:554-555) defines corporate communication as purposeful, planned and sustained communication efforts to establish and maintain a mutual understanding between an organisation and its stakeholders, in order to gain and maintain goodwill. This is done by creating favourable attitudes and building a good perception (Du Plessis *et al.*, 2003:6). Operationally, corporate communication employs and communicates information through a variety of media to influence stakeholder opinion (Du Plessis *et al.*, 2003:251). In this study, corporate communication encompasses

relationship development and maintenance, methods of communication, stakeholder perception and mutual trust.

According to Bütschi (2004), every functional area in the organisation, be it core operations or support, must respond to a continuously changing environment by constantly innovating and adapting its contribution to overall corporate communication effectiveness. The organisation expects to be pro-active and play a strategic role at the macro organisational level by interpreting strategic issues and providing strategic guidance concerning stakeholder communication. These issues are at the core of an effective contribution by corporate communication.

Communication between an organisation and its stakeholders is one of the broadest and most complex disciplines (Marx *et al.*, 1998:4; Sandin & Simolin, 2006:2; Rensburg & Ferreira, 2004:11). It involves a wide range of activities and specialisations to deliver and receive corporate messages to and from various parties. The measurement of this discipline is extremely complex, especially when measuring the practitioner's effort to communicate on behalf of the organisation as an entity. In order to measure corporate communication, a thorough understanding of its purpose, activities and position within the organisation must be clarified.

The essential objective of corporate communication should be to make the organisation more effective through mutually beneficial communication between the organisation and its stakeholders (Steyn & Puth, 2000:3). The function of corporate communication is suggested to influence stakeholder perceptions of the organisation. Corporate communication is a mind-set that transforms ways of thinking and working as an organisation's decisions are imbued with stakeholder intelligence and performed with a full understanding of the communication implications on the unit (van Riel, 1995:26).

Instead of being an equal participant in determining the visionary and strategic direction of the organisation, and particularly in identifying and managing its strategic issues and stakeholders, corporate communication seems to be predominantly occupied with executing operational plans that are conceptualised and initiated by other management functions. Corporate communication seems to be an executioner of plans rather than an originator of strategies (Steyn & Puth, 2000:8).

### **3.4.1 The place of corporate communication**

Corporate communication is perceived as a support function that does not have a direct impact on the financial performance of an organisation (Rensburg & Cant, 2003:58). For this reason, corporate communication has been largely subjected to the chain of command of the functions whose focus lies in other areas of the organisation (Steyn & Puth, 2000:228). The result has led to a dominating operational focus concerned with achieving communication outputs. The issue with the above situation is that practitioners are expected to identify, establish, build and maintain strategic relationships for the organisation without proper insight into the strategic nature of the organisation.

The quality of communication output is determined by whether the correct corporate communication model was utilised. Corporate communication models are discussed in the following section.

### **3.4.2 The four corporate communication models**

Grunig identified four corporate communication models (Dozier *et al.*, 1995:13; Grunig & Grunig, 1989:30; Grunig & Hunt, 1984:21-43; Leichty & Springston, 1993:328; Lubbe & Puth, 1994:1,8-9), namely the Press Agency model; the Public Information model; the Two-way Asymmetric model; and the Two-way Symmetrical model. These four models differ in purpose - the function they provide for the organisation that sponsors them (Grunig & Hunt, 1984:21).

According to Grunig (in Botan & Hazelton, 1989:29), the models represent the values, goals, and behaviours held or used by the organisation. They can also be regarded as four different world-views for corporate communication in the organisation and depict four historical eras or stages in the evolution of corporate communication (public relations). The models are produced from the combination of dichotomous dimensions: direction (one-way vs. two-way) and balance of intended effect (asymmetrical vs. symmetrical). Table 6 describes the characteristics of the four corporate communication models.

**Table 6: Characteristics of the four corporate communication models**

Characteristics	Model			
	Press Agency	Public Information	Two-way Asymmetrical	Two-way Symmetrical
<b>Purpose</b>	Propaganda	Dissemination of information	Scientific persuasion	Mutual understanding
<b>Nature of communication</b>	One-way; complete truth not essential	One-way; truth important	Two-way; imbalanced effect	Two-way; balanced effect
<b>Communication model</b>	Source to receiver	Source to receiver	Source to receiver	Group to group
<b>Nature of research</b>	Little; counting house	Little; readability, readership	Formative; evaluative of attitudes	Formative; evaluative of understanding
<b>Where practised today</b>	Sports, theatre, product promotion	Government, non-profit, associations, business	Competitive business; agencies	Regulated business agencies
<b>Estimated % of organisations practicing today</b>	15%	50%	20%	15%

Source: Grunig and Hunt (1984:22).

### ➤ The Press Agency model

This model describes the purpose of corporate communication as being publicity, trying to gain coverage from the mass media in almost any way possible (Grunig & Hunt, 1984:21; Botan & Hazelton, 1989:29). It serves a propaganda function and spreads the faith of the organisation involved, often through incomplete, distorted or half-true information.

Press agency is a one-way corporate communication model (Grunig & Hunt 1984:23). Information is given, but the organisation does not seek information from the stakeholders through research or informal methods. In using the press agency model, the organisation does not always feel obligated to present a complete picture of the organisation represented. Research is limited to 'counting house' in this model; practitioners determine how many people attended a function (Grunig & Hunt, 1984:24).

The press agency model is primarily the responsibility of a practitioner in the technician role. According to Dozier *et al.* (1995:57), responsibilities of the technician include:

- Convincing a reporter to publicise the business unit;

- getting the business unit's name into the media;
- getting maximum publicity for a staged event; and
- keeping bad publicity out of the media.

The press agency model is not relevant and/or appropriate to be considered for purposes of this study.

#### ➤ **The Public Information model**

Communication in this model is seen as the dissemination of information (not necessarily with a persuasive intent) through the mass and controlled media such as newsletters, brochures, direct mail or the Internet (Botan & Hunt, 1984:21). Negative information is rarely volunteered (Botan & Hazelton, 1989:29). This is also part of the technician's responsibilities, whose job it is to report objective information about the organisation to the stakeholders. Limited research is conducted in this model, for example, it is only used to determine the readability of information (Grunig & Hunt, 1984:24). The technician's tasks can be summarised as follows (Dozier *et al.*, 1995:58):

- To perform as communicator inside the organisation;
- to understand the value of communicators;
- to prepare information that stakeholders will use; and
- to provide objective information about the organisation.

The public information model is a one-way communication model. Similar to the press agency model, information is given. Differing from the press agency model, the complete truth of the organisation that practitioners represent is provided (Grunig & Hunt, 1984:23). However, the organisation does not seek information from stakeholders through research or informal methods.

#### ➤ **The Two-way Asymmetrical model**

Two-way communication is used in this model (Botan & Hazelton, 1989:29). Information flows between the organisation and its stakeholders (Grunig & Hunt, 1984:23), but is imbalanced in favour of the organisation. Practitioners of this model function like the press agent, but use scientific persuasion to influence stakeholders (Grunig & Hunt, 1984:22). This model is not confined to the dissemination of information and research plays a key role.



Research is used to determine the most appropriate channels and messages to persuade stakeholders to behave as the organisation would like to, without the organisation itself changing its behaviour (Botan & Hazelton, 1989:29; Grunig & Hunt, 1984:23). Practitioners use what is known from social science theory as well as research about attitudes and behaviour to persuade stakeholders to accept the organisation's point of view and to behave in a way that supports the organisation (Botan & Hazelton, 1989:29; Grunig & Hunt, 1984:23).

According to Steyn and Puth (2000:158), there are two kinds of corporate communication research, namely environmental scanning and evaluation research. The latter consists of both formative and summative research. Formative research – to plan an activity and to choose objectives – is used in the two-way asymmetrical model of communication (Grunig & Hunt, 1984:24).

What stakeholders will tolerate and accept is first determined and then policies and procedures are identified and communicated to these stakeholders (Grunig & Hunt, 1984:25). The organisation's goals, objectives, policies, procedures, or other forms of organisational behaviour are not changed (Dozier *et al.*, 1995:13).

Typical tasks of a communication manager in a Two-way Asymmetrical model would include the following (Dozier *et al.*, 1995:46):

- To persuade a stakeholder that the organisation is right on an issue;
- to get stakeholders to behave as the organisation wants;
- to manipulate stakeholders scientifically; and
- to use attitude theory in a campaign.

The two-way asymmetrical model does not meet all the requirements for communication between the organisation and its stakeholders to be effective but will be tested, in this study. The following hypothesis was developed to account for the relationship between the two-way asymmetrical model and long-term stakeholder relationships.

H6: *Long-term stakeholder relationships can be enhanced through the two-way asymmetrical model of communication.*

H0: *Long-term stakeholder relationships cannot be enhanced through the two-way asymmetrical model of communication.*

### ➤ **The Two-way Symmetrical model**

Communication in this model consists more of dialogue than monologue (Grunig & Hunt, 1984:23). Communication efforts are described in terms of its research base as well as the use of communication in improving understanding with key stakeholders. It presents the classic win-win situation, and implies that both the business unit and its stakeholders are benefitting (Botan & Hazelton, 1989:29; Dozier *et al.*, 1995:13). The organisation is adjusted to fit the environment. It requires bargaining, negotiating, and using strategies of conflict resolution to bring symbolic changes in the ideas, attitudes, and behaviours of the organisation and its stakeholders (Botan & Hazelton, 1989:29; Dozier *et al.*, 1995:13). If persuasion occurs, it is as likely for the organisation's behaviour and attitudes to change as it is for the stakeholder's behaviour and attitudes to change.

Dozier *et al.* (1995:46) describe the typical tasks of a manager in using this type of communication model as follows:

- To negotiate with activist stakeholders;
- to use theories of conflict resolution in dealing with stakeholders;
- to help management to understand the opinion of particular stakeholders; and
- to determine how stakeholders react to the organisation.

Corporate communication in this model facilitates long-term relationships among individuals and organisations in society. It can be viewed as a deliberate, planned and sustained effort to establish and maintain mutual understanding between an organisation and its stakeholders (Dowling, 1990:6; Lubbe & Puth, 1994:6).

Corporate communication should thus provide mediation for the organisation to help management and stakeholders negotiate conflict. In this process, it is the purpose of corporate communication to change the attitudes and behaviour of management as much as it is to change the attitudes and behaviours of stakeholders (Dozier *et al.*, 1995:100). The Two-way Symmetrical model is embedded in the systems approach and requires both

technician and management roles to implement programmes. Excellent corporate communication programmes use a two-way symmetrical model of communication.

The two-way symmetrical model attempts to balance interests of the organisation and its stakeholders; is based on research; and uses communication to manage conflict with other stakeholders. As a result, two-way symmetrical communication produces better long-term relationships with stakeholders. Communicators can develop relationships more effectively when they communicate with stakeholders symmetrically (Botan & Hazelton, 2009:47-55). Symmetrical communication programmes also develops and maintains quality relationships with “strategic stakeholders” (Yang & Grunig, 2005:3).

Broom and Dozier (in Holtzhausen, 2007:23) state that in order for a two-way flow of communication to be established, the communication department in an organisation needs to be designed around organisational relationship goals with communication strategies employed to support the achievement of these goals. Measuring how effective communication strategies are in the organisation rests upon their ability to achieve relationship objectives and goals (Holtzhausen, 2007:23). This study specifically investigates the relationship between the organisation and its stakeholders and contributes towards measuring how effective communication contributes to organisational success.

Spicer (2007:38) concluded that: “The two-way symmetrical model of public relations / corporate communication suggests that the public relations / corporate communication practitioners in the organisation may well find themselves leading the charge for collaborative engagement with the dependent stakeholders”, as key outcomes like trust are achieved through effective communication (Grunig & Haung, 2000). The following hypothesis was developed to account for the relationship between the two-way symmetrical model and long-term stakeholder relationships.

***H7: Long-term stakeholder relationships can be enhanced through the two-way symmetrical model of communication.***

***H0: Long-term stakeholder relationships cannot be enhanced through the two-way symmetrical model of communication.***

In conclusion, based on the discussion of the four corporate communication models as originally conceptualised by Grunig, it can be said that the press agency and two-way

asymmetrical models are manipulative in nature, as is the public information model, although it might not be its intent (Botan & Hazelton, 1989:29). The two-way symmetrical model of corporate communication is the only true two-way communication model. Organisations do not necessarily practice only one model, but a combination of the models is often used in different situations and with different stakeholders – the so-called ‘mixed motive model’ (Botan & Hazelton, 1989:29). The discussion of the models is relevant to this study because it helps to form a holistic understanding of the differences between models and its application as required by the organisation.

Theoretically speaking, for the purpose of this study corporate communication can be divided into three main forms of communication: organisational communication, management communication, and marketing communication (van Riel, 2003:163). The next three sections will briefly discuss and define these three main forms of communication.

### **3.4.3 Organisational communication**

The organisational communication approach emphasises different internal dynamics of organisations that may enhance or impede efforts to get messages across to stakeholders. The corporate communication approach presupposes that communication is managed on behalf of an entire organisation and emphasises its ability to negotiate both internal and external dynamics in its communication efforts with stakeholders (Grunig, 1992:4).

On the topic of communication within an organisation, Tompkins (1984:662) defines organisational communication as the study of sending and receiving messages that create and maintain a system of consciously coordinated activities or forces of two or more people. Thus, organisational communication in its most basic form refers to the study of how people communicate within an organisational context that similarly applies at organisational level.

Miller (2003:1) states that organisational communication “involves understanding how the symbolic nature of communication differentiates it from other forms of organisational behaviour”. Hargie and Tourish (2004:10) take a slightly different view of “how people ascribe meanings to messages, verbal and non-verbal communication, communication skills, the effectiveness of communication in organisations and how meanings are distorted or changed while people exchange messages, in both formal and informal networks”.

Organisational communication developed from speech communication and is strongly related to both communication and organisational theory. It focuses on knowledge rather than skills (Steyn & Puth, 2000:6). Organisations consist of groups of people who work together towards a mutual goal or goals. In order to achieve its goals, members of the organisation find it necessary to communicate or interact at all levels (van Schalkwyk, 2009:22). It is also described as social entities in which the behaviour of individuals is shaped and directed to achieve common goals (Tourish and Hargie, 2009:7).

Organisational communication is a wide-ranging field of study that spreads across academic disciplines (e.g. psychology, anthropology and organisation studies) and professional specialisms (e.g. marketing, public relations and human resources management) (Blundel, 2004:10). For the purposes of this study, it applies to all stakeholders.

Organisational communication is similar to corporate and strategic communication. Deetz (in Carroll, 2013:33) describes three of the most commonly used conceptualisations for organisational communication: a specific subset within the communication discipline; specific phenomenon that exists in organisations or a specific way of explaining organisations and organisational processes.

In a study by Blundel (2004:10-11) four of the most common distinctions of organisational communication are examined as explained below:

- **Verbal and non-verbal communication** - Verbal communication refers to messages coded in the form of words. This may be sub-divided into spoken or written forms as explained earlier. Verbal forms of communication raise issues such as using appropriate vocabulary for an audience and translating meanings between different languages.
- **One-way and two-way communication** - This distinction refers simply to the direction in which messages are travelling. Some communication channels are linear, 'one-way' and others inherently 'two-way', such as face-to-face interviews and meetings, with instantaneous feedback. Digital communication channels are more interactive than their analogue prototypes (this is discussed in the social media section).

- **Interpersonal and mass communication** - Interpersonal communication can be between individuals, either interacting in small groups and primarily through face-to-face channels. Mass communication tends to encode a message to a large number of people (discussed further in the social media section).
- **Internal and external communication** - Communication takes place within the 'boundaries' of the organisation and involves the stakeholders. For this study, only formal internal communication is discussed.
- **Channels of formal internal communication**

Management frequently give the whole communication issue little thought, and only have the haziest idea of what type of questions should be explored during a communication audit. Many assume that communication is concerned exclusively with the transmission of messages from management to other stakeholders. In reality, it also encompasses the exchange of information vertically, horizontally and diagonally. To be effective, communication needs to be two-way, and hence dialogic, in nature (Tourish & Hargie, 2009:34).

According to van Schalkwyk (2009:55) the flow of formal internal communication is:

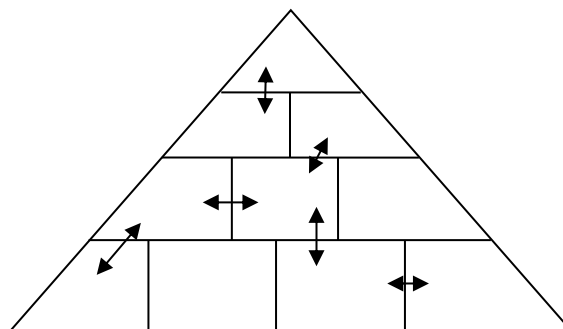
*Vertical:* From the higher levels to the lower levels of authority and vice versa.

*Horizontal or lateral:* Between employees on the same level or with peer groups.

*Diagonal:* Around or across the formal lines of authority.

Figure 11 below illustrates the flow of communication within an organisation:

**Figure 11: The flow of communication within an organisation**



Source: Van Schalkwyk (2009:55).

As previously mentioned, communication, by definition, is a process of sharing meaning. Simply sending messages from the sender to the receiver does not account for the sharing of meaning. Grunig's two-way symmetrical model of communication illustrates how effective communication involving the sharing of meaning should occur (Macnamara, 2002:11). In an organisational context, communication that occurs on various levels often falls short of the idealistic two-way symmetrical model. For this reason, the co-orientation theory suggests that an organisation and its stakeholders try at least to share meaning somewhere in the middle or between their poles of opinion (Macnamara, 2002:11).

The complexity of communication does not stop there - Macnamara (2002:9-10), summarises a series of models that portray communication to be multifaceted, easily resisted by receivers, and influenced by situational factors. Initiating with the information-processing model of sender, receiver and message, Macnamara (2002:9) explains that it was assumed then, that knowledge automatically leads to a change in attitude, which in turn leads to a change in behaviour.

Theories such as the hierarchy of effects model saw behavioural change as a series of steps in communication; starting with awareness and moving to interest, then to desire and finally to action. The theory of cognitive dissonance then questioned these basic steps stating that receivers could actively resist messages that were different to their existing attitudes (Shackleton, 2007).

In their hedging and wedging theory, Grunig and Stamm (in Macnamara, 2002:9) eventually changed this view that communication was simply a linear process with sequential steps. It was discovered that communication minimally affected attitude and behavioural change. These authors suggested that communication could not change attitudes from negative to positive in a short space of time, but simply have a minimal effect on how the receiver perceived something that they had already formed an opinion of.

Additionally, the situational theory of communication stated that the relationship between knowledge (awareness), attitudes and behaviour is a contingent based on situational factors such as: the level of problem recognition; the level of constraint recognition; the presence of a referent criterion; and the level of involvement (Olkkonen *et al.*, 2000:405).



The way organisations are structured and work organisationally dictates how communication can be deployed effectively. Steyn (2007:158-166) identified five strategic levels where communication has a key role to play. These are: the enterprise unit level (University of Pretoria), business unit level (University of Pretoria Centre for Sustainable Malaria Control), corporate level, functional level and operational levels. For this study, the focus will mainly be on the organisation and broadly on the enterprise unit level, with lesser attention given to the other levels.

The organisational function needs to be implemented and controlled by management and involves two tasks. Firstly, they must organise activities and resources (human and material). This is done by assigning tasks, duties, responsibilities and authority to specific individuals and groups. Secondly, management must determine and formalise the relationship between individual groups (van Schalkwyk, 2009:54). This is necessary in order to promote cooperation and to achieve the goals set by the business unit. The readiness and ability of organisations and stakeholders to contribute to value creation often depends on organisational structures and procedures (Sachs & Rühli, 2011:171).

There are five sets of contingent factors that link effective communication to leadership (Carroll, 2013:313-315). First, the management dynamics should be analysed. This includes the basis of their influence (vision and values) and how authority is distributed within the organisation. Second, there must be an assessment of the interaction between the management committee and their personnel. Third, there must be an alignment between the leader's tasks and the business unit's goals. Fourth, there must be a supportive two-way communication system. Finally, there must be a participative organisational culture and workplace environment that supports leadership initiatives and the qualities of the leader-follower relationship (Carroll, 2013:78).

Without question, communication can also be a process of invention. Managers literally create meaning through communication. It is through communication that meaning is created for stakeholders (Carroll, 2013:78).

For effective communication in an organisation, it is essential for the management to communicate with stakeholders and to create an environment where they will feel involved in the process of growth in excellence. Therefore, management must have the communication skills needed to respond effectively to the stakeholders.

The organisation's management committee should take a holistic view, and study and understand the enterprise unit's strategy to ensure that communication with all the stakeholders is embedded fully into the strategy to better build resilience and trust, which is essential for engagement and effort (Walker, 2012:69). Practising effective communication in different organisational settings requires an open mind, which means willingness to take on new ideas and explore new perspectives (Blundel, 2004:16).

Walker (2012:91-104) pointed out three strategic issues as the key areas that can contribute towards stronger performance and effective communication which leads to organisations' success: engagement, communication and change. For the purpose of this study only engagement and communication will be discussed.

- Engagement is not another word for satisfaction. A satisfied stakeholder does not feel pushed at work and never feel bothered to do more than is asked of them. Stakeholders' engagement describes stakeholders' emotional and intellectual commitment to the organisation's success. Engaged stakeholders experience a compelling purpose and meaning in their work and give their discrete effort to advance the organisation's objectives.
- Communication is integral not only to engagement but to all aspects of working life. One essential criterion for management in interacting with stakeholders is effective communication so as to ensure expected stakeholder behaviour over time (Ulrich & Beatty, 2001). Messages conveyed to stakeholders as well as their meaning could influence or change the behaviour of stakeholders. Messages can be carried out through publications (like an Annual Review), team meetings and online (e-mail and Intranets). Intranets are an online communication tool that is growing in importance, where the organisation's personnel are the only ones who can access this website to gather internal information/communication and prepare themselves for feedback/response (discussed in the social media section).
- Feedback refers to the diverse range of responses elicited by messages that are sent out by the organisation. Feedback is essential to any open system, facilitating interaction and enabling it to adapt and meet the changing demands of its environment. An organisation requires feedback from all its stakeholders if it wants to function effectively. The quality of this feedback depends, in turn, on the effective use of particular communication channels (Blundel, 2004:125).

#### **3.4.4 Management communication**

It is a requirement of managers to be good communicators and according to van Riel (2003:161) management communication is the communication of managers - at different levels - with stakeholders. Similarly, it is the view of Puth (2002:11) that there can be no doubt that communication is vital to all management functions. In fact, without communication there can be no management. Puth (2002:12) expands on this statement by arguing that the communication skills of an organisation's leaders and their understanding of leadership communication directly influence all other management functions in the organisation. He concludes the argument by theorising that leadership and communication go hand in hand. There can be no leadership [management] without communication. To the extent that an organisation essentially consists of its people, it can be said that leadership is communication with people in all of its manifestations. It is a fact that no organisation can survive indefinitely without regular communication.

According to Smeltzer (1996:22-23), the unifying goal of management communication is "to develop and disseminate knowledge that increases effectiveness and efficiency of managers functioning in contemporary business environments". Management communication is the only field of study that integrates communication and management. Management communication follows a functional approach and regards communication as the means to an end, namely the achievement of the organisation's goals (Steyn & Puth, 2000:6). Evidently the role of management goes beyond only communication and also influences other areas of interest which relate to the achievement of the organisation's goals.

To be able to determine whether communication takes place in the most effective way, one needs to understand how effective communication in organisations may contribute to or interfere with the efficient operation of such an organisation. Scientific study of communication involves a special way of acquiring knowledge - a way that requires the use of the 'scientific method' which follows a systematic and disciplined approach. The results of scientific research have provided knowledge and understanding of what communication is; how it works; and how it influences people's lives (Steinberg, 2007:28).

Management communication is the only field of study that integrates communication and management. It incorporates from communication science everything a manager needs to

know (knowledge) and to do (skills) in order to manage people as a resource more effectively (Steyn & Puth, 2000:6). Management communication is about the movement of information and the skills that facilitate it – speaking, writing, listening and processes of critical thinking. It is also about understanding what the organisation is and the contributions stakeholders can make to the success of the organisation (Caroll, 2013:73).

The focus is on interpersonal communication between a manager and stakeholders. Management communication follows a functional approach and regards communication as the means to an end, namely the achievement of an organisation's goals (Steyn & Puth, 2000:6).

In response to the question whether, and if so, how management communication can make an organisation more effective, Grunig's (1992:65) research indicated that communication properly managed makes an organisation more effective by "using communication programs to build relationships with strategic constituencies of an organisation – those constituencies that constrain or enhance the ability of an organisation to achieve its goals".

Management communication relies on systems thinking. According to Grunig (1992:43-44) the following dimensions are identified:

- **Dialogue** – Communication establishes understanding among people and systems.
- **Systems thinking** – Every system consists of sub-systems and forms part of a bigger, supra-system; all the parts of the system are interdependent and interrelated; the organisation is an open system.
- **Holism** – the whole is bigger than the sum of its parts.
- **Continuous turbulence in the environment** – The organisation strives toward dynamic equilibrium.
- **Self-directed leadership** – All people are seen as responsible for controlling their own behaviour.
- **Control** – Management is decentralised and co-ordinated rather than authoritarian.
- **Creativity** – Innovative ideas and flexibility are encouraged.
- **Communication** – Conflict is solved through negotiation, communication and compromise, instead of coercion, manipulation or arguments.

Wheatley (1994:41) claims that scientific fields unrelated to management, revealed insights about organisations that could be useful within the arena of change management. Wheatley primarily contends that mechanistic thinking relies on maps that necessitate knowledge of all the possible variables and manipulation of change outcomes. Wheatley (1994:41) views this type of thinking as unrealistic since the world is essentially ever changing, unpredictable and the boundaries between systems are faint. Therefore, Wheatley proposes a radically different interpretation of the forces at work in organisations, namely the actions of organisations and the nature of information and leadership. According to Wheatley (1994:12) such a new appreciation is only possible when people "... take a step back and begin to see themselves in a new way".

Wheatley (1999:139) furthermore suggests that the metaphors used to describe organisations, ought to focus on the 'living dynamism' of networks which continuously seek meaningful information, rather than view organisational elements as: "... billiard balls that bang into one another in order to effect change ..." Such an understanding is only possible when the underlying assumptions are fully integrated into organisational change efforts (Ashmos & Duchon, 2000; Fitzgerald & van Eijanatten, 2002; Lissack & Roos, 1999; Murphy, 1996; Ströh, 1998; Olson & Eoyang, 2001).

Feedback is furthermore central to communication and the two-way symmetrical communication model (Grunig, 1992:45). The boundary-spanning role of the corporate communication division is also apparent. Dialogue needs to be managed between the organisation and its different stakeholders that are no longer merely dependent on transactional interactions with the organisation. The emphasis on the strategic relationship interactions between stakeholders and the organisation highlights the change in the influence stakeholders have on the organisation (Post *et al.*, 2002:91-94).

#### **3.4.5 Marketing communication**

Although marketing communication is not the focus of this study, it is included for the sake of completeness when considering corporate communication. Marketing communication is the managerial system that ensures timely and comprehensive input into the corporate information and decision-making process, and the consequent expression of credible, persuasive representatives of beneficial exchange opportunities with actual and

prospective stakeholders. Marketing is thus the interface element of the corporate appreciative system (Varey, 2002:128).

Hinson (2005:101) states that marketing communication, as in the standard marketing literature, has always been used to refer to the promotion element in the marketing or services marketing mix.

Marketing communication is predominantly mass marketing, however with a growing element of direct marketing. In the field of marketing communication there is a new trend towards integrating communication elements such as advertising, direct marketing, sales promotion and public relations into a two-way integrated marketing communication perspective (Grönroos, 2004:102).

Integrated marketing communication is clearly influenced by the relationship perspective in marketing. When organisations are committed to two-way communication, it is intended to get some response from the stakeholders to whom the integrated marketing communication program has been directed (Grönroos, 2004:102).

Interactions between organisations and its stakeholders may be prompted by planned communication messages and programs, but for a commercial relationship the development of successful interactions has to follow. A dialogue between the organisation and its stakeholders only emerge from value-enhancing interactions. Planned communication activities easily lead to parallel monologues, where two parties never actually meet and get access to what is shared or common between them. A dialogue process is required for the sharing and even creation of knowledge among parties to occur (Grönroos, 2004:102).

### **3.5 CORPORATE COMMUNICATION STRATEGY**

#### **3.5.1 Defining strategy**

A strategy is “an effort or deliberate action that a business unit implements to out-perform its rivals” (Ehlers & Lazenby, 2007:2). The essence of an organisation’s strategy is exhibited in its strategic intent. Strategic intent refers to the vision and direction the strategy provides and the new areas the organisation is set to explore, as well as the goal and purpose the exploration is designed to achieve (Puth, 2002:188).

The latter is encapsulated in the organisation's mission. A strategy's purpose is to provide direction to an organisation's activities by focusing them on its strategic goals and mission while ensuring that the methods used are in line with the environment and context in which the organisation operates (Steyn & Puth, 2000:29).

Strategy is a design or plan for achieving an organisation's policy goals and objectives (Davies, 2000:26). The term 'strategy', from the Greek 'strategos', forms from the Greek word for *generalship* (office of the general). Strategy can be defined through five key definitions, namely: first as 'the art or science of affording maximum support to adopted policies'. Secondly, 'an organisation's pro-active response to an ever changing environment: the instrument that enables an organisation to find synthesis between its goals and resources in view of the risks and challenges of the changing environment.' Thirdly, 'indication of an organisation's positioning for the future, the *'what'* rather than the *'how'*.' Fourthly, strategy can be seen 'as the thinking and the logic behind the actions.' Lastly, strategy is also 'by doing the right thing, rather than doing things right' (Steyn & Puth, 2000:29; Robert, 1997:22; Drucker, 1954). Strategy requires choices, deciding what particular kind of value an organisation wants to deliver to whom.

"Strategy" as a concept is well-known; however, corporate communication strategy is less commonly spoken of in the communication "body of knowledge". It is rather unusual to come across a memorable, cogent, sustained, and effective communication strategy (Tibble, 1997:356).

After conducting a study of professional views of corporate communication practitioners in the Netherlands, Van Ruler (1997:263) concluded that practitioners are not able to cope with abstract strategic planning practices. The key problem seems to lie in the application of "strategy" to corporate communication issues.

### **3.5.2 Understanding strategy**

The above definition of strategy applies to corporate strategy and unit strategy. Unit strategies are plans for achieving the goals and objectives of an operating unit, an industry or geographical operating area, or a managerial or business function. Corporate strategy, on the other hand, refers to the strategy that is used to achieve corporate goals and objectives, that is, to achieve corporate policy (Davies, 2000:26).



Strategy can be best understood if it is viewed as an element of a trio that includes policy, strategy, and resources. Davies (2000:25) found in a study that it helps to focus on two aspects of strategy: the causal relationship between strategy and the other elements of the trio; and the plurality of inputs, options and outcomes that characterise strategy.

The concept of strategy is based on the assumption that public relations/corporate communication is practiced as a strategic management function with a unique disciplinary identity, assisting an organisation to adapt to its environment by achieving a balance between the organisation's commercial imperatives and socially acceptable behaviour. (For this purpose, the environment is conceptualised as a collection of stakeholders and a patterning of strategic, social, political, environmental and ethical issues) (Steyn, 2002, 2007; Steyn & Puth, 2000).

This balance is brought about, *inter alia*, through identifying and responding to issues and stakeholder concerns by ensuring that organisational and communication goals are aligned to societal and stakeholder values, norms and expectations. Furthermore, by building relationships through communication with those on whom the organisation depends, to meet economic and socio-political goals (Steyn, 2007:1).

In business, strategy is a design or plan for achieving an organisation's policy goals and objectives. Whereas, the policies define the organisation's goals and objectives and its operation domain, strategy decides how the organisation's goals and objectives will be achieved, what operational units will be used to achieve the organisation's goals and objectives, and how those operational units will be structured. Strategy also determines what resources will be needed to achieve the organisation's goals and objectives and how these resources will be acquired and used. Strategy is a design or plan that defines how policy is to be achieved (Davies, 2000:26).

The latter definition of strategy applies to corporate strategy and business unit strategy. Business unit strategies are plans for achieving the goals and objectives of a business unit (Davies, 2000:26). Corporate strategy, on the other hand, refers to strategy that is used to achieve corporate goals and objectives, that is, to achieve corporate policy (Davies, 2000:26).

Whereas policy is a legislative function, strategy is an executive function. Because resources are a means for implementing strategy, they can be confused with tactics. Both

resources and tactics are related to how strategy is achieved, but tactics refer to the detail of strategic designs and to the detailed actions that are needed to effect strategy implementation. Tactics are the detail-how of strategy, whereas resources are strategy's with-what (Davies, 2000:26).

Strategy provides the focus and direction for an organisation's communication with its stakeholders and other interest groups in society. It is an organisation's pro-active response to a fast-changing environment that directs its course of action and provides an indication of its positioning for the future with regards to two-way communication with societal and strategic stakeholders. It is developed within the context of the organisation's vision, mission, corporate culture and policies, goals and objectives (the internal environment), but focusses on an assessment of the external environment (Steyn, 2007:1).

The resources element of the trio provides the 'with-what' for implementing strategy and, therefore, for achieving policy. It is strategy, however, that drives decisions relating to the acquisition, development, and deployment of the organisation's resources; and it is strategy that determines the priority that will be given to different resources, how the combination of resources will be configured, and how resources will be used (Davies, 2000:26).

Although the primary characteristic of strategy is its causal relationship with the other elements of the trio, strategy is also characterised by a plurality of inputs, options and outcomes. A plurality of inputs is indicated by the origins of the term. When management engages in strategy formulation, they evaluate and select from a multiplicity of resources and develop a plan that combines these in a way that will most effectively achieve the organisation's objectives (Davies, 2000:27).

In the business world, executives use a plurality of inputs when they select and apply a combination of material and method resources in formulating corporate and business unit strategies. Corporate and business unit strategies both rely on a plurality of resource inputs. Corporate strategies, however, also include and aggregate resources from the business unit's strategies. In both corporate and business unit strategies, the sum of the inputs may be simply cumulative. In strategies that are more effective the choice and configuration of the inputs produce a result that is synergistic (Davies, 2000:27).

Because strategy is characterised by multiple options, multiple paths, and multiple outcomes, it is more complex to design and more difficult to implement than linear solutions. However, the multiple-option, multiple-path and multiple-outcome aspects of strategy enable it to get around insurmountable obstacles, avoid unacceptable consequences and be tolerant of changes in conditions (Davies, 2000:27).

### ➤ **Strategy formulation**

Strategy is not always based on the traditional linear approach to strategy formulation. By adapting the organisation to values, trends, events, issues and stakeholders in the environment, it can also be regarded and referred to as 'adaptive' strategy. It also focuses on relationships, symbolic actions and communication, emphasising attitudinal and cognitive complexity among diverse stakeholders and societal interest groups - the essence of 'interpretive' strategy (Steyn, 2007:2).

Based on Mintzberg's (1987) views on deliberate strategy formulation and emergent strategy formation, strategy is conceptualised as consisting of both deliberate and emergent components.

Strategy as *deliberate strategy* is a pattern of decisions for using communication as a strategic opportunity in organisational goal achievement (e.g. building relationships with strategic stakeholders, portraying the organisation as a good corporate citizen, maintaining a good reputation or communicating change initiatives) (Mintzberg, 1987).

Deliberate strategy is formulated in the context of the organisation's vision, mission, corporate strategies, policies and strategic goals. It can therefore be considered a mid-term strategy (two years or more). The organisation's key strategic priorities are reviewed to select strategic organisational positions and goals to be communicated to stakeholders. A key focus is therefore the organisation's strategies that have already been formulated as part of the regular cycle of strategy development or the budgeting process (Mintzberg, 1987; Steyn, 2007).

Strategy as *emergent strategy* is a pattern in important decisions on using communication to solve organisational or communication problems in unstructured situations, or to capitalise on opportunities presented. In emergent strategy, the final objective is unclear and elements are still developing as the strategy proceeds, continuously adapting to

events and people (i.e. stakeholders, societal issues, and the interest/activist groups that emerge around issues) (Mintzberg, 1987; Steyn, 2007).

Emergent strategy thus outlines the communication needed to address constantly emerging societal and stakeholder's issues, and crisis situations. In this sense, emergent strategy is a shorter-term strategy (for example, less than two years). The rationale is that should an issue continue for a longer period, it will become part of deliberate strategy (Steyn, 2007:3).

Emergent strategy is in accordance with Grunig and Repper's view (cited in Grunig, 1992) that managing communication strategically entails analysing the environment to make an organisation aware of stakeholders and issues as they evolve, and developing communication programs that can help resolve such issues. Stakeholder and issues management thus form a core focus of emergent strategy (Steyn, 2007:3).

Deliberate and emergent strategy produce a profile that can be used to determine which stakeholders or issues should receive more or less emphasis (Steyn, 2007:3). The process of formulating deliberate strategy to communicate organisational positions and assist in achieving organisational goals, and recognising the issues and possible communication solutions that form emergent strategy, entails strategic thinking to prioritise key organisational goals and positions and interpret information gathered mainly in the social, political and environmental sectors of the macro environment, with a view to identifying consequences for organisational stakeholders and other societal interest groups (Steyn, 2007:3-4).

To put deliberate strategy into action, a strategic communication plan is created for each division/section/unit for example, expressing the strategy in terms sufficiently clear to render it formally operational, breaking it down into sub-strategies. (It is on the grounds of this strategic plan that the function lobbies for organisational resources.) Control is exercised to ensure that the chosen strategy is implemented properly and cost-efficiently, and produces the desired results. Emergent strategy is turned into action within the framework and structures of this strategic plan (Steyn, 2007: 3-4).

Deliberate and emergent strategy is more than 'strategy communication'. Public relations is not simply an enabling function, facilitating the successful implementation of strategic

decisions - in itself, it is a contributor to the strategic decision making process (Steyn, 2007:4).

The level with responsibility for formulating deliberate strategy is the functional or middle management level. Stakeholder concerns and issues can emerge both internal and external to the organisation and can be recognised by practitioners or employees on any organisational level. It is however the responsibility of a practitioner in the role of the manager to make a concerted effort to develop emergent goals to address these stakeholder concerns and issues, by recognising possible communication solutions (Steyn, 2007:4).

Strategy is however, optimally developed by a function with a strategic mandate where a practitioner plays the role of the strategist (Steyn, 2007:4) and does the following:

1. Scans the environment for issues, stakeholder concerns and reputation risks (the core source of emergent strategy)
2. Makes inputs in this regard into the organisation's deliberate strategy processes at the strategic level
3. Facilitates the development of functional strategy

Strategy thus makes the function relevant in the strategic management process by providing the vital link between enterprise/corporate/business strategy and the function, aligning communication goals to organisational goals. The deliberate strategy indicates what the function needs to do (communicate) to implement higher level, deliberate organisational strategies – first and foremost the enterprise strategy, but also the corporate and business unit strategies. Emergent strategy indicates what the function needs to do and communicates with regards to emergent issues and stakeholder concerns, for example, how to use communication to solve organisational problems or capitalise on opportunities presented (Steyn, 2007:3-4).

The heart of strategy formulation and formation lies in the conceptual work done by senior practitioners and the strategic decisions taken in co-operation with other organisational leaders. Strategy can be seen as the thinking - the logic behind the function's actions – the “what” rather than the “how”. Implementing strategy results in doing the right things, rather than only doing things right. It focuses first on impact and outcomes (an effectiveness approach), and then on process (an efficiency approach). Strategy is not the same as

communication plans, but provides the framework for the strategic and operational communication plans necessary to carry out the strategy. Strategy thus provides a new way of thinking about, defining and studying organisational and communication problems, and of evaluating the efforts of practitioners (Steyn, 2007:5).

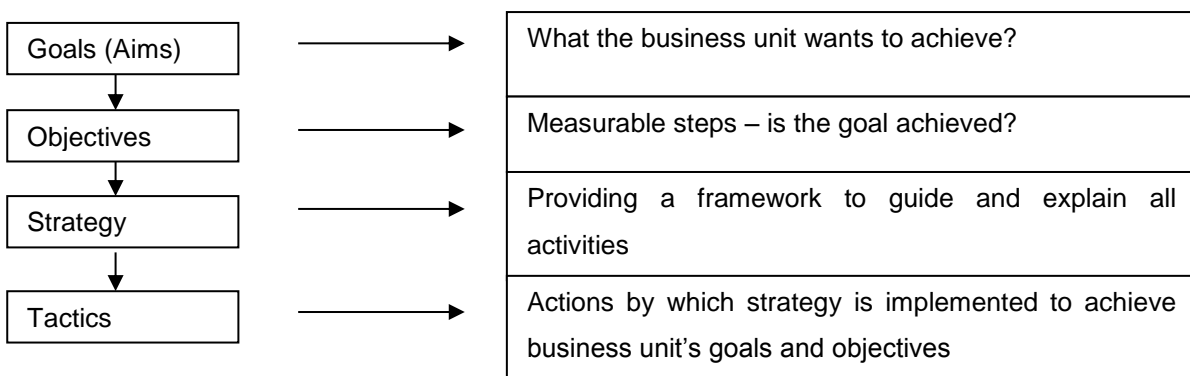
In conclusion, the development of strategy makes the function relevant in the strategic management process by providing the link between the communication plan/activities and the achievement of the organisation’s mission and top-level strategies. It provides an integrated, strategic approach needed by organisations for dealing with multiple stakeholders on multiple issues (Steyn, 2007:5).

➤ **The strategic management process**

Strategy is the discipline that seeks to explain why organisations do what they do, and how they can be changed to achieve a purpose. It is a purpose to which all members of the organisation can relate to and most importantly, it provides a framework for the effective and efficient tactics and operations necessary to carry out the strategy (Steyn & Puth, 2000:29). Once the strategy has been decided upon, strategic planning can begin. The selected strategy is then created for each business unit.

The following steps, (see Figure 12) illustrate how strategy can be placed in context with the other activities surrounding it (Steyn & Puth, 2000:31).

**Figure 12: Strategic management process**



Source: Steyn and Puth (2000:31).

Corporate communication practitioners formulate a corporate communication strategy based on the corporate strategy by identifying communication goals that support corporate

goals. The communication plans and programmes flow from the corporate communication strategy. Some communication practitioners also evaluate these programmes (Steyn & Puth, 2000:11-12).

Van Riel's 'window' function perspective refers to the preparation and execution of a corporate communication strategy, resulting in messages that portray all facets of the organisation. The mirror function entails the monitoring of relevant environmental developments and the anticipation of their consequences for the organisation's strategies and policies (Steyn & Puth, 2000:19).

Corporate communication practitioners help to accomplish an active outward orientation for the organisation, establishing a firm base for mutual understanding and co-operation with strategic stakeholders (Steyn & Puth, 2000:19), which incidentally covers different levels of strategic management.

The corporate communication strategist monitors the relevant environmental developments and anticipates their consequences for the organisation's policies and strategies, specifically with regard to an organisation's relationship with its stakeholders (Steyn & Puth, 2000:20). A corporate communication strategist makes inputs into an organisation's strategic decision-making process, thereby contributing to the development of the enterprise and corporate strategy (Steyn & Puth, 2000:19). This role is played at the macro or executive management level.

The communication manager furthermore makes communication policy decisions and is involved in all the communication decision making. The manager frequently uses research to plan or evaluate programmes and to counsel management. The communication manager is responsible for communication programme outcomes. The manager also viewed by others in an organisation as the communication expert; facilitates communication and relationships between managers and stakeholders; and facilitates and directs communication programmes (Grunig, 1992; Grunig & Hunt, 1992; Lauzen & Dozier, 1994:209; Moss, Warnaby & Newman, 2000:283; Toth, Serini, Wright & Emig, 1998:8).

The role of the communication technician is considered an implementation role at the micro organisational level (Steyn, 2002:16). Communication technicians do not participate in the management decision-making process, but implement communication products – thereby implementing the policy-decisions made by others. (The executive management



makes strategic decisions, specify actions and designate the communication directed at stakeholders.) The technician is not part of the management team, but prepares and produces communication material for corporate communication efforts (Lauzen & Dozier, 1992:209; Toth *et al.*, 1998:145).

The strategic managerial process's basic elements consist of planning, organising, leading and controlling also known as the P-O-L-C Framework (Carpenter, Bauer & Erdogan, 2013). If vision and mission are the heart and soul of planning (in the P-O-L-C Framework), then strategy, particularly strategy formulation, would be the brain.

Figure 13 summarises where strategy formulation (strategizing) and implementation fit with the planning and other components of P-O-L-C (Carpenter *et al.*, 2013):

**Figure 13: Strategizing in P-O-L-C**



Source: Carpenter *et al.* (2013).

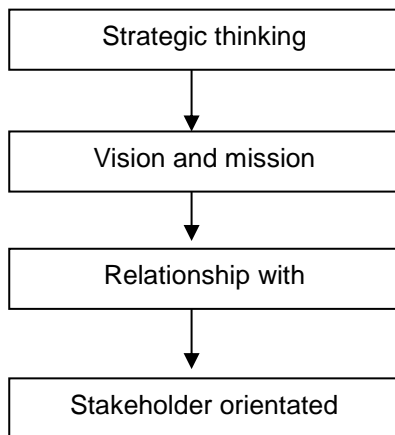
➤ **Levels of strategic management**

According to Steyn and Puth (2000:41-45) there are different levels of strategic management, namely enterprise strategy, corporate strategy, business unit strategy, functional strategy and operational strategies. These levels are explained below. Corporate communication strategy is formulated by a practitioner in the *redefined* role of the 'corporate communication manager', and is mainly derived from/influenced by the corporate/business unit's strategy (regardless of whether it is stated or not) and also delivers inputs into the enterprise strategy (Steyn, 2002:20).

## i. Enterprise strategy

It concerns the organisation's mission, purpose and role. It also addresses why the organisation exists. It influences the organisation's relationships with the long-term stakeholders - those who have an interest in what the organisation does. Enterprise strategy addresses questions like 'how is the organisation perceived by its stakeholders?' and 'what are stakeholder's values and expectations?' It can be said, (see Figure 14), that strategies at the enterprise level should be stakeholder oriented (Steyn, 2002:20).

**Figure 14: Enterprise strategy**

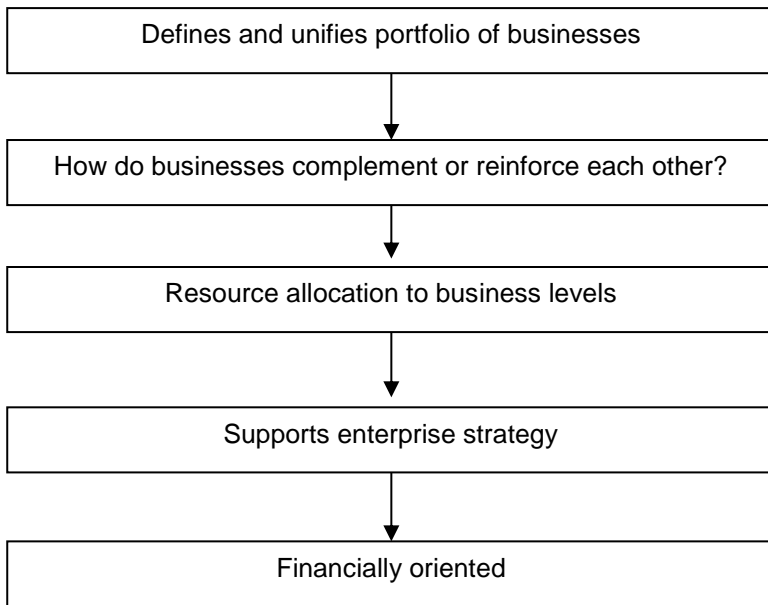


Source: Steyn & Puth (2000:42).

## ii. Corporate strategy

Corporate strategy addresses questions such as which portfolio of businesses the organisation should compete in and how they should be integrated. At the corporate level, strategies tend to be financially oriented, (see Figure 15) (Steyn, 2002:20). Corporate strategy can be described as the responsibility of the management for the organisation's financial performance.

**Figure 15: Corporate strategy**

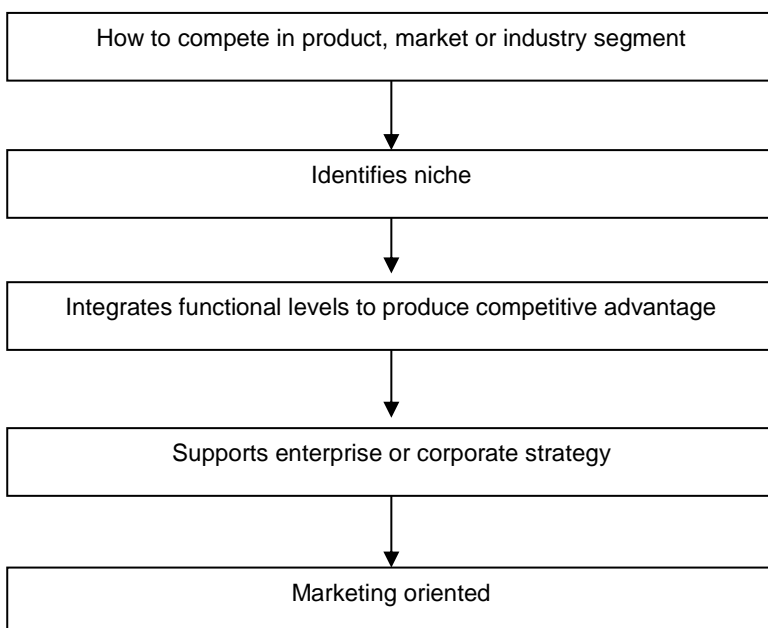


Source: Steyn & Puth (2000:43).

### iii. Business unit strategy

According to Steyn and Puth (2000:43) a business unit strategy “usually covers a single product or a group of related products, focusing on how to compete in the product or market industry segment.” At the business unit strategy, strategies tend to be marketing orientated (Steyn & Puth, 2000:44), illustrated in Figure 16 below.

**Figure 16: Business unit strategy**



Source: Steyn & Puth (2000:44).

#### **iv. Functional strategy**

The principal responsibility at the functional level is to implement the organisational/business unit's strategy. In its strategic role, corporate communication manages relationships between the organisation and its stakeholders (Steyn, 2002:20).

#### **v. Operational strategy**

At the operational level, organisational strategies are translated into 'action'. Management must establish short-term objectives and operational or implementation strategies that contribute to organisational goals. Implementation requires skills and dedication and as such defined roles exist to execute implementation (Steyn, 2002:20).

Having now obtained a clear understanding of corporate strategy and its purpose to provide direction to an organisation's activities by focusing them on its strategic goals and mission while ensuring that the methods used are in line with the environment and context in which the organisation operates. The following section can be seen as an extension thereof - the focus now shifts to communication strategy.

### **3.5.3 Communication and strategic management**

Communication is instrumental to the outcome of the management of organisations. Management is generally involved in crafting a strategic vision to enhance organisational effectiveness. The nature of the managerial process can establish the integral relationship of communication with managerial performance. Strategic management reflects what an organisation is doing to achieve its mission and vision, as seen by its achievement of specific goals and objectives (Carpenter *et al.*, 2013).

Strategic management falls under the domain, business management. Business management examines factors, methods and principles that enable an organisation to function as productively as possible so as to achieve its objectives. According to Cronje, du Toit and Motlatla (2009:24), one of the general approaches to management methods with the purpose of making an organisation function as productively as possible, is that of strategic management.

Nieman and Bennett (2002:14) state that organisations succeed if their strategies are appropriate for the circumstances they face, and feasible in respect of their resources, skills and capabilities. They argue that strategy is fundamentally about a ‘fit’ between the organisation’s resources and the markets targeted by it, as well as the ability to sustain ‘fit’ over time and in changing circumstances. Therefore, a strategic management process needs to be followed to understand the concept.

According to Carpenter and Saunders (2009:8-10), the strategic management process can be defined as “the process by which a business unit manages the formulation and implementations of its strategy” or another definition can be used where the strategic management process is “the coordinated means by which an organisation achieves its goals and objectives”.

“Planning and strategy formulation sometimes called business planning, or strategic planning, have much in common, since formulation helps determine what the organisation should do. Strategy implementation tells the managers how they should go about putting the desired action into place” (Carpenter *et al.*, 2013). The interdependency of management and communication can become a point of reference for an in-depth examination of communication.

#### **3.5.4 Aligning the corporate communication strategy with the corporate strategy**

Steyn and Puth (2000:53-76) conceptualised a model for the development of a corporate communication strategy that combines the dimensions of leadership, context and tactics. They also provide a comprehensive model for the different components of such a strategy, including the link to the corporate strategy; clarification of the internal and external organisational environments; identification of strategic stakeholders; identification and prioritising of key strategic issues; and the development of communication plans. This model focuses on the elevation of the contribution of the corporate communication division from purely tactical (functionary) practice to a key element of corporate strategy decision-making.

Siano, Vollero, Confetto and Siglioccolo (2011) state that organisational decision-making takes place at three levels: policy decisions at the strategic level, allocation decisions at the tactical level and coordination decisions at the operational level. All decisions are important in selecting new channels of communication. According to Siano *et al.* (2011),

when the organisation defines its strategic intent in the communication strategy, “it concerns decision-making in terms of identifying a desired position for an organisation and how it wants to be seen in terms of corporate reputation by its different stakeholder groups” (Siano, *et al.*, 2011:3).

Sandin and Simolin (2006:4) explain that strong relationships are based on trust and nothing establishes trust more than credibility (Marx *et al.*, 1998:560). Therefore, the primary goal of corporate communication is to promote an objective image among stakeholders that can manifest trust. Simply disseminating information about a good corporate image is not going to guarantee strong relations and trust. Stakeholder relations should be mutually beneficial and management need to be accountable to all stakeholders (Steyn & Puth, 2000:190).

The following hypothesis was developed to determine if the corporate communication strategy should address stakeholder perceptions about the business unit’s image.

**H18:** *The corporate communication strategy can address stakeholder perceptions about the University of Pretoria Centre for Sustainable Malaria Control and its image.*

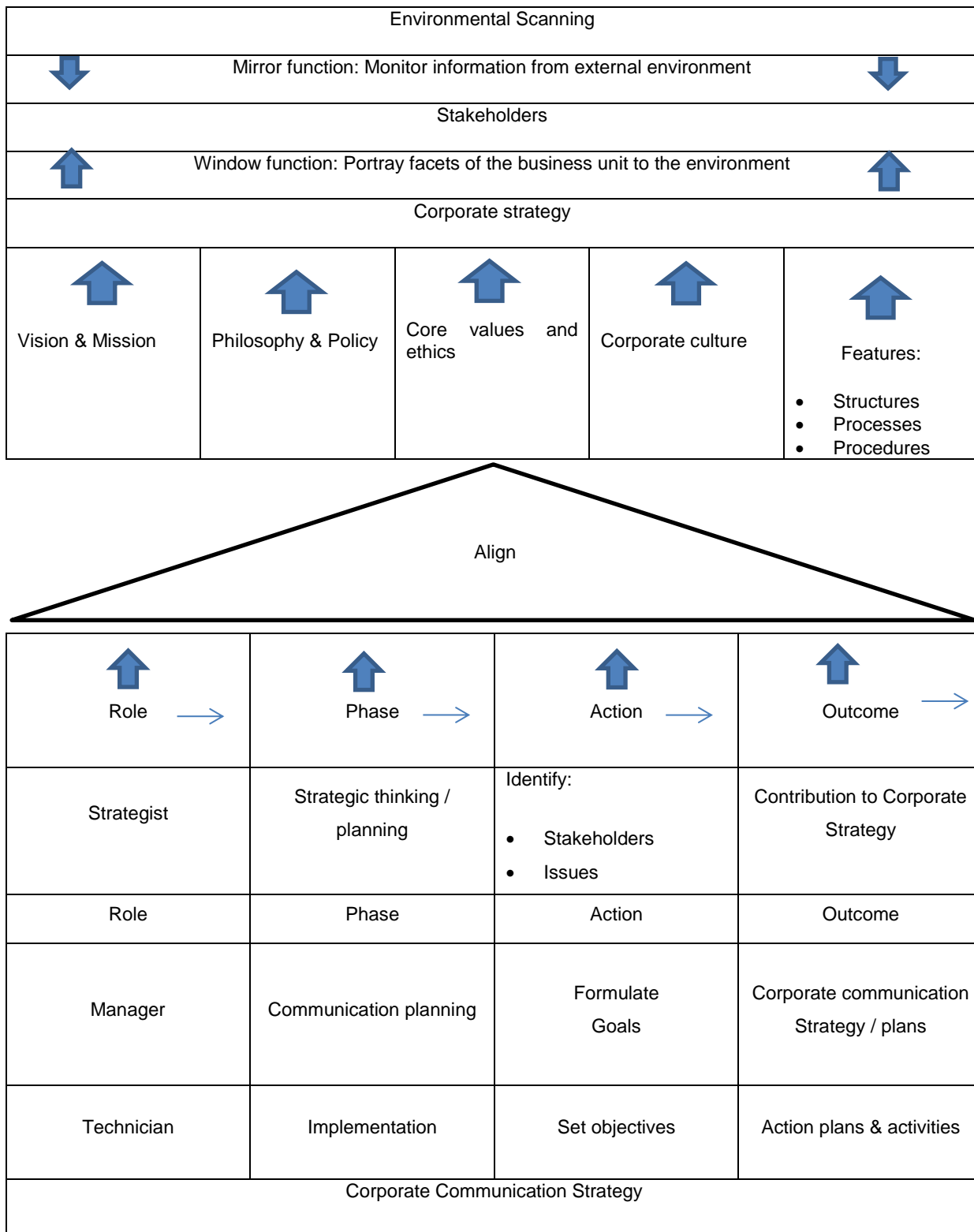
**H0:** *The corporate communication strategy cannot address stakeholder perceptions about the University of Pretoria Centre for Sustainable Malaria Control and its image.*

Grobler (in Verwey & Du Plooy-Cilliers, 2003:204) incorporates all the theoretical assumptions, dimensions and elements of Steyn and Puth’s (2000) model for a corporate communication strategy into a model for the alignment of strategic intent within the context of change. These ideas are illustrated in Figure 17.

The top half of Figure 17 summarises the dimensions of strategically managed corporate communication. The emphasis on stakeholder management is central to this process. The five elements of the corporate strategy are also defined as the key dimensions of corporate change.

The potential of this model lies in the emphasis on flexibility in all the dimensions of the bottom half of the Figure, for example, roles, phases, actions and outcomes. As such, this model refers to the fact that management must play an important role in the communication with stakeholders (Grobler, in Verwey & Du Plooy-Cilliers, 2003:204).

**Figure 17: Aligning the corporate communication strategy with the corporate strategy**



Source: Grobler (in Verwey and Du Plooy-Cilliers, 2003:204).

Strategic thinking also needs to be translated into planning. When operating as a communication manager, an individual will focus mainly on communication planning. Moreover, when operating at technician level, the implementation of plans would be the



focus. Each of these roles also has distinct spheres of influence regarding actions (Grobler in Verwey & Du Plooy-Cilliers, 2003:204).

At the strategic level, stakeholders and the identification of issues are central, while the formulation of goals and objectives pertain to the managerial and technician levels respectively. Finally, outcomes are also stratified according to three roles: strategic outcomes are mainly influenced from the strategic role; corporate communication planning is influenced by the manager role, while the technician's role bring different elements of the corporate communication strategy and plans to fruition through activities (Grobler in Verwey & Du Plooy-Cilliers, 2003:204). These activities are the wide spectrum of traditional and emerging tactics associated with communication management.

The usefulness of this framework for communication about science can be evaluated along the following dimensions, for example: advice to other departments about the management of communication and the integration of communication efforts of the organisation. The model also allows for flexibility in the structures or processes in the corporate communication division that will enable this function to both focus on current communication efforts and the continuous scanning of the internal and external environments. Thus, the scanning process is continuous in order to reflect the organisation's need for continuous adaption and learning (Grobler in Verwey & Du Plooy-Cilliers, 2003:204).

Finally, communication is the vehicle for diffusion of such learning: the communication strategy is that stakeholders will contribute to and appreciate the set of organisation's values that will allow the corporate communication strategy to function effectively.

### **3.5.5 Strategic communication**

Strategic communication is seen as “the strategic planning of communication in order to ensure effective internal communication”, thereby enabling the organisation to achieve its short- and long-term goals (Verwey & Du Plooy Cilliers, 2002:4). Hallahan *et al.* (2007:20) define strategic communication as “the purposeful use of communication by an organisation to fulfil its mission”. The effectiveness of communication in terms of relationships lies in its use as a strategic tool to achieve relationship goals and objectives (Ledingham & Bruning, 2000). Within the relational perspective, communication functions “as a strategic tool in the building and maintaining” of organisational relationships

(Ledingham, 2003:195). The communication within these relationships therefore needs to be strategic.

An organisation's communication system is a key tool for guiding and executing corporate strategy (Dolphin & Fan, 2000:99; van Riel & Fombrun, 2007:9). The most significant factor accounting for the "total behaviour of the organisation, is its communication system" (Walton in Broom *et al.*, 2000:16; Grunig, 1992:72). Walton states that the dynamics of the organisation can best be understood by understanding its systems of communication. When these systems of communication are aligned to attain organisational goals, the communication within these systems becomes strategic (Broom *et al.*, 2000:16).

Strategic communication assists an organisation to adapt to its stakeholder environment by feeding into the organisation's strategy formulation process intelligence with regards to strategic stakeholders. It also contributes to an organisation's success by building mutually beneficial relationships with these stakeholders through two-way communication (Steyn, 2007:1390).

Strategic communication management assumes communication to be a strategic management function at the strategic and macro level of an organisation (Steyn, 2007:139). Steyn (2007:137) also found that practitioners know they should function in the boardroom at a strategic level, but still focus on their technical communication skills and plans. A way in which practitioners can earn their place in the boardroom, as well as emphasise the importance of this organisational function, is by building mutually beneficial and sustainable organisational relationships with strategic stakeholders in the organisation's environment (Grunig, 2002:2). Grunig (2002) views strategic communication not only as a collective noun, but as a theory of corporate communication. Strategic corporate communication management is an extension of strategic management and corporate communication which is discussed below.

### **3.5.6 Strategic corporate communication management**

Steyn (2002) differentiates between strategic communication management and communication management. Steyn defines the role of the corporate communication function at the strategic, macro or societal level as "... identifying and managing stakeholders, issues and the interest groups that emerge around issues; assisting the organisation to adapt to its environment; influencing the organisation and its leaders to act

socially responsible, serving both their own and the stakeholders' interest by aligning organisational goals to societal goals – thereby obtaining legitimacy, trust ... building mutually beneficial relationships with the organisation's stakeholders ... on whom it depends to meet its goals”.

Communication management, according to Steyn (2002), entails, amongst others, the development of a corporate communication strategy at the functional level; setting corporate communication goals; and using public relations techniques to achieve these goals. Strategic corporate communication focuses on the boundary-spanning role of information acquisition, also called the mirror function of corporate communication performed by a practitioner in the role of the communication strategist. The window function of corporate communication entails communication management or information disposal – corporate communication strategy is developed by the practitioner in the role of the corporate communication manager, while corporate communication techniques execute communication plans to achieve goals (Steyn, 2002).

This study is based on corporate communication as a strategic management function and focuses on corporate communication management at the functional and implementation levels. The model for developing a corporate communication strategy from Steyn and Puth (2000) is used as a guideline for utilising communication about science, stakeholder relationships and social media as strategic contributors to the organisation/business unit's bottom line.

The following hypothesis describes the relationship between the corporate communication strategy and communication about science.

**H10:** *The corporate communication strategy can include communication about science.*

**H0:** *The corporate communication strategy cannot include communication about science.*

From a corporate communication perspective it is significant that Thomas and Robertshaw (1999:132) view communication as central to its strategic potential.

**Positioning the organisation** – The organisation is positioned strategically through communication. This view is congruent with Steyn and Puth's (2000) conceptualisation of the place of stakeholder maps in relation to corporate strategies and specifically a

corporate communication strategy. Communication is also viewed as the means through which organisations articulate their strategic intent and involve different stakeholders in relation to a strategic vision. The organisation has a commitment to open communication and dialogue to stakeholders in order to communicate more effectively and stakeholders would feel safe to contribute to the organisation's activities.

The following hypothesis describes the relationship between the corporate communication strategy and effective stakeholder communication.

**H11:** *The corporate communication strategy can include effective stakeholder communication.*

**H0:** *The corporate communication strategy cannot include effective stakeholder communication.*

**Management consensus** – The management have an important role to play in the organisation and their commitment to the strategic process to communicate about issues to its stakeholders.

**Communication with stakeholders** – This is based on the goal of obtaining support for the communication efforts, before proceeding with the formulation of the corporate communication strategy (Thomas & Robertshaw, 1999:137).

**Ongoing communication with stakeholders** – This suggests that communication with stakeholders ought to be continuous. The conceptualisation of communication plans flowing from a communication strategy again reflects the thinking of Steyn and Puth (2000). As for this study, ongoing communication should take place between the organisation and its stakeholders to ensure that no misunderstandings occur about information on the enterprise unit's strategy. The clarification of these terms would be a prerequisite for any other communication efforts. The organisation needs to take consideration of the stakeholders' different needs and a multitude of communication channels. From a corporate communication perspective, such advice is as important as strategic advice (Thomas & Robertshaw, 1999:137).

Thomas and Robertshaw (1999:29) argue that a comprehensive communication strategy should be formulated even before organisations embark on a change path. The key

variable in the formulation of such a strategy is the dynamic nature of various stakeholders.

Developing good communication skills is the key to personal and business success. Organisations can only function effectively if people are able to share their knowledge and ideas, which means that organisations can only reach their goals through effective communication (Fielding & du Plooy-Cilliers, 2014:1).

The communication between the organisation and its stakeholders can implement the two-way symmetrical model to understand its key stakeholders. It presents the classic win-win situation, and implies that both the organisation and its stakeholders are benefitting (Botan & Hazelton, 1989:29; Dozier *et al.*, 1995:13). The organisation is adjusted to fit the environment. It requires bargaining, negotiating, and using strategies of conflict resolution to bring symbolic changes in the ideas, attitudes, and behaviours of the organisation and its stakeholders (Botan & Hazelton, 1989:29; Dozier *et al.*, 1995:13).

The two-way symmetrical model attempts to balance interests of the organisation and its stakeholders; is based on research; and uses communication to manage conflict with other stakeholders. As a result, two-way symmetrical communication produces better long-term relationships with stakeholders. Communicators can develop relationships more effectively when they communicate with stakeholders symmetrically (Botan & Hazelton, 2009:47-55).

The following hypothesis is developed to describe the relationship between the corporate communication strategy and two-way symmetrical practices.

**H12:** *The corporate communication strategy can include two-way symmetrical practices.*

**H0:** *The corporate communication strategy cannot include two-way symmetrical practices.*

As discussed earlier, the asymmetrical model of communication does not meet all the requirements for communication between the organisation and its stakeholders to be effective, but will nevertheless be addressed in this study. The following hypothesis was consequently developed to account for the relationship between the corporate communication strategy and the two-way asymmetrical practices.

**H13:** *The corporate communication strategy can include two-way asymmetrical practices.*

**H0:** *The corporate communication strategy cannot include two-way asymmetrical practices.*

### **3.6 COMMUNICATION STRATEGY**

#### **3.6.1 Corporate communication strategy**

Corporate communication strategy is based on a definition of corporate communication as a management function; assisting the organisation to adapt to its environment by achieving a balance between commercial imperatives and socially acceptable behaviour; identifying and managing issues and stakeholders; and building symbolic and behavioural relationships through communication with those on whom the organisation depends to meet its economic and socio-political goals (Steyn, 2002:20).

Corporate communication strategy is developed within the context of the organisation's vision, mission, corporate culture, policies and strategies (the internal environment), but focuses on an assessment of the external environment. It is the outcome of a strategic thinking process by senior communication practitioners and top managers, taking strategic decisions with regard to the identification and management of, and communication with, strategic stakeholders. It is therefore a mechanism that leads the function towards effectiveness (doing the right things) rather than towards efficiency (doing things right) (Steyn, 2002:21).

Corporate communication strategy can be seen as a pro-active capability to adapt the organisation to changes in stakeholder perceptions and opinions (through environmental scanning and boundary spanning activities) (Steyn, 2002:21). Corporate communication strategy makes the communication function relevant in the strategic management process through its focus on communication with strategic stakeholders, aligning communication goals to the operational mission (Steyn, 2002:21).

Creating an overall communication strategy can help bring coherence to all the various communication plans of the organisation. Such a strategy 'provides focus and direction for an organisation's communication, building relationships with strategic stakeholders ... and provides the framework for the communication plans necessary to carry out the strategy' (Steyn & Puth, 2000:179).

Since organisations cannot attend to all issues, and all stakeholders do not care equally about specific issues, corporate communication strategy provides the strategic approach needed by organisations to pro-actively identify, classify and prioritise issues and stakeholders to integrate them into a ‘corporate community’ (Steyn, 2002:21).

Integrating issues into the corporate community requires a carefully designed communication strategy, which is explained below.

### **3.6.2 Designing a communication strategy**

A communication strategy is essential. Every day, communication strategies unfold all around us. A communication strategy is not the glue between different communication products: it is a means of elaborating how organisations network, participate and interact with stakeholders. Good communication reflects a two-way dialogue, where one party listens to what its audience want, design and deliver an audience-informed strategy, and then gather feedback to assess achievement (Research matters KT Toolkit, 2008:1-2).

Every organisation requires a dynamic communication strategy to influence decisions, learn how to integrate communication from top to bottom internally, externally and across all their activities. Organisations need to see communication as a vehicle that is not only helpful but essential to achieving core goals (Research matters KT Toolkit, 2008:1-2).

The researcher, in collaboration with the organisation, will consider the following essential elements in their attempt to develop a communication strategy. Addressing these elements will provide a snapshot of the organisation’s image, what they want to say to their stakeholders, who they want to influence, and how well to do that. The essential elements are (Research matters KT Toolkit, 2008:1-24):

**Review** – To review is a way of determining how communication from the organisation was perceived by its stakeholders (Research matters KT Toolkit, 2008:1-24).

**Objective** – The organisation’s objective is more effective communication between the organisation and its stakeholders (Research matters KT Toolkit, 2008:1-24).

**Audience** – Identified primary and secondary stakeholders of the organisation. A thorough understanding of the audience is fundamental. The better the organisation knows its stakeholders and what they need to understand about the organisation’s work, the better



the chances to influence them by means of effective communication (Research matters KT Toolkit, 2008:1-24).

**Message** – The message content are designed either for multiple stakeholders or multiple messages for multiple stakeholders. In the case of the organisation it is important to note that all stakeholders should be reached by receiving the same message, however, it may require at times to tailor the message for a specific stakeholder’s requirement (Research matters KT Toolkit, 2008:1-24).

**Basket** – The basket is the communication tool to best capture and deliver messages - this will be determined by the content and the objective of the message and could take the form of telephone calls, newsletters, seminars, workshops, focus groups, conferences, face-to-face meetings, scheduled reports, social media platforms including Facebook, Twitter to name a few, websites and policy briefs (Research matters KT Toolkit, 2008:1-24).

**Channels** are identified within existing capabilities. This is all about delivering the right message to the right stakeholder on time through the most suitable medium, as this dictates who receives the message. To have an impact, the message must be seen and heard by the right people; therefore, it requires a strategy to choose the correct channel to get the message across to stakeholders (Research matters KT Toolkit, 2008:1-24).

For the purpose of this study, the channels that need to be considered are traditional and social media channels. Therefore, the following hypothesis was developed to determine if the corporate communication strategy should include traditional media channels.

**H14:** *The corporate communication strategy can include traditional media channels.*

**H0:** *The corporate communication strategy cannot include traditional media channels.*

The following hypothesis was developed to determine if the corporate communication strategy should include social media channels.

**H15:** *The corporate communication strategy can include social media channels.*

**H0:** *The corporate communication strategy cannot include social media channels.*

**Resources** can be for the available budget, skills and hardware. It must be borne in mind that communication can be expensive as it requires high quality materials and methods to be effective. Over and above this, there is a need for people with skills to use those methods efficiently. Organisations must be realistic about what actually can be achieved taking into account hidden costs around certain tools. Therefore, an organisation must determine what type of resources is needed to assure that the communication is effective between the organisation and its stakeholders (Research matters KT Toolkit, 2008:1-24).

**Timing** - Setting realistic deadlines in communication can be tricky – especially when one takes to heart the ideas of listening, learning and adapting, and being reactive and responsive. A second timing point relates to any obvious or potential events the organisation may capitalise on. These could include conferences bringing together key stakeholders, or scheduled performance briefs (Research matters KT Toolkit, 2008:1-24).

**Brand**-This means getting the organisation's message across. The organisation must be both recognisable and consistent in its communication as the brand tells the stakeholders at a glance, who and what they are, what they want to be seen and remembered as - in essence the brand represents everything they do (Research matters KT Toolkit, 2008:1-24).

**Feedback** is the measurement for success. Feedback will indicate whether the communication strategy is successful. This is essential information, as the organisation needs to know which of its communication efforts are hitting their targets and which are missing. It is critical to know how the stakeholders receive communication and how their perception of the organisation might be changing (Research matters KT Toolkit, 2008:1-24).

These essential elements illustrate the truths of communication namely (Research matters KT Toolkit, 2008:1-24):

- Only communicate the known to the stakeholders
- Communication is a two-way process - effective listening leads to fully meeting the needs of the stakeholders
- Effective communicators from organisations know what stakeholders need to know
- Communication is a visible activity which requires delicacy to prevent it from causing damage by sending the wrong message

- Correct communication tools should be developed to fit the available channels for messaging
- Messages should respect stakeholders
- Communication ability and limits must be understood and respected
- Learn from communication mistakes and improve future communication.

### **3.6.3 Sketching out a communication strategy**

Based on evidence to be obtained from pursuing the essential elements, results from the survey conducted, identification of stakeholders, a range of possible messages, and a proposed budget, the researcher will proceed to develop a corporate communication strategy influenced by all of these variables. Initially it was determined what the organisation wants to accomplish from communication with stakeholders with all identified objectives, hypotheses and constructs considered. Described as the indication of an organisation's position for the future, the strategy is determined for the purposes of overcoming the present and the future challenges that an organisation faces (Ritter, 2003:44; Steyn & Puth, 2000:29).

Consequently, it is common practice in most organisations to implement a corporate strategy that guides the organisation towards an intended purpose. The strategy is the organisational plan for a predetermined period, to motion towards a common goal while simultaneously creating synergy amongst stakeholders. In this way, the popularity of strategies has become a universal ballade, in almost every existing organisation (Shackleton, 2007:1).

The success of an organisation is determined by the ability of the corporate strategy, to direct the organisation through unpredictable external forces. This surety obtained, by firstly designing a strategy that matches the organisation's abilities, and secondly by insuring the strength of the strategy's effectiveness with consistent measurement, before, during and after the strategy has been implemented.

In determining the strength of the strategy, David (2003:14) provides a comprehensive corporate strategic-management model, that emphasises the strategy evaluation phase. David (2003:14) explains that strategic evaluation is the determining success factor, when organisations are faced with dynamic environments, where key internal and external

factors change quickly and dramatically. Effectively measuring the corporate strategy, involves understanding and measuring its design and strength.

The strength of the corporate strategy is also determined by the consistence of each department's performance measurement, as well as the effectiveness of the appropriate corrective action. Each entity's measurement instrument, should evaluate the correct facets of their performance, to avoid overlooking valuable contributions or worse; to be measured in inappropriate areas. More importantly, output metrics are meaningless, unless they are compared against goals and objectives (VMS, 2006c).

Steyn and Puth (2000:2-21) suggest that the compelling reason for this battle, is the lack of strategic understanding within the corporate communication function. The creation of a corporate communication strategy, originating from the corporate strategy, is suggested and tutored along with other strategic perspectives, to assist practitioners in bridging the gap. This reputable work has significantly contributed towards the emphasis of strategic alignment between entities – otherwise seen as the design of the strategy. A need, however, to differentiate the grey area around the alignment of strategic strength, still exists.

An old saying re-emphasised by Puth (2002:92), clarifies the above grey area, “what gets measured, gets managed”. Currently, only a few of the widely adopted organisational performance measurement models incorporate the measurement and evaluation of corporate communication as a function, which has continued to be a challenge for communication over many years (PR influences, 2006).

Despite the corporate communication practitioners' efforts to align departmental strategies with the corporate strategy, the inability to present measurement information that co-exists with the rest of the organisation, only widens the gap between executives and communication practitioners. It is noted in PR Influences (2006) that, “practitioners are constantly told that they need to demonstrate how their efforts effect the organisation's bottom line in order to compete with other departments for a slice of the budget'. Problems with the existing communication measuring outcomes are that it is often difficult to isolate the effects of communication, from other factors, such as communicating about science, research and development”.

Additionally, the most obvious problems with measuring communication results are that they have been difficult to relate back to actual business outcomes (VMS, 2006). This reveals the frightening dilemma that a need exists for a corporate communication strategy framework, which captures the true contributions of corporate communication.

#### **3.6.4 Steyn and Puth's model for developing a corporate communication strategy**

In the public relations / corporate communication literature, there are three models (Grunig & Repper; Moss & Warnaby; and Steyn & Puth) that seem to refer to the development of corporate communication strategy as a *functional* strategy (Steyn, 2002:17-18). For the purpose of this study Steyn and Puth's corporate communication strategy model will be discussed.

A corporate communication framework needs to be developed following a strategic thinking process. The communication strategy framework establishes a profile against which ongoing corporate communication decisions are tested and is at the same time a framework for the strategic communication plan. It determines what the corporate communication function should be doing in support of the enterprise and corporate strategies (Steyn & Puth, 2000:52-53).

A communication strategy seeks to describe the business challenges that exist; their relationship to communication variables; and the best practices the organisation is attempting to employ. A key step in formulating strategy is for management to decide on a clear set of messages, and then to communicate them consistently to all stakeholders. A communication strategy needs to develop a common understanding; therefore, strategy is action, engagement and dialogue. An emphasis on process focuses attention on the ongoing management of relationships, and helps root the notion of communication strategy in the managerial ethos of the organisation (Tourish & Hargie, 2009:396). Many case studies and research document the impact of effective stakeholder communication.

The Corporate Executive Council (2005) is explicit in connecting communication effectiveness and stakeholder engagement, saying: "an organisation's ability to communicate - specifically, to lay out a vision of its strategy and direction that is clearly understood by its stakeholders and linked to their day-to-day lives is important not because communicators asserts that it is, but because stakeholders cite it as the most important driver of their commitment to the organisation" (Tourish & Hargie, 2009:396).

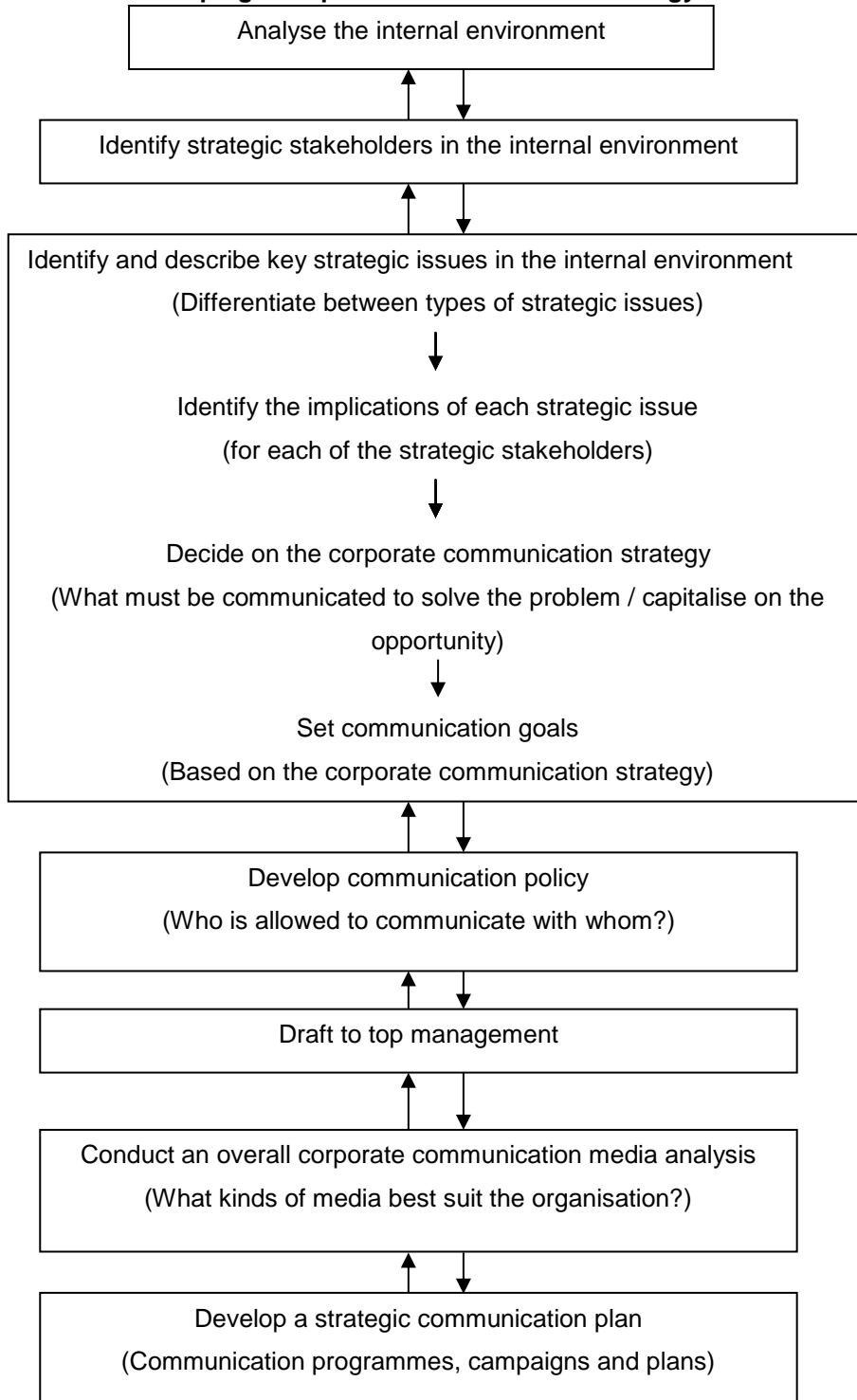
The above mentioned are considered elements required to assist in structuring a corporate communication strategy framework. None of the frameworks have been previously labelled as 'models', thus the principle of 'frameworks' will be retained in this Chapter. Furthermore the concept 'framework' accurately reflects the philosophy from the communication theory. Thus, efforts to integrate older and emergent ideas into a framework are collectively labelled as 'a conceptual framework' (Tourish & Hargie, 2009:396).

The model for developing corporate communication strategy (Steyn & Puth, 2000:63-75; Steyn, 2002:19-20) focuses on the identification of strategic issues (both organisational and communication) and the setting of communication goals to solve the problems or capitalise on the opportunities presented by the issues.

The model in Figure 18 consists of an analysis of the organisation's internal environment, as well as the stakeholder and issues analysis of the external and internal environment by means of environmental scanning. The organisation's key strategic issues (strategic organisational, strategic communication and tactical communication issues) are identified. The impact of these strategic issues on each of the stakeholder groups are identified and become the focus of the communication with the strategic stakeholders (Steyn, 2002:19). Communication goals to be addressed in the implementation phase are developed based on the corporate communication strategy for each strategic issue (Steyn & Puth, 2000:63-75).

The corporate communication strategy should reflect the enterprise/corporate and business unit strategy. Strategy formulation and strategic planning in an organisation are therefore a prerequisite for developing a sound corporate communication strategy; it provides focus and direction to the communication and creates synergy between the enterprise/corporate strategies and the corporate communication strategy (Steyn & Puth, 2000:52-53).

**Figure 18: Model for developing a corporate communication strategy**



Source: Steyn & Puth (2000:63).



**i. Analyse the internal environment**

Corporate communication strategy focuses on an assessment of the external environment (Steyn, 2002:22). The internal environment in the organisation will also impact on the development of a corporate communication strategy. In order to understand the internal environment, the corporate communication practitioner must study the corporate profile, vision, mission, corporate values, corporate philosophy, corporate culture and corporate policy of the organisation (Moss & Warnaby, 1997:65; Steyn & Puth, 2000:54-57).

The organisation's mission is its purpose; the definition of its role in society and in the economy. The mission is derived from the values of the stakeholders.

**ii. Identify strategic stakeholders**

The key component that the communication function should be anchored around is the organisation's stakeholders. The overall strategic management of an organisation is inseparable from the strategic management of relationships with stakeholders. Relationships can be managed after the different stakeholders have been identified (Steyn & Puth, 2000:64).

An organisation's strategic management is interrelated with the strategic management of its relationships (Steyn & Puth, 2000:64). The management of these relationships is the responsibility of the corporate communication department. Harrison and St John (in Steyn, 2002:13) define stakeholder management as "...communicating, negotiating, contracting and managing relationships with stakeholders and motivating them to behave in ways that are beneficial to the organisation and its other stakeholders".

It is therefore important to determine if the corporate communication strategy should support long-term stakeholder relationships. The following hypothesis was developed to determine this.

**H16:** *The corporate communication strategy can support long-term stakeholder relationships.*

**H0:** *The corporate communication strategy cannot support long-term stakeholder relationships.*

### iii. Identify and prioritise key strategic issues

Strategic issues are developments, events and trends that are considered consequential by an organisation's management because of the potential to influence the enterprise unit's strategy. Not all issues are therefore strategic. It is the role of the senior communication practitioner to identify these key strategic issues and to demonstrate, by means of the corporate communication strategy, how communication can provide solutions to key organisational problems (Steyn & Puth, 2000:64).

For the purpose of this study is malaria related issues an important concept to discuss and it is therefore necessary to determine if the corporate communication strategy should support mutual understanding about malaria related issues. The following hypothesis was developed to determine this.

**H17:** *The corporate communication strategy can support mutual understanding about malaria related issues.*

**H0:** *The corporate communication strategy cannot support mutual understanding about malaria related issues.*

### iv. Identify implications of strategic issues for stakeholders

An important step in developing the corporate communication strategy is to identify the implications that key strategic issues will have for strategic stakeholders. The business issues need to be understood to determine what the implications for strategic stakeholders might be. Organisations must identify, assess and address the implications that key strategic issues will have or already have for their strategic stakeholders (Steyn & Puth, 2000:69-70).

### v. Decide on the corporate communication strategy

A corporate communication strategy is not the same as a corporate communication plan. Rather, it indicates the direction that an organisation needs to take with regard to its communication with stakeholders. A corporate communication strategy should support the corporate strategy, and should help an organisation to compete more effectively by identifying 'what should be communicated' to stakeholders (Steyn & Puth, 2000:70).

**vi. Set communication goals**

A communication goal is the destination to be reached by means of the organisation's communication. Based on the corporate communication strategy, which identifies what should be communicated about, communication goals are developed to indicate what the organisation wants to achieve with its communication regarding the situation described (referring to the strategic issues and their implications for the stakeholders). 'In the process of developing a corporate communication strategy the step of goal setting is the link between the corporate communication strategy and the communication plan' (Steyn & Puth, 2000:71).

**vii. Develop a communication policy**

A good corporate communication strategy should include a clear policy statement. The policy can deal with functional communication areas (internal communication); functional relationships between corporate communication and other departments; the structure of the corporate communication department; hierarchical orientation and lines of command; and corporate communication goals and objectives (Steyn & Puth, 2000:71).

**viii. Submit a draft of the corporate communication strategy to management**

Top management should be kept up to date with the different steps during the development of the corporate communication strategy. They should be informed of the logic that guided the formulation of the strategy, and in which way communication will provide a solution to organisational problems.

It is critical that the directors of the organisation are kept informed of the logic that guides the formulation of the corporate communication strategy (Steyn & Puth, 2000:72). The more the directors understand the process and the reasoning behind the strategy, as well as how the strategy contributes towards the bottom line of the organisation, the easier it will be to obtain the necessary funds to implement the strategy.

**ix. Conduct a media analysis**

The purpose of the overall media analysis is to investigate the different communication media that might be suitable for the specific and its stakeholders. In the communication strategy phase, the aim is not to identify specific media for communication plans, but

rather to establish broad guidelines as to different kinds of media that might be considered. Communication media can range from interpersonal media (face-to-face), to group or organisational media (meetings) (Steyn & Puth, 2000:73).

#### **x. Develop a strategic communication plan**

Here planning is placed in context with strategy. The strategic communication plan is the framework within which communication programmes, (continuous communication with strategic stakeholders, communication) campaigns and communication plans, (developed to achieve specific communication goals) are developed (Steyn & Puth, 2000:73).

#### **3.6.5 Implementing a communication strategy**

Four key stages have been identified by Tourish and Hargie in 1996 (Tourish & Hargie, 2009:398) to implement a communication strategy:

- Secure senior management commitment;
- identify current practice;
- set standards to measure success;
- incorporate this process into the business planning cycle (and psyche) of the organisation.

A communication strategy means involving all management and staff in identifying goals, standards of good practice, methods of evaluation, and the key channels that will be employed. The strategy should be codified into a communication plan, defined as “a written statement of what communication actions will be taken to support the accomplishment of specific organisational goals” (Potter, 2006:85). In essence, the communication plan deals with how the enterprise unit’s strategy will be communicated to its key stakeholders.

Within this framework and with management involvement, a basis can be laid for transforming patterns of communication, organisational structures, level of involvement and ultimately, key business outcomes.

Argenti (2007:139) pointed out that the most appropriate way to ascertain how effective an organisation’s communication efforts is, is ‘by determining what stakeholders’ attitudes/perceptions are about the organisation. This can be done through a

communication audit (For the purpose of this study a questionnaire will be used. Based on the results, the business unit's management can implement the corporate communication strategy framework that will be developed during this study).

In operationalising the concept corporate communication strategy, the researcher draws from Steyn & Puth (2000) model for developing corporate communication strategy that were discussed earlier in this study.

Steyn's model adds an analysis of the internal environment and points out the need for identifying, prioritising and differentiating between strategic organisational issues, strategic communication issues and tactical communication issues. The implications of the strategic issues on each stakeholder group are identified and become the focus of the communication with strategic stakeholders (Steyn & Puth, 2000).

Focusing the efforts of the corporate communication function within a functional strategy, linked to the enterprise strategy, will assist in proving its contribution to organisational effectiveness. In order to formulate corporate communication strategy, practitioners will need to understand the business and societal issues that the organisation/business unit is facing and be expert in using communication to help remove barriers to success. To add value organisations need to look at how they can address business problems with communication solutions, communication is expected to get more involved in the development of business strategy, policy and positioning.

### **3.7 CONCLUSION**

In this Chapter, a detailed discussion of the concept corporate communication was embarked on to assist in obtaining a thorough understanding of the problem statement. The problem statement is '*that many of the University of Pretoria Centre for Sustainable Malaria Control's traditional communication efforts towards its long-term stakeholders about malaria-related issues are not strategically sustainable, and in many cases, not effective*'. It is suggested that a conceptual framework for a more formal and sustainable corporate communication strategy be developed for the strategic management of communication about science at the University of Pretoria Centre for Sustainable Malaria Control".

Topics of discussion in this Chapter included: the definition of stakeholders; stakeholder management; stakeholder engagement, opinions, expectations and stakeholder perceptions; and the relationships between organisations and stakeholders.

The research literature demonstrated that running organisations based on stakeholder relationships is a feasible management alternative, especially for organisations with multiple- and a variety of stakeholders as is the case with academic business units. Nevertheless, the classification of stakeholder importance is not in itself enough. It is necessary to understand relationships so as to engage in actions able to meet stakeholder demands on the organisation. Managing the relationships with each stakeholder should furthermore pay attention to how these are guided by the organisation's actions and initiatives established with the purpose of creating, building and strengthening the organisation's bonds with each respective stakeholder (Mainardes *et al.*, 2012:1875).

This Chapter continued with literature relating to corporate communication strategy, corporate strategy and communication strategy. The researcher will apply all of the above concepts in designing the proposed communication strategy framework, to suggest a profile against which ongoing corporate communication decisions are tested. A requirement will be for the framework to correspond with the strategic communication plan. Together it should determine what the corporate communication function must be doing in support of the enterprise, corporate and business unit strategies.

Now that important elements of corporate communication and stakeholder's literature have been reviewed, the next Chapter of this dissertation will follow with discussing the methodology. The Chapter on methodology will mainly focus on: sampling; the operationalisation of the research instrument; statistical procedures; as well as reliability and validity of the instrument.

## CHAPTER 4: METHODOLOGICAL ORIENTATION

### 4.1 INTRODUCTION

As discussed in Chapter 1, the researcher has decided to use a survey for the purpose of gathering information for this study. The researcher is confident that the data gathered in the research, will provide a clear understanding of the level of communication about science at the University of Pretoria Centre for Sustainable Malaria Control (UP CSMC). It will also provide a comprehensive look at the theoretical background of the organisation and its long-term relationships with stakeholders. Undoubtedly the results will conceptualise this relationship as the stakeholder's perceptions toward the organisation contribute to establishing or maintaining long-term positive relationships. The stakeholders' perceptions of the organisation's communication about science can be considered as the essence of the relationship between it and its stakeholders.

Recommendations will be provided by the researcher, guided by the independent opinion of respondents, leading on to either further extend current practice or implement a change of plan to bring about a turnaround strategy.

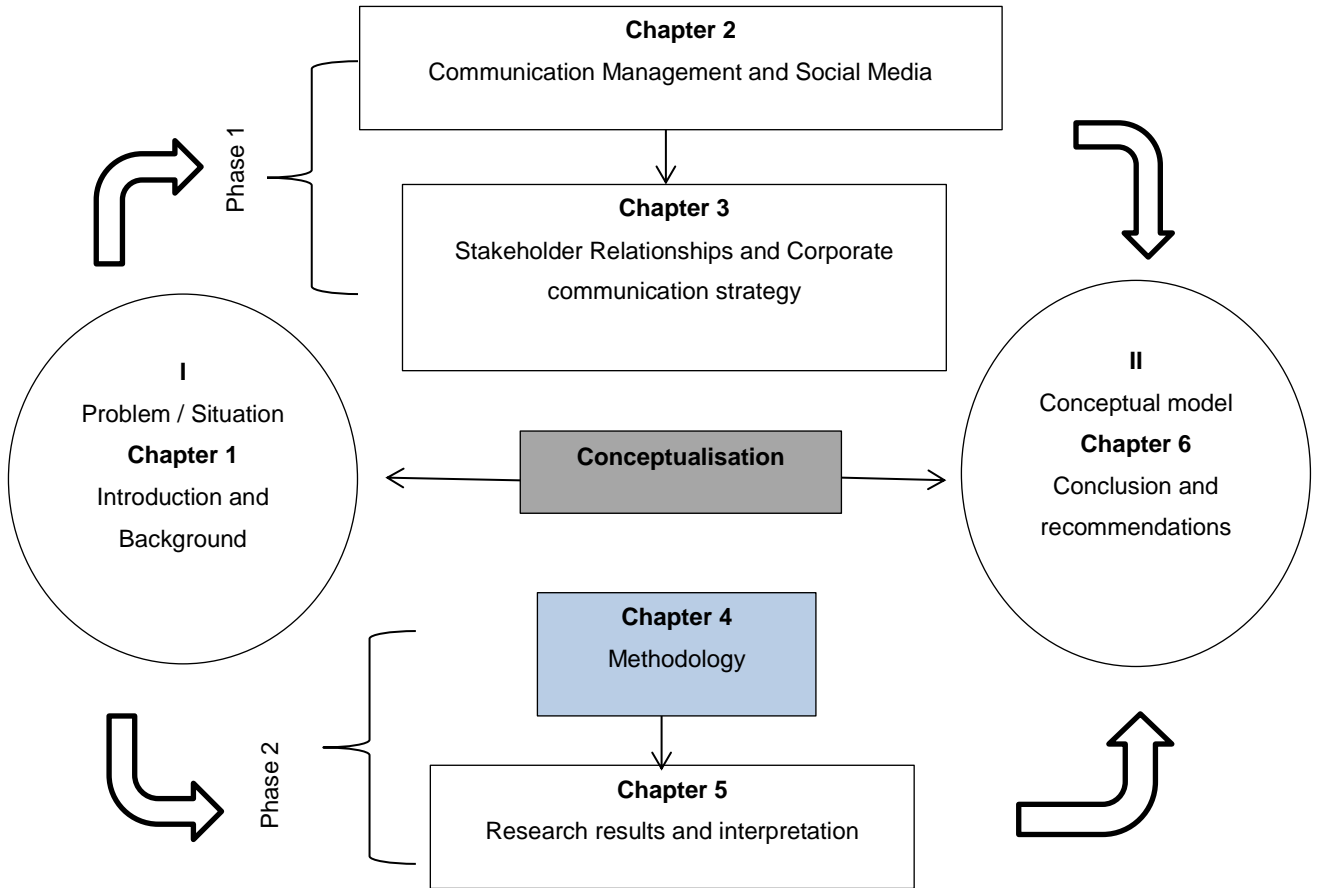
In the previous chapters, main theoretical constructs related to the concepts of *communication management*, *social media*, *stakeholder relationships* and *corporate communication strategy* were covered in depth. This Chapter explains the process for the empirical research phase of the study and the research procedures and techniques that were used. As can be seen in Figure 1, this Chapter is part of the conceptualisation process in the Mitroff *et al.* (1974) model of problem solving and focuses on the methodology through which an empirical understanding of the problem is developed.

The decisions made with regard to the research design and method for this study was influenced by the research objectives and the conceptual framework developed in Chapter 1, as well as the theory and literature discussed in Chapters 2 and 3. In general, Chapter 4 will provide an overview of the research design and methodological aspects, specifically with regard to this study's hypotheses and target sample, as well as the developed measurement instrument. The purpose of this Chapter is to focus specifically on the methodology in the empirical research phase of the study, and will address the research



procedures and techniques to be used in the study. Figure 19 highlights this Chapter's position in relation to the rest of this study.

**Figure 19: Chapter 4 in relation to the other chapters**



Source: Mitroff *et al.* (1974).

Diamantopoulos and Schlegelmilch (2000:220) state that the methodology of a study includes a precise definition of the population that was studied, and provides detailed information on the sample size, sampling procedure, response rate, the research instrument and the way the variables are measured. The sections below address how the research objectives were measured and analysed. Stakeholder perceptions played a central role in all the stated objectives.

The methodological orientation of how these relationship outcomes are measured is provided in this Chapter, as well as a discussion on the development of the measurement instrument; its reliability and validity; the data processing and analysis that were conducted; and the ethical considerations that were associated with the research.

## 4.2 CONCEPTUALISATION

According to Mouton (1996:109), conceptualisation firstly refers to the clarification and analysis of the key concepts in the problem statement; and secondly, to the integration of the study into a theoretical framework.

### 4.2.1 Research problem and objectives

The problem addressed in this study is *that many of the University of Pretoria Centre for Sustainable Malaria Control's traditional communication efforts towards its long-term stakeholders about malaria-related issues are not strategically sustainable, and in many cases, not effective.*

It is suggested that a conceptual framework for a more formal and sustainable corporate communication strategy be developed for the strategic management of communication about science at the University of Pretoria Centre for Sustainable Malaria Control. The pragmatic corporate communication strategic plan, in support of the scientific corporate communication strategy framework, will involve the enterprise unit (University of Pretoria), the business unit (Centre for Sustainable Malaria Control of the University of Pretoria), and their stakeholders as the key role players. Mutual understanding between the business unit and its stakeholders about malaria related issues must be reached to develop sustainable and long-term relationships with the UP CSMC's stakeholders through the corporate communication strategy framework, making use of, amongst others, social media.

The objectives stated for the study relates to the stated hypotheses. Table 7 summarises the stated objectives and their associated hypotheses, which are in turn illustrated in Table 8.

**Table 7: Summary of objectives and their associated hypotheses**

OBJECTIVE	KEY OBJECTIVE MEASURED	HYPOTHESES ASSOCIATED WITH OBJECTIVE
Primary objective	To develop a corporate communication strategy model for the University of Pretoria Centre for Sustainable Malaria Control (UP CSMC).	H1 – H18
Secondary Objectives	To determine whether communication about science can take place through effective stakeholder communication.	H1; H2; H4; H8; H10; H11
	To determine whether communication about science can take place through traditional media channels.	H1; H2; H4; H8; H10
	To determine whether long-term stakeholder relationships can be established by using traditional media channels.	H2; H3; H5; H6; H7; H9; H14; H16; H17
	To determine whether communication about science can take place through social media.	H1; H2; H4; H5; H8; H10; H15
	To determine whether long-term stakeholder relationships can be established through social media channels.	H3; H4; H5; H6; H7; H9; H15; H16; H17
	To determine whether long-term stakeholder relationships can be enhanced through two-way symmetrical communication.	
	To determine whether long-term stakeholder relationships can be enhanced through two-way asymmetrical communication.	H3; H5; H6; H7; H9; H12; H16; H17
	To determine whether mutual understanding about malaria related issues can be achieved by communicating about science.	H1; H2; H4; H8; H10; H8; H9
	To determine whether mutual understanding about malaria related issues can contribute to the establishment of long-term stakeholder relationships.	H3; H5; H6; H7; H8; H9; H16; H17
	To determine whether the corporate communication strategy can include: communication about science; effective stakeholder communication; two-way symmetrical practices; two-way asymmetrical practices; traditional media channels; social media channels; long-term stakeholder relationships; mutual understanding about malaria related issues; and	H1-H18

	stakeholder perceptions about the University of Pretoria Centre for Sustainable Malaria Control and its image.	
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The following section summarises the hypotheses stated in Chapters 2 and 3.

#### **4.2.2 Hypotheses**

The question surrounding empirical testability is whether one can foresee or indicate how the hypotheses will be tested. The question of exploratory potential refers to the degree of theoretical support enjoyed by the hypotheses (Mouton, 1996:110). The outcome of this conceptualisation phase is research hypotheses which should meet the criterion of “theoretical validity”.

In order to embed or incorporate this research into the body of knowledge that is pertinent to the research problem being addressed; a thorough literature review of previous theoretical and empirical work in this field (Chapter 2 and 3) was done. In Chapter 6, this study will be related to the existing literature.

#### **4.2.3 Hypothesis formulation**

A research hypothesis can be defined as “a theory based expectation about some characteristic of a target population” (Kotze in Coetzee, 2008:83). The hypotheses for the study link directly to the research objectives, but are formulated as tentative concrete and testable assumptions, as obtained from the literature study.

Through deductive reasoning the research hypotheses were derived from the theory. These relational hypotheses postulate that a certain kind of relationship exists between two or more variables (Mouton, 1996:122; Bailey, 2008:43). The hypotheses for this study are correlational (or descriptive) hypotheses as opposed to causal (or explanatory) hypotheses. When a research hypothesis (alternative hypothesis) is tested, the antithesis of the hypothesis is tested in the form of a null hypothesis. (The term null hypothesis reflects that this is a hypothesis of no difference. It is therefore a statement of equality. As a complementary hypothesis, the alternative hypothesis will include a statement of inequality). Only when the null hypothesis is rejected totally, can indirect support for the research hypothesis be obtained. If the null hypothesis is not rejected, it eliminates the

possibility of an alternative hypothesis in any direction (positive or negative) (Diamantopoulos & Schlegelmilch, 1997:133-163).

In this study, the alternative hypothesis was stated first, followed by the null hypothesis. The hypotheses were included in the literature text in Chapters 2 to 3 to indicate how they fit conceptually with literature on the topic. The null hypothesis will be assumed to be true unless it is rejected as a result of the testing procedure. Table 8 provides a summary of all the hypotheses that were tested.

**Table 8: Summary of research hypotheses**

HYPOTHESES		RELATIVE FOCUS
H1	Communication about science can take place through effective stakeholder communication.	Communication management and Social media
H0	Communication about science cannot take place through effective stakeholder communication.	
H2	Communication about science can take place through traditional media.	
H0	Communication about science cannot take place through traditional media.	
H3	Long term stakeholder relationships can be established through traditional media channels.	
H0	Long term stakeholder relationships cannot be established through traditional media channels.	
H4	Communication about science can take place through social media.	
H0	Communication about science cannot take place through social media.	
H5	Long-term stakeholder relationships can be established through social media channels.	Stakeholder relationships and Corporate communication strategy
H0	Long-term stakeholder relationships cannot be established through social media channels.	
H6	Long-term stakeholder relationships can be enhanced through the two-way asymmetrical model of communication.	
H0	Long-term stakeholder relationships cannot be enhanced through the two-way asymmetrical model of communication.	
H7	Long-term stakeholder relationships can be enhanced through the two-way symmetrical model of communication.	Stakeholder relationships and Corporate communication strategy
H0	Long-term stakeholder relationships cannot be enhanced through the two-way symmetrical model of communication.	
H8	Mutual understanding about malaria related issues can be achieved by communicating about science.	



H0	Mutual understanding about malaria related issues cannot be achieved by communicating about science.
H9	Mutual understanding about malaria related issues can contribute to the establishment of long-term stakeholder relationships.
H0	Mutual understanding about malaria related issues cannot contribute to the establishment of long-term stakeholder relationships.
H10	The corporate communication strategy can include communication about science.
H0	The corporate communication strategy cannot include communication about science.
H11	The corporate communication strategy can include effective stakeholder communication.
H0	The corporate communication strategy cannot include effective stakeholder communication.
H12	The corporate communication strategy can include two-way symmetrical practices.
H0	The corporate communication strategy cannot include two-way symmetrical practices.
H13	The corporate communication strategy can include two-way asymmetrical practices.
H0	The corporate communication strategy cannot include two-way asymmetrical practices.
H14	The corporate communication strategy can include traditional media channels.
H0	The corporate communication strategy cannot include traditional media channels.
H15	The corporate communication strategy can include social media channels.
H0	The corporate communication strategy cannot include social media channels.
H16	The corporate communication strategy can support long-term stakeholder relationships.
H0	The corporate communication strategy cannot support long-term stakeholder relationships.
H17	The corporate communication strategy can support mutual understanding about malaria related issues.
H0	The corporate communication strategy cannot support mutual understanding about malaria related issues.
H18	The corporate communication strategy can address stakeholder perceptions about the University of Pretoria Centre for Sustainable Malaria Control and its image.
H0	The corporate communication strategy cannot address stakeholder perceptions about the University of Pretoria Centre for Sustainable Malaria Control and its image.

### 4.3 OPERATIONALISATION

Saunders, Lewis and Thornhill (2007:604), define operationalisation as follows: “...the translation of concepts into tangible indicators of their existence.” Simply put, operationalisation involves the process whereby complex theoretical constructs are converted into measurement scales to facilitate the quantitative measurement of these constructs (Saunders *et al.*, 2007:118). An operational definition is a concept that goes hand-in-hand with the process of operationalisation. An operational definition is: “...an explanation that gives meaning to a concept by specifying the activities or operations necessary to measure it” (Zikmund, 2003:227).

Diamantopoulos and Schlegelmilch (2000:220) state that the methodology of a study includes a precise definition of the population that was studied, as well as detailed information on the sample size, sampling procedure, response rate, the research instrument and the way the variables were measured. The sections below address how the study’s research objectives were measured and analysed, and where stakeholder perceptions played a central role in all the stated objectives.

#### 4.3.1 Methodology

The methodology used in the research was quantitative. As the label implies, the unit of analysis in quantitative research is quantity (Anderson, 1996). Measurement and observation are used to represent communication phenomena as amounts, frequencies, degrees, values, or intensity. After phenomena are quantified, they are compared or related using descriptive or inferential statistics (Keyton, 2011:36).

Quantitative research is conducted when data related to the nature of “relationships among measured variables” are quantified and available in numeric form (Leedy & Ormrod, 2005:94). Because the study aimed to describe, explain and predict the perceptions, attitudes and behaviour of stakeholders, this can be regarded as quantitative research.

Mouton (1998:37) argues that the highest level of complexity in research is referred to as methodological paradigms, including qualitative and quantitative paradigms.



A quantitative inquiry strategy in the form of a quantitative survey method was applied to investigate the linkages between the study's 10 sub-objectives and resultant hypotheses, which were listed in Chapter 1. Quantitative research enables the exact numeric measurement of specific concepts and constructs such as “stakeholder’s behaviour, knowledge, opinions, or attitudes” and helps the researcher to “describe, explain, and predict” these subjective topics (Cooper & Schindler, 2006:198-199). A quantitative data inquiry strategy was used to determine stakeholder perceptions in this study. The relevant data were obtained by presenting stakeholders of the University of Pretoria Centre for Sustainable Malaria Control with a questionnaire posing questions related to the main constructs investigated in this study.

The stakeholders of UP CSMC completed a questionnaire so that the researcher could determine their perceptions of communication management, social media, stakeholder relationships and the corporate communication strategy to enable mutual understanding about communication about science and malaria related issues.

In Chapter 1, the research problem, the research objectives, conceptualisation, operationalisation, sample design, data collection, and analysis and interpretation were briefly discussed. In this Chapter, these aspects will be discussed in more detail and a theoretical description of the statistical methods used in this study will be given.

When undertaking a survey in communication research, the researcher collects information from a group of people to describe their abilities, opinions, attitudes, beliefs and/or knowledge with regard to a particular topic or issue. Generally, the purpose of using survey research in communication is to explore and describe what is, rather than to evaluate why an observed distribution (or attitude) exists (Du Plooy, 1996:127).

#### **4.3.2 Research design**

According to Cooper and Schindler (2006:138), research design has various definitions and is an extremely broad topic that cannot be discussed in isolation. One of their definitions describes research design as a “blueprint for the collection, measurement, and analysis of data” (Cooper & Schindler, 2006:138). The research design is the plan that is to be followed to answer the research objectives or hypotheses. It provides the structure and framework to solve a specific problem (McDaniel & Gates, 2001:28; Tustin, Lighthelm, Martins and van Wyk, 2005:82). Hence, it is a master plan that specifies the methods and

procedures on how to collect and analyse the required information (Tustin *et al.*, 2005:82). A few elements present in most of these definitions include the function it fulfils as a researcher's map or plan for hypotheses writing: a plan of how the relationships between variables will be investigated and operationalised; and how the data will be collected and analysed (Cooper & Schindler, 2006:138).

The formulation of the research design in terms of measurement, measurement instrument, choice of sampling, approach to data collection, and analysis of data are interdependent and were considered simultaneously to optimally address the objectives of the study (Mouton, 1996:110).

The following sections discuss the type of research, as well as the method of data collection that was influenced by the purpose of the study, topical scope as well as time dimension.

#### ➤ **Type of research design**

Types of business research include exploratory studies, descriptive research and casual research (Zikmund, 2003:54). The purpose of this research was to develop a corporate communication strategy model for the University of Pretoria Centre for Sustainable Malaria Control (UP CSMC). This study was therefore a *descriptive research study*, as it described the research problem or opportunity in detail. The purpose of this research is furthermore to determine the perceptions of long-term stakeholders of the University of Pretoria Centre for Sustainable Malaria Control's effective communication, long-term stakeholder relationships, their mutual understanding about malaria related issues, the two-way symmetrical and asymmetrical communication models, social media, the social media platforms Facebook, Twitter, LinkedIn and ResearchGate, the Centre's communication about science, stakeholder communication and the corporate communication strategy.

Descriptive research can be conducted in two ways: longitudinal and cross-sectional. Due to the fact that data related to the specific constructs for the study were collected in a fairly short period of time, and only once, this study can be regarded as cross-sectional research (Saunders *et al.*, 2007:148; Cant, Gerber-Nel, Nel & Kotze, 2003:31) as opposed to a longitudinal study, where data were collected on the same respondents or research phenomena over a period of time. A specific time limitation existed for the research.

The following categories listed below were integrated in the classification of this study's research design (Kotzé, 2009: 5):

**Empirical research:** This study can be regarded as an application of empirical research because primary, numeric data were collected (Babbie & Mouton in Kotzé, 2009:3).

**Basic research:** The core idea of the study was to extend upon communication management, social media, stakeholder relationships and corporate communication strategy literature. More information had to be obtained on the theoretical concepts of perceptions of the stakeholders of the organisation and therefore, this study is classified as basic research (Saunders, Lewis & Thornhill, 2007:8).

**Primary data:** As defined by Saunders *et al.* (2007:607), primary data are “data collected specifically for the research project being undertaken.” Data for the study were collected to address the research objectives posed.

A two-stage research design was used in this study which implies that the research was conducted in two phases. The first stage was characterised by a thorough analysis of secondary data that existed on the relevant constructs. In the second stage, a formal study was conducted in order to test the stated hypotheses (Cooper & Schindler, 2003:147).

In the research design, a literature review provided the relevant information on all theories relevant to the study in question (Ströh, 2005:164). Aspects relating to communication management, social media, stakeholder relationships and the corporate communication strategy and other constructs and theories relevant to this study were investigated in the following order: Chapter 2 describes the theoretical background to the study, first addressing the meta-theoretical framework, the communication management and social media as primary concepts. Chapter 3 addressed stakeholder relationships and corporate communication strategy as another two primary concepts for the study.

➤ **Method of data collection and researcher control of variables**

Respondents' were questioned and their responses collected through a self-completion questionnaire, distributed as an electronic or email survey. No control over the variables in the study was practiced, therefore for this specific study the *ex post facto* design was used to conduct the study (Cooper & Schindler, 2003:149; Davis, 2000:138), as the researcher

won't have any control over the variables in the sense of being able to manipulate them. The researcher is limited to holding factors constant by the judicious selection of subjects according to the sampling procedures and by the statistical manipulation of the findings.

### ➤ **Topical scope and research environment**

The topical scope of the study is statistical. This implies that the stated hypotheses were measured quantitatively and were, as such, statistically analysed. The study took place in a natural field setting since the conditions were not staged or manipulated as in laboratory settings. The respondents also knew that they were participating in the study, therefore the research activity was that of a modified routine (Cooper & Schindler, 2003:147).

#### **4.3.3 Unit of analysis**

The unit of analysis in this empirical study was individuals and their orientation (opinion, attitude, perceptions) towards the subject, as opposed to their conditions or actions (Mouton & Marais, 1989:40; Du Plooy, 1996:39).

The object of study (unit of analysis) is the stakeholders of the UP CSMC who more specifically include the advisory board, management committee and academic staff of the various science departments at the University of Pretoria (discussed in Chapter 3), as well as post-graduate students at the University. The National Department of Health, the Departments of Health in all nine provinces in South Africa, the South Africa Malaria Elimination committee and the MRC office of malaria research.

#### **4.3.4 Sampling**

A sample is a subset, or portion of a population - it is defined as the total group of people from whom information is required. A population on the other hand consists of all units (or the universe, people or things, possessing the attributes or characteristics) which the study is interested in (Keyton, 2011:121; Tustin *et al.*, 2005:337).

The logic of using a sample of subjects is to make inferences about some larger population from a smaller sample. Parasuraman *et al.* (2004:356) and Keyton (2011:121) assert that sampling is the selection of a fraction of the total number of units of interest for the ultimate purpose of being able to draw general conclusions about the entire body of units.

Cooper and Schindler (2001:163) furthermore define sampling as the method used to select some of the elements in the population. By doing so, conclusions can be drawn about the entire population.

According to Cooper and Schindler (2001:167), there are several decisions to be made in securing a sample. These decisions essentially pertain to the relevance of the population and the parameters of interest, the sample type and the sample size. For the purpose of this research, the respondents selected to complete the questionnaires met the profile of the stakeholders of the UP CSMC. According to communication by Ms. Taneshka Kruger (2016), Senior Coordinator of the UP CSMC and part of the School of Health Systems and Public Health at the University of Pretoria, the sample consisted of the following stakeholders:

- Advisory board: responsible for providing strategic direction regarding profiling, giving advice on operational decisions, monitoring and evaluating realisation of the vision and execution of the mission of the UP CSMC.
- Management committee: responsible for evaluating, and making inputs into the strategic and business plans of the UP CSMC; promoting cluster projects; appointing cluster representatives; and for identifying opportunities to further the vision and mission of the organisation.
- The academic staff from the following departments at the University of Pretoria (enterprise unit):
  - Health Sciences: (School of Health Systems and Public Health, Urology; Skills laboratory; Medical Microbiology; Pharmacology; Internal Medicine; Medical Virology; Health Aspects Cluster; Vector Control Cluster; Physiology; Nuclear medicine)
  - Engineering, Built environment & IT (Chemical Engineering)
  - Natural & Agricultural Sciences (Parasite Control Cluster; Genetics; Plant Science; Biochemistry; Chemistry; Mathematics & Applied Mathematics)
  - University of Pretoria Centre for Sustainable Malaria Control
  - Strategic Health Innovation Partnerships
  - Economic and Management Sciences (Economics)
  - Veterinary Sciences (Paraclinical Sciences; Companion Animal Clinical Studies)
  - Education (Educational Psychology; Early Childhood Education; Education Management and Policy Studies)

- NGO
- Government
- Other Institutions

### ➤ **Sample size**

Keyton (2011:132) defines a sample size as the number of people from whom you need to observe or collect data to obtain precise and reliable findings. Cooper and Schindler (2001:163) identified four reasons for sampling, namely: lower cost; greater accuracy of results; greater speed of data collection; and availability of population elements.

A sample of 159 respondents was targeted that delivered a “medium” effect in terms of the reliability of a regression model. Diamantopoulos and Schlegelmilch (2000:142) also refer to a sample of 159 as a “nice large sample”.

### ➤ **Type of sampling**

For the purpose of this study, purposive sampling is used. Purposive sampling, also known as judgmental, selective or subjective sampling, is a type of non-probability sampling technique. Non-probability sampling focuses on sampling techniques where the units that are investigated are based on the judgement of the researcher (dissertation.leard.com, 2012).

Purposive sampling does not imply randomly selecting units from a population to create a sample with the intention of making generalisations from the sample to the population of interest. The main goal therefore, is to focus on particular characteristics of a population that are of interest, which will best enable the researcher to answer the research questions (dissertation.leard.com, 2012).

The type of purposive sampling used for this study is homogeneous sampling. Homogeneous sampling is a purposive sampling technique that aims to achieve a homogeneous sample; a sample whose units share the same characteristics or traits. This type of sampling is selected when the research question specifically address the characteristics of the specific group of interest (dissertation.leard.com, 2012), which for this study are the stakeholders of the UP CSMC.

#### **4.3.4 Data collection**

Data collection is often referred to as the fieldwork of the study (Tustin *et al.*, 2005:99). In this study, primary data was collected through the use of a self-administered questionnaire, developed specifically for the purposes of this study. This study did not intend to monitor (observe) subjects; rather it intended to elicit responses from respondents. Therefore, this study could be classified as a communication study, in relation to the data collection method used – a survey (Cooper & Schindler, 2006:140).

Cooper and Schindler (2001:135) furthermore explain that data collection methods can be classified into a monitoring process and a communication process. The former includes studies in which the researcher inspects the activities of a subject or the nature of some material without attempting to elicit responses from anyone. For the purpose of this study, a communication process is followed.

According to Berg (2007:97), the notion of the accurate communication of ideas implies that researchers have a clear idea about the type of information they want to access and about the purpose of the research. Using questionnaires is an effective method of collecting information, particularly when investigators are interested in understanding the perceptions of respondents.

This study made use of questionnaires (specifically a survey) to collect data from the respondents. “Questionnaires” can be used as a general term to refer to all methods of data collection in which each person is asked to respond to the same set of questions in a predetermined order (deVaus in Saunders, Lewis & Thornhill, 2012:416). Questionnaires tend to be used for descriptive research. Descriptive research, such as studies undertaken using attitude and opinion questionnaires, will enable the researcher to identify and describe the variability in different phenomena (Saunders, Lewis & Thornhill, 2012:419). The nature of the data collected is primary and relates to the main constructs the researcher intends to investigate. These main characteristics represent perceptions of the stakeholders of the organisation.

The communication approach involves surveying people and recording their responses for analysis. A survey is a system for collecting information. By asking questions or having participants respond to stimuli statements, data can be used to describe, compare, or explain knowledge, attitudes, or behaviour (Fink in Keyton, 2011:161). The great strength



of conducting a survey is its versatility. It does not require any visual or other objective perception of the information sought by the researcher (Conradie, 2004:138). Abstract information of all types, opinions, attitudes, intentions and expectations can be gathered by questioning others (Cooper & Schindler, 2001:135).

The use of a survey strategy allows for the development of a structured questionnaire comprising of opinion rated items for administration to a sample; and the opportunity to obtain standardised primary quantitative data which can be readily compared and analysed using descriptive and inferential statistics (Hofstee, 2006:122; Mouton, 2001:153; Saunders *et al.*, 2007:134).

Survey research possesses inherent strengths as well as weaknesses. These aspects have been addressed with reference to this study in Table 9.

**Table 9: Strengths and limitations of survey research with respect to this study**

Strength of survey research	Limitations and errors of survey research
<ul style="list-style-type: none"> <li>It's potential to produce findings that can be generalised to a larger population, at significantly lower cost than administering the survey to the whole population (Saunders <i>et al.</i>, 2007:134).</li> </ul>	<ul style="list-style-type: none"> <li>The proper construction of questions (Mouton, 2001:153).</li> </ul>
<ul style="list-style-type: none"> <li>High measurement reliability (Mouton, 2001:153).</li> </ul>	<ul style="list-style-type: none"> <li>The implementation of appropriate controls (Mouton, 2001:153).</li> </ul>
<ul style="list-style-type: none"> <li>High construct validity (Mouton, 2001:153).</li> </ul>	<ul style="list-style-type: none"> <li>High refusal rates (Mouton, 2001:153; Aaker, Kumar, Day &amp; Leone, 2011:200).</li> </ul>
	<ul style="list-style-type: none"> <li>High non-response rates (Mouton, 2001:153; Aaker <i>et al.</i>, 2011:200).</li> </ul>
	<ul style="list-style-type: none"> <li>Respondent effects (Mouton, 2001:153; Aaker <i>et al.</i>, 2011:91).</li> </ul>
	<ul style="list-style-type: none"> <li>Data analysis errors (Mouton, 2001:153; Aaker <i>et al.</i>, 2011:91).</li> </ul>
	<ul style="list-style-type: none"> <li>Availability of respondents (Aaker <i>et al.</i>, 2011:91).</li> </ul>

Source: Conceptualised and adapted from Aaker *et al.* (2011:91,200); Mouton (2001:153); Saunders *et al.* (2007:134).

These limitations and potential for errors were considered in the construction of the measurement instrument as suggested by Aaker *et al.* (2011:198). The author wanted to ensure that the questions produced for the questionnaire will set out to collect the information needed to meet the research objectives.

An electronic self-completion questionnaire was developed and used as data collection method within the parameters of limited time, funds and respondents available to the researcher. The target population used for the study was computer literate. These respondents were not easy to get hold off, which is another reason why this technique was employed in this study. An accurate mailing list was available from the University of Pretoria Centre for Sustainable Malaria Control (UP CSMC) with the contact details of the person directly involved with the UP CSMC. The research population was spread across South Africa and a wide geographical area could therefore be reached, even though this was not directly measured. A specific set of instructions were included on the cover page as well as in the questionnaire as to how specifically respondents had to answer the questions. The cover letter also informed respondents of their anonymity and acted as a consent form for the use of his/her responses in the study. The research study was also approved by the research ethics committee of the Faculty of Economic and Management Sciences at the University of Pretoria.

### ➤ **Measurement scales**

An instrument is the primary device by which measurement is aimed to be accomplished, and in the development of a measurement scale the variables and concepts measured for the study must be determined (Davis, 2000:193-194). This determination should flow naturally from the research problem and the objectives of the study. The research problem and the objectives of this research study were stated earlier in this Chapter. This quantitative study is specifically concerned with the objectives of the study. See Section 4.6 for the proposed structure of the questionnaire (survey).

Various aspects play a role in determining which measurement scales to construct in a measurement instrument. These factors have an impact on the “reliability, validity, and practicality of the scale” (Cooper & Schindler, 2006:332). The factors include, but are not limited to research objectives, response types, data properties, number of dimensions, forced or unforced choices, and the number of scale points (Cooper & Schindler,

2006:332-333). The following scales that were used in the present study will be discussed in this section: the multiple choice, single response scale; and the Likert scale (Cooper & Schindler, 2006:337).

**i. Multiple-choice, single response**

Multiple-choice, single-response scales are meant to be used in situations where various response options are available but only one answer is required (Cooper & Schindler, 2006:337). These scales are used in conjunction with data measured at a nominal level, a topic which will be elaborated on in the next section on statistical procedures.

**ii. Five-point Likert scale**

The key constructs within this study (*communication management, social media, stakeholder relationship* and *corporate communication strategy*) were analysed by using the five point Likert scale. Rensis Likert developed the Likert scale (which is the most popular and most used form of summated rating scales) (Cooper & Schindler, 2006:339), so that “a researcher could look at a summed score and tell whether a person’s attitude toward a concept was positive or negative” (McDaniel & Gates, 2001:274).

According to Kotze (2005:73) the Likert scale is a non-comparative, summated (multi-item) rating scale. A non-comparative scale indicates that data collected at one stage is analysed without comparing it to data collected at another stage (Tustin *et al.*, 2005:485), whereas a summated scale “consists of statements that express either a favourable or unfavourable attitude towards the object of interest” (Cooper & Schindler, 2003:253).

A Likert scale is a “measure of attitudes in which respondents rate how strongly they agree or disagree with carefully constructed statements; several scale items expressing attitudes toward an object ranging from very positive to very negative may be used to form a summated index” (Zikmund, 2003:235). The five response options presented in the five-point version of this scale include: “strongly agree”; “agree”; “neither agree nor disagree”; “disagree”; and “strongly disagree”. Each item in this scale is presented along with these five options numbered from 5 to 1, where 5 is the most favourable option, and 1 the least (Cooper & Schindler, 2006:339-340). The Likert scale delivers data at an interval level of measurement (Cooper & Schindler, 2006:339).

## ➤ Reliability and validity assessment

Reliability assessment (Cronbach's Alpha) and factor analysis were used to analyse the scale and determine how effectively the measurement instrument measured the four constructs. Reliability assessment is discussed in the following section.

Factor analysis is used “to find latent variables or factors among observed variables”, where factor analysis group variables with similar characteristics (Tustin *et al.*, 2005:668). The following three steps to factor analysis can be observed:

1. A correlation matrix is generated for all variables. A correlation matrix is “the table used to display coefficients for more than two variables” (Cooper & Schindler, 2003:577). Correlation coefficients are used to determine whether there is a relationship between the variables, where a positive correlation ranges from 0 to 1 and a negative correlation ranges from 0 to -1 (Ströh, 2005:199), and 1 (on either side of 0) indicates the strongest relationship.
2. The factors based on the correlation coefficients of the variables are extracted from the correlation matrix.
3. The factors are rotated in order to maximise the relationship between the variables and some of the factors (Tustin *et al.*, 2005:668).

Factor analysis is discussed in greater depth later in this Chapter. The following sections address how the validity and reliability of the measurement instrument and data were ensured.

## 4.4 RELIABILITY

Reliability refers to the consistency of the measurement instrument, as well as the degree to which the same results would be obtained if the measure was repeated (Cooper & Schindler, 2003:236; Ströh, 2005:197).

Reliability estimates include (Cooper & Schindler, 2003:237):

- Stability – is applicable when consistent results are obtained when the same test is administered twice by the same respondents over an interval of less than six months.

- Equivalence – is the degree to which alternative forms of the same measure produce the same or similar results. If the framework for the measurement of relationship outcomes have been used by various researchers at different times while focusing on different populations, and similar results have been found, the equivalence of the measurement instrument is relatively good.
- Internal consistency – refers to the degree to which the instrument items are homogeneous and reflect the same underlying constructs.

The reliability of the measurement instrument was obtained by using Cronbach's Alpha, denoted by the symbol  $\alpha$ . Cronbach's Alpha range from 0 (no internal reliability consistency) to 1 (perfect internal reliability consistence), where a value of 0.70 and higher indicate a good reliability and higher than 0.90 is considered excellent (McDaniel & Gates, 2001:256; Stacks, 2002 in Ströh, 2005:197).

#### **4.5 VALIDITY**

Validity simply means that the researcher is measuring what he/she intends to measure. There are three basic approaches to the evaluation of validity (Zikmund, 2003:302):

- Firstly, face or content validity refers to “the subjective agreement among professionals that a scale logically appears to reflect accurately what it purports to measure”. In this evaluation, researchers must also establish whether the measurement instrument used correlates with other studies measuring the same construct.
- If a new measurement instrument is developed (as was the case in this study), the criterion validity needs to be determined. Within criterion validity, researchers need to ascertain whether concurrent validity (a measure that accurately explains the current phenomenon) or predictive validity (a measure that accurately predicts a future phenomenon) is established.
- Construct validity is established by “the degree to which a measure confirms a network of related hypotheses generated from a theory based on the concepts”. This is determined during the data analysis stage of the research and implies that the empirical evidence generated by the data and data analysis is consistent with the theoretical logic about the constructs.

The questionnaire was developed and set against the requirement to apply certain measurement techniques to analyse the data. For this study, both the validity and reliability of the study and its results were considered as vital. Since these two aspects are related (Kervin, 1992), all effort was made to ensure that format, methodology, processes and procedures would not detract from the validity and reliability of the study and the results. According to Kerlinger (1986), if there is no knowledge of the validity and reliability of the data, the results and the conclusions drawn obviously have no credibility either. Since this study is based on perceptions and attitudes, measurement can become very complicated.

All quantitative research hopes to be both reliable and valid (Keyton, 2011:53). Reliability and validity are related. Both are evaluations of the utility of a measurement device. When reliability and validity are achieved, the data are free from systematic errors (Seilltiz, Jahoda, Deutsch & Cook in Keyton, 2011:53). According to Keyton (2011:53) reliability is achieved when researchers are consistent in their use of data collection procedures and when respondents react similarly to them. Reliability is only part of evaluating a quantitative research method. Validity is achieved when the measurement does what it is intended to do (Hoover & Donovan, 1995).

Mouton (1996:109) considers validity as a guide to “achieving an approximation of the truth”. This infers that the success of the investigation will depend on the validity of each stage of the research process. Table 10 outlines a validity framework of the various stages within the research process. Entries in Table 4 will be referred to in relevant discussions of the different stages of the research process.

**Table 10: The validity framework**

Stage in research process	Sources of error	Methodological strategy	Outcome	Epistemic (validity related) quality or criterion
<b>Conceptualisation</b>	<ul style="list-style-type: none"> <li>• Complex notions</li> <li>• Vagueness</li> <li>• Ambiguity</li> <li>• Abstract concepts</li> </ul>	<ul style="list-style-type: none"> <li>• Thorough literature review</li> <li>• Clear and logical definitions</li> </ul>	Concepts / definitions	Theoretical validity (clarity/scope)
<b>Operationalisation</b>	<ul style="list-style-type: none"> <li>• Poor sampling of items</li> <li>• Leading questions</li> <li>• Scaling errors</li> </ul>	<ul style="list-style-type: none"> <li>• Scale validation</li> <li>• Face validity</li> <li>• Pilot test</li> </ul>	Measurement instruments	Measurement validity (construct validity)
<b>Sampling</b>	<ul style="list-style-type: none"> <li>• Bias</li> <li>• Heterogeneous populations</li> <li>• Incomplete sampling frame</li> </ul>	<ul style="list-style-type: none"> <li>• Probability sampling</li> <li>• Stratification</li> <li>• Optimal sample size</li> </ul>	Sample	Representatives
<b>Data collection</b>	<ul style="list-style-type: none"> <li>• Observation effects</li> <li>• Interviewer bias</li> <li>• Respondent bias</li> <li>• Context effects</li> </ul>	<ul style="list-style-type: none"> <li>• Multi-method</li> <li>• Proper training of fieldworkers</li> </ul>	Data sets	Reliability
<b>Analysis / interpretation</b>	<ul style="list-style-type: none"> <li>• Competing/rival conclusions or explanations</li> </ul>	<ul style="list-style-type: none"> <li>• Appropriate techniques for analysis</li> <li>• Thorough understanding of literature</li> </ul>	Conclusions/results findings	Inferential validity

Source: Mouton (1996:111).

The whole set of variables are examined and presented in terms of the underlying factors identified in the study. As the scales and their purification, as well as the research design of the study have been discussed, the measurement instrument that was self-designed and developed, can now be fully explained.

## **4.6 MEASUREMENT INSTRUMENT**

The format of a self-administered questionnaire is significant as it affects the general appearance of the document and the likelihood that the respondent will complete and return the questionnaire (Alreck & Settle, 1995:187). This is especially relevant where the researcher has no contact with the respondent.

### **4.6.1 Development of measurement instrument**

For the purpose of this study, no previous studies' questionnaires were used in the development of the questionnaire. A questionnaire was developed and designed for the



specific purpose of this study and for the main concepts: communication management, social media, stakeholder relationships and corporate communication strategy.

The questionnaire was designed based on the problem addressed in this study, which is *that many of the University of Pretoria Centre for Sustainable Malaria Control's traditional communication efforts towards its long-term stakeholders about malaria-related issues are not strategically sustainable, and in many cases, not effective*. It is suggested that a conceptual framework for a more formal and sustainable corporate communication strategy be developed for the strategic management of communication about science at the University of Pretoria Centre for Sustainable Malaria Control.

In order to address the problem at hand the questions and statements in the questionnaire were formulated accordingly. The questionnaire is complex in nature, as it was necessary to cover each construct used in this study in detail. The length of the questionnaire was determined by the size of the sample, as well as the target group, and the method of data collection. Problems that might have occurred with questionnaires include lengthy questionnaires, which can lead to respondent frustration and exhaustion. For this study, the questionnaire is relatively long and sophisticated compared to other questionnaires, due to the complexity of the phenomenon under investigation. From this perspective, the hypotheses may be measuring the minimum required to correlate relationships, but for this study this approach was deemed sufficient. Furthermore, if the sample is not sufficiently large, questions with too many categories could lead to low frequencies that can statistically be of little use (Up Statistics, 2002:2).

For the above reason pilot testing was conducted in order to change the questionnaire based on the feedback received. This process will be discussed next.

### ➤ **Pilot testing**

A pilot study is a collective term for any small-scale exploratory research technique that uses sampling, but does not apply rigorous standards (Cant *et al.*, 2005:32). On the other hand, a pilot study can also refer to the pre-testing of a particular research instrument (Baker, 1994:182-183). Some reasons for conducting pilot studies are (van Teijlingen & Hundley, 2001):

- Developing and testing adequacy of research instruments;
- assessing the feasibility of a (full-scale) study/survey;

- designing a research protocol; and
- identifying which problems may occur during the data collection process.

The respondents used for the pilot testing phase were identified from a wide spectrum of stakeholders for the prime purpose of pre-testing the measurement instrument.

The respondents were sent an e-mail which included an introductory letter to the questionnaire in which respondents were instructed on how to answer, save and return the questionnaire. They were also given a brief overview of the study and were thanked for their cooperation. The letter introducing the e-mail pilot survey is referred to as a “cover” letter (technically referred to as a “letter of transmittal”). In the absence of personal contact and conversation, the cover letter must thoroughly explain the project all on its own. This was accomplished, as the cover letter of the study addressed the various questions that the respondents may ask (Alreck & Settle, 1995:187).

A total number of 17 respondents provided their feedback regarding the pre-testing of the measurement instrument. The following feedback was given.

General feedback regarding the overall measurement instrument:

- Include an option in the introduction letter of the questionnaire, where the respondents can indicate, by marking with an ‘X’, if they wish to participate or where they can sign. This was referred to as the ‘confidentiality option’
- The questionnaire is very long
- Questions and statements are well formulated
- Include the abbreviation UP CSMC in brackets at the start of each section as the respondent may forget what it stands for
- Some respondents made suggestions based on the spacing and alignment of the tables
- Changes to grammar were indicated where the respondents did not understand the question or statement clearly.

Based on the above suggestions, changes were made where possible and are addressed below (as stated earlier, the questionnaire is relatively long, based on its complexity and sophistication).

#### *Feedback on Section A: Communication management*

- Questions 13 and 15 look the same - the statements should be constructed differently, or indicate the difference between the two statements
- When the option 'other' were used, some respondents indicated to add 'specify' – this will make the respondent specify, if that option was selected. This was indicated as a suggestion for Sections A, B, C and D of the questionnaire.

#### *Feedback on Section B: Traditional and Social media*

- To help save time, respondents of the pre-test suggested navigation routes that respondents should follow if they selected a certain option. This could assist the respondents not to read through questions which are not meant for them to answer if they selected a certain option. This was applied to all questions in Sections A, B, C and D that required 'skip logic'.
- In the questionnaire for the pilot test there was an option 'None', which was changed to 'Not applicable'.

*No comments regarding Section C: Stakeholder relationships and corporate communication strategy were received.*

#### *Feedback on Section D: Demographic information*

- Suggestions for the wording of the options provided for the different stakeholders were indicated
- Question 4 in the pilot test was phrased in a different way.

The feedback and suggestions given during the pre-testing of the measurement instrument are stated above. All the necessary changes were made accordingly.

In the following section, each of the variables measured in the measurement instrument are operationalised and discussed.

#### **4.6.2 Operationalisation of variables**

After the pilot study was conducted, the final questionnaire was formulated and the necessary changes were made. The constructs used in each question is connected to the

primary concepts identified for the study. Each item in the questionnaire helped the researcher to solve the problem statement indicated previously.

The questionnaire design followed the following structure:

*Section A: Communication management.*

The first section referred to communication between the management of the University of Pretoria Centre for Sustainable Malaria Control (UP CSMC) and its stakeholders, which was measured with a five point Likert scale. The constructs that were measured in this section were: *communication about science*, *effective stakeholder communication*, and the *two-way communication models*. The second part of Section A was structured in the form of a multiple choice question. This was to determine whether any misunderstandings occur when receiving messages. These questions were all formulated from the literature consulted for this study.

*Section B: Traditional and social media*

This section referred to the use of traditional and social media as potential communication tools at the UP CSMC. The first set of statements is based on traditional media, while the second set of statements covered social media. Both of these sets were measured with a five point Likert scale. The second part on social media, were asked in a multiple choice format. It determined the channels the stakeholders currently receive information from and those they prefer to receive information from; whether the respondent is a member of a social networking site; and the reasons why the respondent is, or is not, part of a social media site. The next three questions focussed on social media, to determine which social media sites the respondents use; which ones they would use to read about the UP CSMC; why they would use them to interact with the UP CSMC; and in order of relevance, the preferred social media platform they would use for certain options. The latter questions/statements were asked in a multiple choice format. This section was used to determine whether traditional or social media would be more effective as a communication tool.

### *Section C: Stakeholder relationships*

This section referred to the stakeholders involved with the UP CSMC. It is asked based on the five point Likert scale and cover the sections *long-term stakeholder relationships* and *mutual understanding about malaria related issues*.

### *Section D: Corporate communication strategy*

This section referred to the communication strategy of the UP CSMC. Statements regarding the following variables were posed using the five point Likert scale: *corporate communication strategy*; *stakeholder perceptions about the University of Pretoria Centre for Sustainable Malaria Control*; and the *image of the Centre*. These statements were formulated from the literature, and determined the stakeholder perceptions of the UP CSMC which are an important variable for this study.

### *Section E: Demographic information*

This section dealt with all the demographic information of the stakeholders of the UP CSMC. The first question is a multiple choice question, to determine the stakeholder group the respondents form part of. Questions 2 to 6 were all posed in a closed question format. The second question asked about the number of years the respondent has been involved with the business unit. The third question asked if the respondents wanted to receive information about malaria related issues from the UP CSMC. Question 4 asked how often the respondent would like to receive updates. Question 5 asked if they would share the information about the UP CSMC through online communication – this was also a closed question. The last question (Question 6) asked the respondent to choose their preferred platform of communication.

The questionnaire that was designed and formulated for the purpose of this study obtained a combination of nominal, ratio and interval data, where nominal data (measurable on a nominal scale) are usually used to merely identify categories, and the numbers themselves have no mathematical value (Tustin *et al.*, 2005:592). The nominal data obtained were used to describe the population measured, as well as to determine whether there were differences between the groups identified by the nominal data questions. Ratio data are generated when the ratios between the potential values of the variables have numerical

significance (Tustin *et al.*, 2005:594). This is, for instance, when an open numerical answer is expected where zero could be an answer.

Interval data, on the other hand, are generated when variables are arranged in sequence and “the interval between the values has numerical significance” (Tustin *et al.*, 2005:593). Five point Likert scales were used in this study to gather the interval data on stakeholder perceptions of science communication at the UP CSMC.

To illustrate the above, the measurement instrument developed for the study is included below:

## SECTION A COMMUNICATION MANAGEMENT

**This section refers to communication between the management of the University of Pretoria Centre for Sustainable Malaria Control (UP CSMC) and its stakeholders.**

In each of the statements in the section below, please use the scale 1 = strongly disagree to 5 = strongly agree, to indicate your answer.

1.

	Strongly disagree	Disagree	Neutral (neither agree/nor disagree)	Agree	Strongly agree
1. I enjoy reading scientific articles	1	2	3	4	5
2. I understand the content of communication about science	1	2	3	4	5
3. I like to read opinions about science related articles	1	2	3	4	5
4. Training about malaria related issues should be a key component of science education at the UP CSMC	1	2	3	4	5
5. I am interested in voluntary involvement with communication about science	1	2	3	4	5
6. The UP CSMC communicates with me about malaria related issues	1	2	3	4	5
7. I communicate with other stakeholders about malaria related issues	1	2	3	4	5
8. The UP CSMC communicates with stakeholders on a regular basis	1	2	3	4	5
9. Regular feedback helps to build long-term relationships with stakeholders	1	2	3	4	5



10. The UP CSMC provides feedback to stakeholders about their malaria related queries	1	2	3	4	5
11. I am interested in receiving information about opportunities to become involved in malaria research	1	2	3	4	5
12. Receiving information about funding opportunities for malaria research will encourage me to donate money to the UP CSMC	1	2	3	4	5
13. Communication from the UP CSMC helps me to change my <i>perception</i> about malaria related issues	1	2	3	4	5
14. The UP CSMC would consider changing some of their actions about malaria related issues if I communicate an idea to them	1	2	3	4	5
15. Communication from the UP CSMC helps me to change my <i>actions</i> towards malaria related issues	1	2	3	4	5
16. Before starting a communication programme, surveys or informal research should be conducted by the UP CSMC to determine how much its management and its stakeholders understand each other	1	2	3	4	5
17. The UP CSMC should do regular stakeholder research to determine public attitudes towards the <i>UP CSMC</i> and how these attitudes might be changed	1	2	3	4	5
18. Before starting a communication programme, the UP CSMC should conduct surveys to make sure that the organisation and its policies are described in ways that its stakeholders would likely understand	1	2	3	4	5
19. The UP CSMC should do regular stakeholder research to determine public attitudes towards <i>malaria</i> , and how these attitudes might be changed	1	2	3	4	5
20. After implementing a communication programme, the UP CSMC should do research to determine how effective this programme has been in changing people's attitudes towards malaria related issues	1	2	3	4	5

**2. When misunderstandings happen regarding the messages received from the UP CSMC, in your experience, why did these misunderstandings occur? You can choose more than one option.**

- Communication was not complete
- Perceived tone of the communication was wrong
- Cultural differences
- Received too much information
- Received too little information
- Inappropriate medium use
- Language usage
- Other (specify) \_\_\_\_\_



## SECTION B

### TRADITIONAL AND SOCIAL MEDIA

This section refers to the use of *traditional media* and *social media as potential communication tools* at the University of Pretoria Centre for Sustainable Malaria Control (UP CSMC).

In each of the statements in the section below, please use the scale 1 = strongly disagree to 5 = strongly agree, to indicate your answer.

- 1. Traditional media** - Traditional media include all the forms of “old” media used to communicate a message to stakeholders without using Internet technologies. Examples include: television, radio, newspapers, magazines and outdoor media like billboards

	Strongly disagree	Disagree	Neutral (neither agree/nor disagree)	Agree	Strongly agree
<b>In my opinion the use of traditional media ...</b>					
1. ... benefits the UP CSMC	1	2	3	4	5
2. ... satisfies stakeholder needs	1	2	3	4	5
3. ... creates effective communication with stakeholders	1	2	3	4	5
4. ... can enable the establishment of long-term stakeholder relationships	1	2	3	4	5
5. ... provides more relevant information about malaria related issues	1	2	3	4	5
6. ... develops awareness amongst stakeholders	1	2	3	4	5
7. ... empowers the UP CSMC to connect with its stakeholders	1	2	3	4	5
8. ... creates an opportunity for open dialogue	1	2	3	4	5

**2. Social media** - A set of online tools open for stakeholder membership that support idea sharing, creating and editing content, building relationships through interaction and collaboration. Examples of social media platforms are Facebook, Twitter and YouTube.

	Strongly disagree	Disagree	Neutral (neither agree/nor disagree)	Agree	Strongly agree
<b>In my opinion the use of social media ...</b>					
9. ... may benefit the UP CSMC	1	2	3	4	5
10. ... may satisfy stakeholder needs	1	2	3	4	5
11. ... will lead to effective communication with stakeholders	1	2	3	4	5
12. ... can enable the establishment of long-term stakeholder relationships	1	2	3	4	5
13. ... can provide me with more relevant information about malaria related issues	1	2	3	4	5
14. ... develops awareness amongst stakeholders	1	2	3	4	5
15. ... will empower the UP CSMC to connect with its stakeholders	1	2	3	4	5
16. ... creates an opportunity for open dialogue	1	2	3	4	5

**2.2 The University of Pretoria Centre for Sustainable Malaria Control (UP CSMC) uses the following channels to transmit information to stakeholders.**

<p><b>Tick the block that best indicates the channel through which you <u>currently</u> receive information. More than one block can be ticked.</b></p> <table border="1"> <tr><td><input type="checkbox"/></td><td>Telephone / cell phone</td></tr> <tr><td><input type="checkbox"/></td><td>E-mail</td></tr> <tr><td><input type="checkbox"/></td><td>Publications</td></tr> <tr><td><input type="checkbox"/></td><td>Social media platforms (Facebook, Twitter, LinkedIn, ResearchGate)</td></tr> <tr><td><input type="checkbox"/></td><td>Website</td></tr> </table>	<input type="checkbox"/>	Telephone / cell phone	<input type="checkbox"/>	E-mail	<input type="checkbox"/>	Publications	<input type="checkbox"/>	Social media platforms (Facebook, Twitter, LinkedIn, ResearchGate)	<input type="checkbox"/>	Website	<p><b>Tick the block that best indicates the channel through which you <u>prefer to</u> receive information? More than one block can be ticked.</b></p> <table border="1"> <tr><td><input type="checkbox"/></td><td>Telephone / cell phone</td></tr> <tr><td><input type="checkbox"/></td><td>E-mail</td></tr> <tr><td><input type="checkbox"/></td><td>Publications</td></tr> <tr><td><input type="checkbox"/></td><td>Social media platforms (Facebook, Twitter, LinkedIn, ResearchGate)</td></tr> <tr><td><input type="checkbox"/></td><td>Website</td></tr> </table>	<input type="checkbox"/>	Telephone / cell phone	<input type="checkbox"/>	E-mail	<input type="checkbox"/>	Publications	<input type="checkbox"/>	Social media platforms (Facebook, Twitter, LinkedIn, ResearchGate)	<input type="checkbox"/>	Website
<input type="checkbox"/>	Telephone / cell phone																				
<input type="checkbox"/>	E-mail																				
<input type="checkbox"/>	Publications																				
<input type="checkbox"/>	Social media platforms (Facebook, Twitter, LinkedIn, ResearchGate)																				
<input type="checkbox"/>	Website																				
<input type="checkbox"/>	Telephone / cell phone																				
<input type="checkbox"/>	E-mail																				
<input type="checkbox"/>	Publications																				
<input type="checkbox"/>	Social media platforms (Facebook, Twitter, LinkedIn, ResearchGate)																				
<input type="checkbox"/>	Website																				

**2.3 Are you a member of a social media networking site? (example: Facebook)**

- Yes (go to question 2.5)  
 No (go to question 2.4)

**2.4 If your answer to the above question is No, then choose the reason(s) why. (You can choose more than one.)**

- I don't know what a social network is  
 I am not interested in joining social networking  
 I joined once, but I didn't enjoy it  
 No privacy

List any other reasons:

**If your answer to question 2.3 is Yes, then answer the questions that follow.**

**2.5 Which of the following social media sites do you use? Choose all that apply.**

- Facebook  
 Twitter  
 LinkedIn  
 ResearchGate  
 Other (specify) \_\_\_\_\_  
 Not applicable (go to Section C)

**2.6 Select the social media platform you would use to read about the UP CSMC.**

**(You can choose more than one.)**

<input type="checkbox"/>	Facebook
<input type="checkbox"/>	Twitter
<input type="checkbox"/>	LinkedIn
<input type="checkbox"/>	ResearchGate
<input type="checkbox"/>	Other (Specify) _____
<input type="checkbox"/>	Not applicable

**2.7 Indicate the reason(s) why you would use an online social network to interact with the UP CSMC (You can choose more than one)**

<input type="checkbox"/>	To find information
<input type="checkbox"/>	To make professional and business contacts
<input type="checkbox"/>	To get opinions
<input type="checkbox"/>	To share your experience

**2.8 Indicate the relevance of the social media platforms Facebook, Twitter, LinkedIn and ResearchGate in the table below by marking your preference in the block.**

	Facebook	Twitter	LinkedIn	ResearchGate	Other	Not applicable
17. The content made available on this platform is more sufficient						
18. This platform is more accessible to stakeholders						
19. This platform offers the means to collaborate more with stakeholders						
20. This platform provides opportunity for open dialogue to express opinions						
21. This platform provides an opportunity for participation						
22. The platform offers the means to collaborate with a larger						

number of stakeholders						
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## SECTION C

### STAKEHOLDER RELATIONSHIPS

This section refers to the stakeholders involved with the University of Pretoria Centre for Sustainable Malaria Control (UP CSMC).

In each of the statements in the section below, please use the scale 1 = strongly disagree to 5 = strongly agree, to indicate your answer.

	Strongly disagree	Disagree	Neutral (neither agree/nor disagree)	Agree	Strongly agree
1. I have a relationship with the UP CSMC	1	2	3	4	5
2. The UP CSMC is very dynamic in maintaining good long-term relationships with its stakeholders	1	2	3	4	5
3. Long-term stakeholder relationships help forge a deep emotional bond that can lead to enhanced perceptions	1	2	3	4	5
4. Long-term relationships are built on mutual understanding	1	2	3	4	5
5. The UP CSMC can be relied on to keep its promises	1	2	3	4	5
6. Sound principles seem to guide behaviour at the UP CSMC	1	2	3	4	5
7. The UP CSMC listens to me when I communicate with them	1	2	3	4	5
8. I have an understanding of malaria related issues	1	2	3	4	5
9. I make an effort to understand the UP CSMC when communicating about malaria related issues	1	2	3	4	5
10. I gain a better understanding of the information provided when I listen actively	1	2	3	4	5
11. The use of social media platforms will increase shared understanding between stakeholders about malaria related issues	1	2	3	4	5

## SECTION D

### CORPORATE COMMUNICATION STRATEGY

This section refers to the communication strategy of the University of Pretoria Centre for Sustainable Malaria Control (UP CSMC).

In each of the statements in the section below, please use the scale 1 = strongly disagree to 5 = strongly agree, to indicate your answer.

	Strongly disagree	Disagree	Neutral (neither agree/nor disagree)	Agree	Strongly agree
1. I would like to read about malaria related issues in the media	1	2	3	4	5
2. I would like to receive information about malaria related issues from the UP CSMC	1	2	3	4	5
3. I would take part in awareness campaigns about malaria related issues arranged by the UP CSMC	1	2	3	4	5
4. I would like to receive information about the corporate strategy of the UP CSMC (vision, mission, policies, values)	1	2	3	4	5
5. I would like to become more involved with the UP CSMC decision making	1	2	3	4	5
6. I would like to assist the UP CSMC with identifying key strategic issues relating to malaria	1	2	3	4	5
7. I would like to know the hierarchical orientation of the UP CSMC to understand who I can communicate with	1	2	3	4	5
8. When the UP CSMC engages with me about malaria related issues, I would like to receive feedback regarding the status of my input	1	2	3	4	5
9. I would like to read in the media about the activities of the UP CSMC	1	2	3	4	5



	Strongly disagree	Disagree	Neutral (neither agree/nor disagree)	Agree	Strongly agree
<b>Stakeholder perceptions about the UP CSMC...</b>					
10. ... are formed through stakeholder expectations of the Centre	1	2	3	4	5
11. ... are influenced by the interest of stakeholders in the activities of the Centre	1	2	3	4	5
12. ... can be changed based on the information stakeholders receive	1	2	3	4	5
13. ... as a malaria-related knowledge sharing centre is good	1	2	3	4	5

	Strongly disagree	Disagree	Neutral (neither agree/nor disagree)	Agree	Strongly agree
<b>The UP CSMC image...</b>					
14. ... provides a connection with its stakeholders	1	2	3	4	5
15. ... portrays its credibility towards stakeholders	1	2	3	4	5
16. ...manifests trust	1	2	3	4	5
17. ... creates a positive impression of the UP CSMC as a malaria-related research centre	1	2	3	4	5
18. ... changed my attitude towards malaria-related issues	1	2	3	4	5
19. ... changed my behaviour towards malaria-related issues	1	2	3	4	5



**SECTION E**  
**DEMOGRAPHIC INFORMATION**

**This section refers to you as the stakeholder of the University of Pretoria Centre for Sustainable Malaria Control (UP CSMC).**

1. Choose the stakeholder group you primarily form part of.

1. UP CSMC Advisory board		8. UP Academic staff: Faculty of Education	
2. UP CSMC Management Committee		9. UP Academic staff: Strategic Health Innovation Partnerships	
3. UP Academic staff: Faculty of Health Sciences		10. UP CSMC	
4. UP Academic staff: Faculty of Engineering, Built environment & IT		11. Student at UP	
5. UP Academic staff: Faculty of Natural & Agricultural Sciences		12. NGO	
6. UP Academic staff: Faculty of Economic and Management Sciences		13. Government, Industry	
7. UP Academic staff: Faculty of Veterinary Sciences		14. Other: (specify) _____	

2. Number of years involved with the University of Pretoria Centre for Sustainable Malaria Control (UP CSMC)?

0-1 years		1-2 years		3-4 years		5-10 years		11-20 years		20+ years	
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3. Do you want to receive information about malaria related issues from the University of Pretoria Centre for Sustainable Malaria Control (UP CSMC)?

Yes (go to question 4)

No (go to question 5)

4. If your answer to the above question is **Yes**, how often would you like to receive updates from the UP CSMC?

As often as major decisions are being considered		Monthly		Every 3 Months		Every 6 months		Annually	
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5. Would you share information about the UP CSMC through online communication?

- Yes (*go to question 6*)
- No (*all questions have been answered*)

6. If Yes, please choose your preferred platform.

- Facebook
- Twitter
- LinkedIn
- ResearchGate
- Other (specify) \_\_\_\_\_

\* End of questionnaire \*

The following section looks at questions measured by stated objectives of the study.

#### **4.6.3 Linking the measurement instrument with the research objectives**

The research objectives of this study can be achieved through analysing the following questions in the measurement instrument.

**Table 11: Research objectives and survey questions matrix**

Research objective	Stated objective	Hypotheses	Question (s) or scale(s) in questionnaire
<b>Primary objective</b>	To develop a corporate communication strategy model for the University of Pretoria Centre for Sustainable Malaria Control (UP CSMC).		Section A, B, C
<b>Secondary objectives</b>	To determine whether communication about science can take place through effective stakeholder communication.	<b>H1:</b> Communication about science can take place through effective stakeholder communication. <b>H0:</b> Communication about science cannot take place through effective stakeholder communication.	<i>Section A</i> <i>Question 1-12</i>
	To determine whether communication about science should take place through traditional channels.	<b>H2:</b> Communication about science can take place through traditional media. <b>H0:</b> Communication about science cannot take place through traditional media.	<i>Section A:</i> <i>Q1-5</i> <i>Section B:</i> <i>Q1-8; 2.2</i>
	To determine whether long-term stakeholder relationships can be established by using traditional media channels.	<b>H3:</b> Long term stakeholder relationships can be established through traditional media channels. <b>H0:</b> Long term stakeholder relationships cannot be established through traditional media channels.	<i>Section B:</i> <i>Q1-8; 2.2</i> <i>Section C:</i> <i>Q1-7</i>
	To determine whether communication about science can take place through social media.	<b>H4:</b> Communication about science can take place through social media. <b>H0:</b> Communication about science cannot take place through social media.	<i>Section A:</i> <i>Q1-5</i> <i>Section B:</i> <i>Q9-16; 2.2 – 2.8</i>
	To determine whether long-term stakeholder relationships can be established through social media channels.	<b>H5:</b> Long-term stakeholder relationships can be established through social media channels.	<i>Section B:</i> <i>Q9-16; 2.2 – 2.8</i> <i>Section C:</i> <i>Q1-7</i>



		<b>H0:</b> Long-term stakeholder relationships cannot be established through social media channels.	
	To determine whether long-term stakeholder relationships can be enhanced through two-way symmetrical communication.	<b>H6:</b> Long-term stakeholder relationships can be enhanced through the two-way symmetrical model of communication. <b>H0:</b> Long-term stakeholder relationships cannot be enhanced through the two-way symmetrical model of communication.	<i>Section A</i> <i>Q13-16</i>  <i>Section C:</i> <i>Q1-7</i>
	To determine whether long-term stakeholder relationships can be enhanced through two-way asymmetrical communication.	<b>H7:</b> Long-term stakeholder relationships can be enhanced through the two-way asymmetrical model of communication. <b>H0:</b> Long-term stakeholder relationships cannot be enhanced through the two-way asymmetrical model of communication.	<i>Section A</i> <i>Q17-20</i> <i>Section C:</i> <i>Q1-7</i>
	To determine whether mutual understanding about malaria related issues can be achieved by communicating about science.	<b>H8:</b> Mutual understanding about malaria related issues can be achieved by communicating about science. <b>H0:</b> Mutual understanding about malaria related issues cannot be achieved by communicating about science.	<i>Section A:</i> <i>Q1-5</i> <i>Section C:</i> <i>Q8-11</i>
	To determine whether mutual understanding about malaria related issues can contribute to the establishment of long-term stakeholder relationships.	<b>H9:</b> Mutual understanding about malaria related issues can contribute to the establishment of long-term stakeholder relationships.	<i>Section C:</i> <i>Q1-11</i>



		<p><b>H0:</b> Mutual understanding about malaria related issues cannot contribute to the establishment of long-term stakeholder relationships.</p>	
	<p>To determine whether the corporate communication strategy can include: communication about science; effective stakeholder communication; two-way symmetrical practices; two-way asymmetrical practices; traditional media channels; social media channels; long-term stakeholder relationships; mutual understanding about malaria related issues; and stakeholder perceptions about the University of Pretoria Centre for Sustainable Malaria Control and its image.</p>	<p><b>H10:</b> The corporate communication strategy can include communication about science.</p> <p><b>H0:</b> The corporate communication strategy cannot include communication about science.</p> <p><b>H11:</b> The corporate communication strategy can include effective stakeholder communication.</p> <p><b>H0:</b> The corporate communication strategy cannot include effective stakeholder communication.</p> <p><b>H12:</b> The corporate communication strategy can include two-way symmetrical practices.</p> <p><b>H0:</b> The corporate communication strategy cannot include two-way symmetrical practices.</p> <p><b>H13:</b> The corporate communication strategy can include two-way asymmetrical practices.</p> <p><b>H0:</b> The corporate communication strategy cannot include two-way</p>	<p><i>Section A</i> <i>Q1-5</i> <i>Section D</i> <i>Q1-9</i></p> <p><i>Section A:</i> <i>Q6-12</i> <i>Section D</i> <i>Q1-9</i></p> <p><i>Section A:</i> <i>Q13-16</i> <i>Section D</i> <i>Q1-9</i></p> <p><i>Section A:</i> <i>Q17-20</i> <i>Section D</i> <i>Q1-9</i></p>



		<p>asymmetrical practices.</p> <p><b>H14:</b> The corporate communication strategy can include traditional media channels.</p> <p><b>H0:</b> The corporate communication strategy cannot include traditional media channels.</p> <p><b>H15:</b> The corporate communication strategy can include social media channels.</p> <p><b>H0:</b> The corporate communication strategy cannot include social media channels.</p> <p><b>H16:</b> The corporate communication strategy can support long-term stakeholder relationships.</p> <p><b>H0:</b> The corporate communication strategy cannot support long-term stakeholder relationships.</p> <p><b>H17:</b> The corporate communication strategy can support mutual understanding about malaria related issues.</p> <p><b>H0:</b> The corporate communication strategy cannot support mutual understanding about malaria related issues.</p> <p><b>H18:</b> The corporate communication strategy can address stakeholder perceptions about the</p>	<p><i>Section B:</i> Q1-8; 2.2 <i>Section D</i> Q1-9</p> <p><i>Section B:</i> Q9-16; 2.2 – 2.8 <i>Section D</i> Q1-9</p> <p><i>Section C:</i> Q1-7 <i>Section D</i> Q1-9</p> <p><i>Section C:</i> Q8-11 <i>Section D</i> Q1-9</p> <p><i>Section D</i> Q1-19</p>
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		University of Pretoria Centre for Sustainable Malaria Control and its image. <b>H0:</b> The corporate communication strategy cannot address stakeholder perceptions about the University of Pretoria Centre for Sustainable Malaria Control and its image.	
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From the above Table 6, it is evident that all the questions used in the questionnaire attempted to measure the objectives of the study. However, before the achievement of the objectives could be measured, the data first had to be processed.

#### 4.7 DATA PROCESSING

Through data processing the quality of the data analysis and statistical results can improve (Ströh, 2005:182). Data processing refers to raw data that have been converted into a suitable format that can be analysed (Ströh, 2005:182). The data processing procedure that was followed is briefly summarised in the following paragraph.

The statistical software program used to analyse the data was SPSS. The measurement instrument developed was reliable and was subsequently sent out to the sampling population after being adequately coded. Coding refers to numbers that are assigned to statements, responses or answers (Ströh, 2005:182). The statistical support unit of the Faculty of Economic and Management Sciences requires questionnaires to be summarised in Excel before the statistician does the statistical analyses. The statistician then compare the summarised Excel files with the final questionnaire to double check the answers and the responses in order to minimise error. Missing values of completed questionnaires were substituted with zero values so that the statistical analysis would not be affected. It was not deemed necessary to convert the data deck into a computer readable form. The data were then cleaned for statistical use by both the researcher and the statistician.



## 4.8 DATA ANALYSIS

The data analysis for this study was done in conjunction with the Faculty of Economic and Management Sciences and the University of Pretoria Centre for Sustainable Malaria Control. The purpose of any analytical method is to convert data into information needed to make decisions. As a result, the study employed various statistical techniques that can be divided under the descriptive statistics or inferential statistics umbrella.

### 4.8.1 Descriptive statistics

According to Cooper and Schindler (1998:427-430), descriptive statistics refer to: measures of location (mean, median and mode); measures of spread (variance, standard deviation, range, interquartile range, and quartile deviation); and measures of shape (skewness and kurtosis). Frequency tables are to be used in this study as part of the descriptive statistics.

According to Welman, Kruger and Mitchell (2005:231) descriptive statistics are concerned with the description and/or summary of the data obtained for a group of individual units of analysis. On the other hand, Maree (2010:183) describes descriptive statistics as the “collection name for a number of statistical methods that are used to organise and summarise data in a meaningful way”. The main reasons for the use of descriptive statistics are the following (Pallant in Maree, 2010:183):

- To describe the characteristics of the sample.
- To check variables for violation of assumptions underlining statistical tests.

Descriptive statistics serve to enhance understanding of the properties of the data as well as to identify any severe inaccuracies in the data. Main forms of descriptive data are the mean, median, mode, standard deviation, counts and the trend and kurtosis of the data gathered. In this study, these statistics will be used to explore data, to describe the sample and to ensure that the right tests are used. The purpose of descriptive analysis is to provide preliminary insights into the nature of the responses obtained; to help detect errors in the coding and the data capturing processes; to provide transparent means of presenting the data; to provide summary measures of responses; and to provide “an early opportunity for evaluating whether the distributional assumptions of subsequent statistical tests are likely to be satisfactory” (Tustin *et al.*, 2005:523).

There is also a minimum amount of descriptive statistics that is associated with the different types of data that were generated by the measurement instrument. Frequency counts, the mode and a pie chart can be reported for nominal data. The mean and standard deviations of interval scales can be reported for ratio data (Kotze, 2005). Descriptive analysis provides a useful initial examination of the data, but what is of “ultimate concern” to the researcher is inferential in nature (Tustin *et al.*, 2005:522).

#### **4.8.2 Inferential statistics and analysis**

Welman *et al.*, (2005:236) state that “inferential statistics are concerned with inferences that can be made about population indices on the basis of the corresponding indices obtained from samples drawn randomly from the populations”.

According to Maree (2010) the purpose of the research is to use the data gathered from the sample and to generalise the findings back to the population. For this specific reason the use of inferential statistics and analysis is of essence in this study. The field of statistical inference relies heavily on the probability theory (Maree, 2010) as it is by means of probability statements that inferences are made. Hypothesis testing is used in this study as explained in Chapter 1 and earlier in this Chapter.

##### **➤ Test of normality**

Because the assumption of normality is needed for both the parametric hypothesis test as well as the regression analysis done in the study, a normality test was also conducted on the sample population and the dependent variable of the regression model. A normal distribution is achieved when the “various arithmetic means of a large number of samples distribute themselves symmetrically around the population mean” and a bell-shaped curve is formed (Tustin *et al.*, 2005:364).

##### **➤ Factor analysis**

A factor analysis was used to identify the size and significance of the influence of the outcomes on stakeholder perceptions of communication about science. A factor analysis was used to determine whether the size of the business unit, type of centre, type of relationship and duration of relationship between the business unit and its stakeholders had an influence on the outcome of the stakeholder perceptions of communication about

science. A factor analysis is used to find constructs or factors among observed variables. Therefore, if the data contains many variables, the factor analysis can be used to reduce the number of variables by grouping variables with similar characteristics (Cooper & Schindler, 2003:635; Tustin *et al.*, 2005:669). The result of a factor analysis is a correlation matrix that is generated for all the variables where after highly related variables are extracted from the correlation matrix (Tustin *et al.*, 2005:669).

The most frequently used approach to factor analysis is principal component analysis which has also been used in the current study. Linear combinations of variables, called factors, have been generated to account for the variance in the data as a whole (Cooper & Schindler, 2003:635). Cooper and Schindler (2003:635) state that the best combination makes up the first principle component and is the first factor. The second principle is defined as “the best linear combination of variables explaining the variance not accounted for by the first factor”. This process can contribute until  $k$  factors (each being the best linear combination of variables not accounted for by the previous factors) and all the variance is accounted for.

#### **4.9 RESEARCH ETHICS**

According to Malhorta (2002:216), the researcher has the “responsibility to use an appropriate survey method in an ethical and legal way”. Ethics can be defined as what is deemed acceptable (good) or unacceptable (bad) in human conduct and is critical in all research (Tustin *et al.*, 2005:42). Because this study involved the inclusion of other human beings, there were ethical principles that needed to be adhered to, including (Leedy & Ormrod, 2005:101-102):

- 4.1 A professional internal board of the relevant academic department of the University of Pretoria, as well as the University’s Research Ethics Committee, had to oversee and approve the researcher’s study before any data were collected (Leedy & Ormrod, 2005:102). Thereafter, the research ethics committee of the University of Pretoria Centre for Sustainable Malaria Control had to approve the study and the proposed data collection process on its premises, as well as with its stakeholders.
- 4.2 The respondents included in this study, were not harmed in any “physical or psychological” way and respondents’ participation was voluntary with the choice to abandon the process if they felt uncomfortable with any aspect of the survey (Leedy & Ormrod, 2005:101; Keyton, 2011:77).

- 4.3 Respondents were fully informed of the basic aspects of the study and formal consent was required from them to include their responses to the pool of data that was being collected at the time. Appendix A contains the informed consent form that was handed to respondents before they completed the questionnaire (Leedy & Ormrod, 2005:101; Keyton, 2001:77).
- 4.4 Respondents had the “right to privacy”. In the study, respondents’ participation and questionnaires were treated confidentially without the presence of any identifiable characteristics that would link their identities to the completed questionnaire (Leedy & Ormrod, 2005:102).
- 4.5 Honesty was expected of the researcher and data processor that ensured honourable reporting on the results as it was collected by not tampering with the data and findings (Leedy & Ormrod, 2005:102).

#### **4.10 CONCLUSION**

It was decided that an electronic survey was the best method to obtain information from the UP CSMC database to address the research objectives. This Chapter discussed the development and design of the measurement instrument and methodology used in this study. The discussion covered the research design and sampling, as well as data collection method and the data analysis technique applied in the study. After the necessary number of questionnaires was obtained, the data could be entered and the necessary data cleaning and analysis tests could be conducted. The following Chapter discusses the findings from the statistical tests.

In clearly explaining the theory regarding the research design, methodology and statistical methods that were employed, a clearer and accurate picture of the findings could be formed. When a clear understanding of the theory that underlines the research findings is obtained, the accuracy and importance of the research findings can be highlighted.

## CHAPTER 5: RESULTS AND INTERPRETATION

### 5.1 INTRODUCTION

In the previous chapters, main theoretical constructs related to *communication management*, *social media*, *stakeholder relationships* and *corporate communication strategy* were covered in depth. The previous Chapter covered the research methodology of the study. This Chapter reports on the evidence collected and analysed using the process described in Chapter 4, and provides an interpretation of the results, which includes statistical techniques such as descriptive statistics for the reliability analysis of the developed measuring instrument; as well as factor analysis and analysis of variance.

Inferences were drawn from the results according to principles of statistical inference (the logic of hypothesis testing) (Mouton, 1996:111). The outcome of the analysis and interpretation is certain conclusions, which followed logically from the empirical evidence and which will be discussed in detail in the next Chapter.

The aim of descriptive statistics is to collect, organise and sum up data. Descriptive statistics condenses large volumes of data into a few summary measures. With descriptive statistics, the important characteristics of the sample were identified and a profile of behaviour set. General findings were made on the basis of the descriptive statistics (Diamantopoulos & Schlegelmilch, 2000).

The primary aim of factor analysis is to reduce the number of variables of expectations in the measuring instrument to a smaller set of underlying dimensions with the minimum loss of information (Hair, Anderson, Tatham & Black, 1995:371).

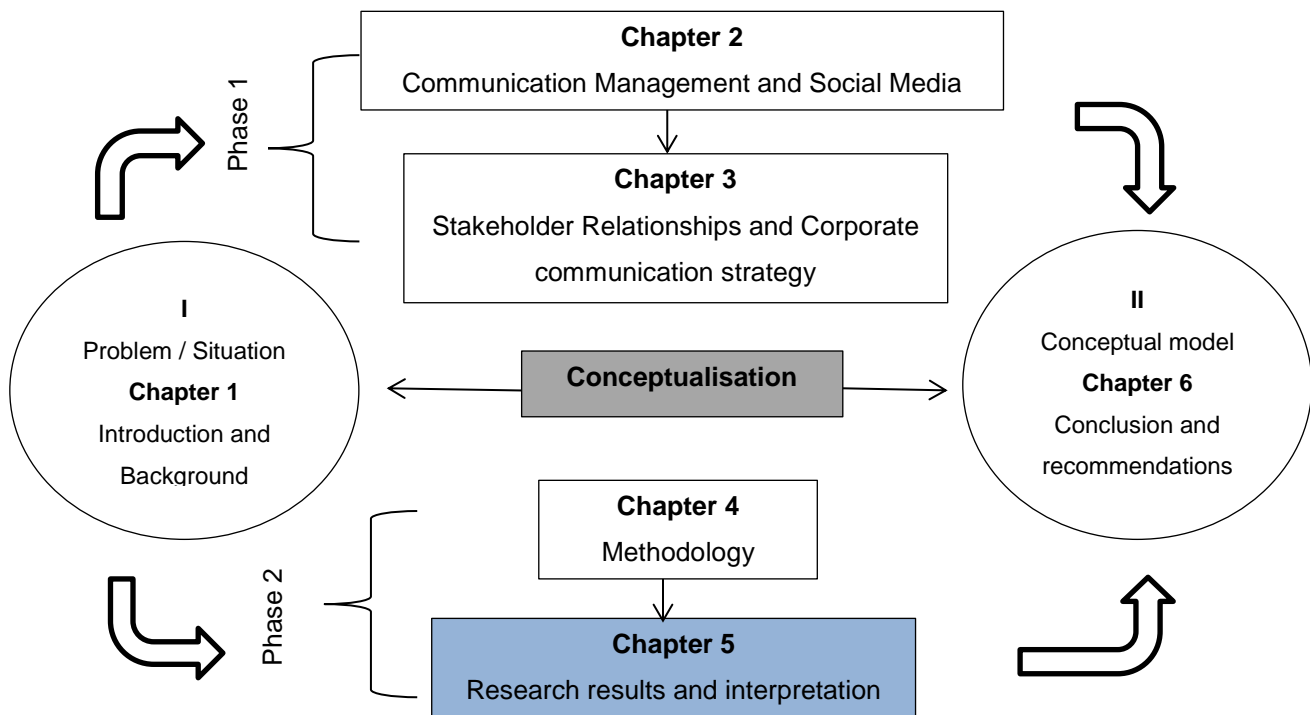
These dimensions of factors are interpreted with the literature as frame of reference, and can be seen as respondents' groupings of variables from the measuring instrument is built. For the purpose of this study, the factor analysis is exploratory and groups of statements and questions were identified in the measured constructs.

The aim of hypothesis testing is to put into words the general findings of the samples and to formulate specific statements; to test the general findings; and to generalise the results to the accessible population (Diamantopoulos & Schlegelmilch, 2000). To generalise the findings of the sample to the population, inferential statistics were used. Inferential

statistics is that area of statistics which extends the information extracted from a sample to the actual environment in which the problem arises. Decision-making on the acceptance or rejection of hypotheses takes place on the basis of statistical procedures that indicate that findings from the sample data are significant for the population in total (Welman *et al.*, 2005:236).

In conclusion, the main findings, as obtained from the descriptive statistics, the results of the factor analysis and the results of the hypothesis testing will be summarised. The results and findings will be discussed in this Chapter. Figure 20 highlights the Chapter's position in relation to the rest of this dissertation.

**Figure 20: Chapter 5 in relation to the other chapters**



Source: Adapted from Mitroff *et al.* (1974).

The decisions made with regard to the research design and method for this study was influenced by the research objectives and the conceptual framework developed in Chapter 1, as well as through the literature review undertaken in Chapters 2 and 3 (phase 1 of the current study).

As stated in Chapter 1, the purpose of this research is to develop a corporate communication strategy model for the University of Pretoria Centre for Sustainable Malaria

Control (UP CSMC). The following sections focus on the findings that resulted from the data collection, based on the methodological orientation of the study. It includes realisation rate, descriptive statistics, hypothesis tests and the fitted regression model. Frequency counts, including the percentages, cumulative percentages and cumulative frequencies are reported on all the nominal data scales. These tables are accompanied by a brief description of the question and an interpretation of the findings.

## 5.2 REALISATION RATE

All 156 respondents on the mailing list of the University of Pretoria Centre for Sustainable Malaria Control were e-mailed and 45 duly completed questionnaires were returned. All questionnaires were used, resulting in  $n=45$ . This relates to a relatively low response rate of 28 percent, which is a characteristic of e-mail surveys (Alreck & Settle, 1995:184).

According to Scott (2007:267-268), focus should rather be placed on selecting the right respondents. Scott believes that securing the right respondents is more important than obtaining a large sample size.

From the returned 45 questionnaires, the following descriptive statistics were realised.

## 5.3 DESCRIPTIVE STATISTICS

The data collection procedure for this study was discussed in detail in Chapter 4. The 45 questionnaires received from the stakeholders of the UP CSMC were captured in *Microsoft Excel*. The software package used for the analysis of the data was *SPSS*. The descriptive statistics include a discussion of the research findings as summarised from the section-to-section analysis. It also includes the important characteristics of the sample, namely the demographic data.

The following descriptive statistics attempt to describe the stakeholder perceptions of communication about science at the University of Pretoria Centre for Malaria Control, based on the following concepts: *communication management*, *social media*, *stakeholder relationships* and a *corporate communication strategy*.

The descriptive statistics for Sections A, B, C and D of the measurement instrument that were developed for the study, will be discussed next.



### **5.3.1 Descriptive statistics: Sections A, B, C and D**

The four sections in the measuring instrument represent the following:

- Section A: Communication management
- Section B: Traditional and social media
- Section C: Stakeholder relationships
- Section D: Corporate communication strategy

Standard deviations were calculated for the sample data. The four sections in the measurement instrument (Section A, B, C and D) will now be discussed separately.

#### **Section A: Communication management**

The first part of Chapter 2, discussed communication management, which according to van Schalkwyk (2009:3), can be defined as “a two-way process during which information is transmitted in a specific code by means of a specific channel (or medium) from a sender to a receiver, who reacts to the stimulus by means of feedback”.

*Statement 1: ‘Communication between the management of the University of Pretoria Centre for Sustainable Malaria Control (UP CSMC) and its stakeholders’.*

The first section consisted of twenty sub-statements (also known as the items that were included in the measuring instrument) of which the first five focussed on constructs of communication about science. Figure 21 below illustrates the percentages based on the respondents’<sup>1</sup> feedback.

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<sup>1</sup> n=45: total number of respondents provided feedback

**Figure 21: Findings of communication about science**

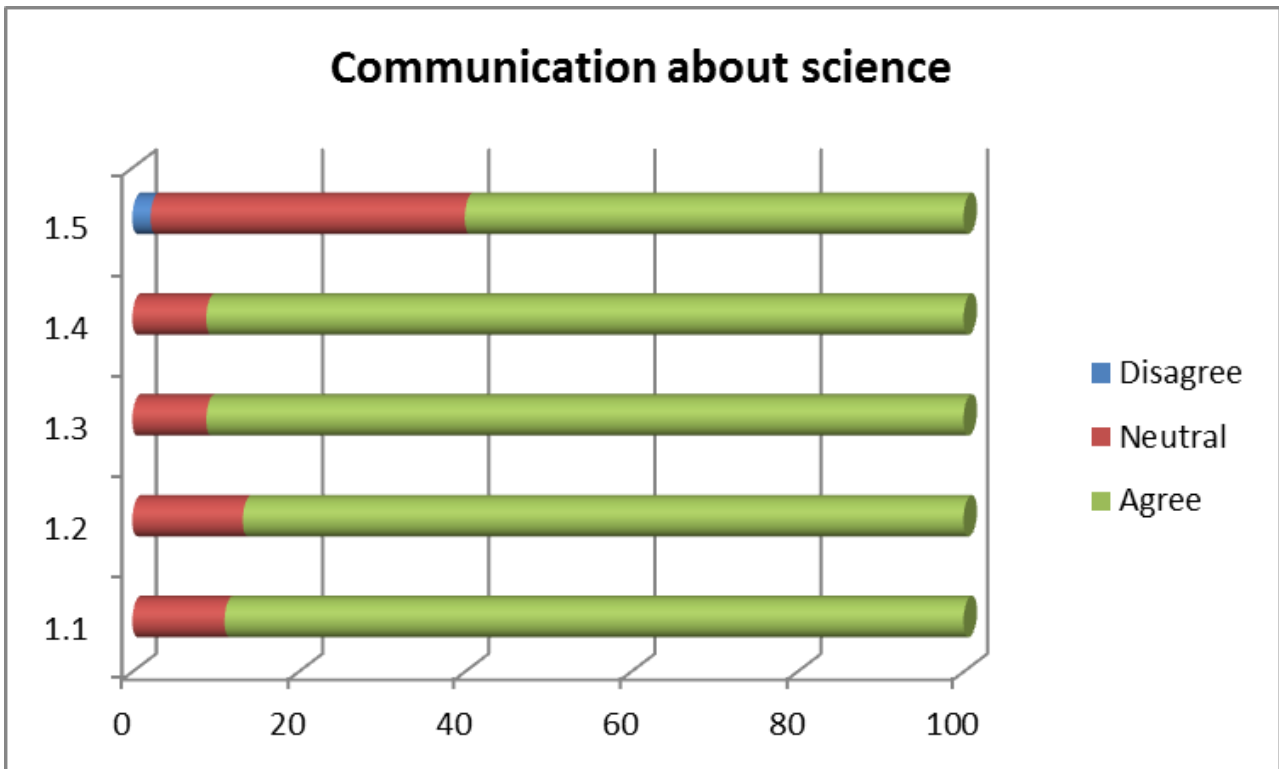


Figure 21 above indicates the valid percentages (sub-statements 1-5) regarding communication about science. Findings reflect that the stakeholders who responded are positive about communication about science. The respondents agree (88.9%) that they enjoy reading scientific articles (1.1) with (1.2) a clear understanding of the content of communication about science (86.7%). It is further supported that the respondents agree (91.1%) that they like to read opinions about science related articles (1.3). Training about malaria related issues (1.4) should be a key component of science education at the UP CSMC (91.1%), whilst the stakeholders also indicated an interest of 60% in voluntary involvement with communication about science (1.5).

Constructs six to twelve focussed on effective stakeholder communication. This is illustrated in Figure 22 below.

**Figure 22: Findings of effective stakeholder communication**

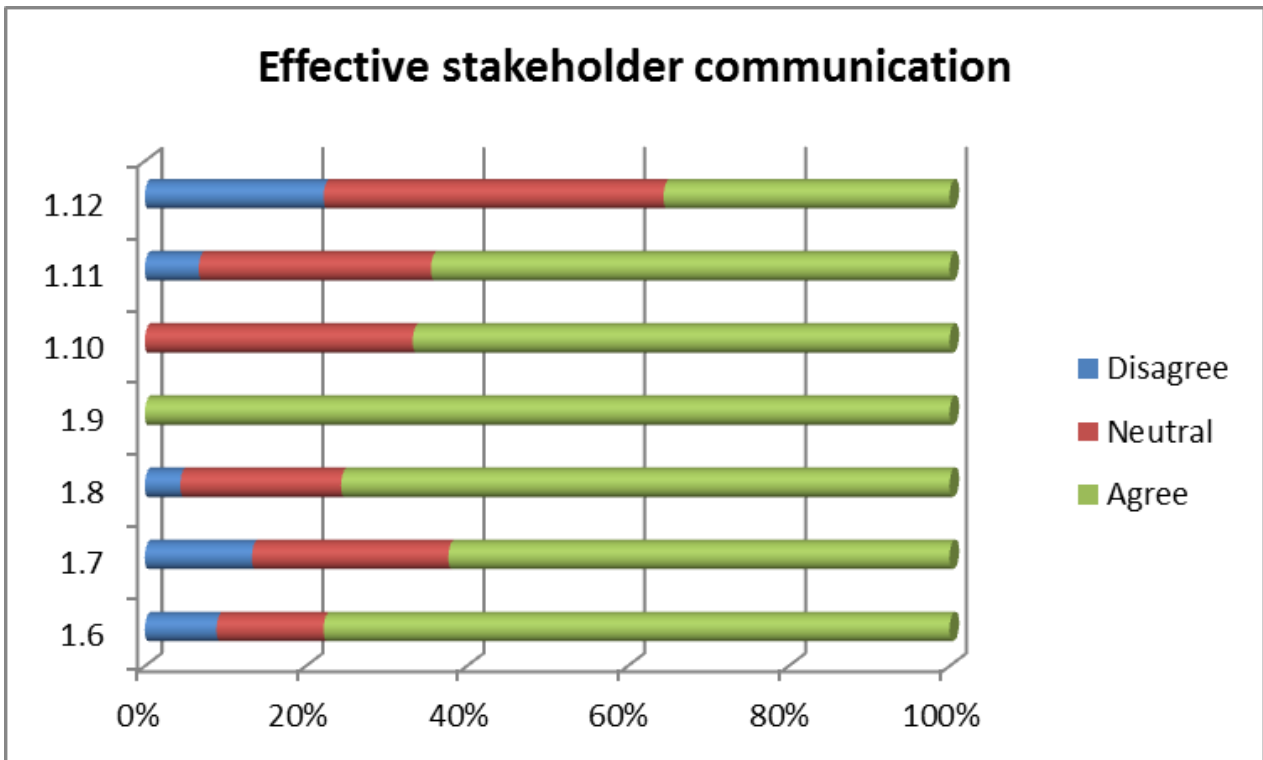


Figure 22 above indicates the total of the combined valid percentages (sub-statements 6-12) of effective stakeholder communication. Feedback from stakeholders regarding communication reflects that 77.7% of respondents agree that there is regular effective communication about malaria related issues between the UP CSMC and its stakeholders (1.6). As a consequence, 62.2% agree that they communicate with other stakeholders about malaria related issues (1.7). A percentage of 75.6% of the respondents agree that the UP CSMC communicates with them on a regular basis (1.8). All the respondents feel positive and agree (100%) that regular feedback helps to build long-term relationships with stakeholders (1.9). A percentage of 66.7% agree that the UP CSMC provides feedback to stakeholders about their malaria related queries (1.10). This provides encouraging data on the interest (1.11) in receiving information about opportunities to become involved (64.5%) and donating money (35.5%) to the UP CSMC for malaria related research (1.12).

Constructs thirteen to sixteen focussed on the two-way symmetrical communication model. This is illustrated in Figure 23 below.

**Figure 23: Findings of the two-way symmetrical communication model**

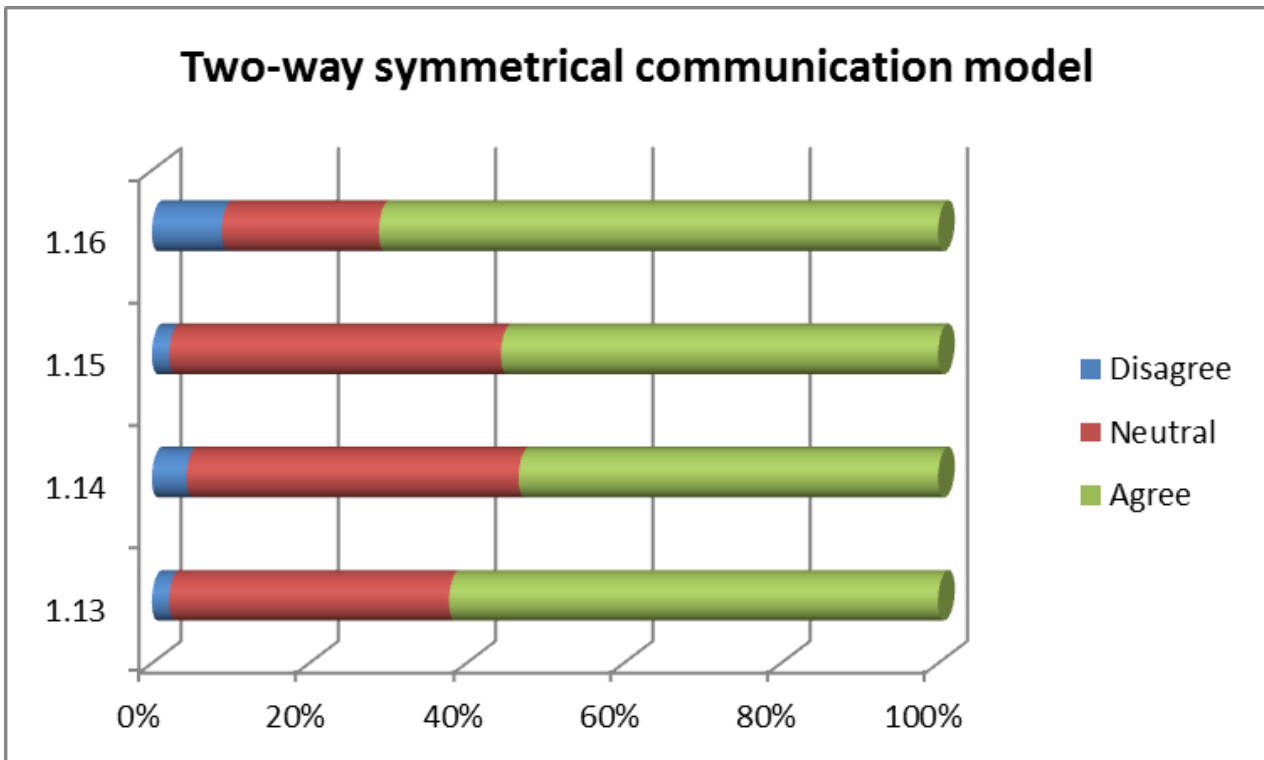


Figure 23 above indicates the total of the combined valid percentages (sub-statements 13-16) for the two-way symmetrical communication model. There is a clear indication of the total agreement of stakeholders to the effect that the two-way symmetrical communication model works effectively. The result of this is that communication from the UP CSMC helps facilitate 62.2% change in stakeholders' perception (1.13) and 55.6% change in stakeholders' actions about malaria related issues (1.14). On the other hand, 53.3% agree that the UP CSMC would consider changing some of its actions about malaria related issues if stakeholders communicate an idea to them (1.15). Before the UP CSMC starts a communication programme, 71.2% agree that surveys or informal research should be conducted by the UP CSMC to determine how much its management and its stakeholders understand each other (1.16).

Constructs seventeen to twenty focussed on the two-way asymmetrical communication model. This is illustrated in Figure 24 below.

**Figure 24: Findings of the two-way asymmetrical communication model**

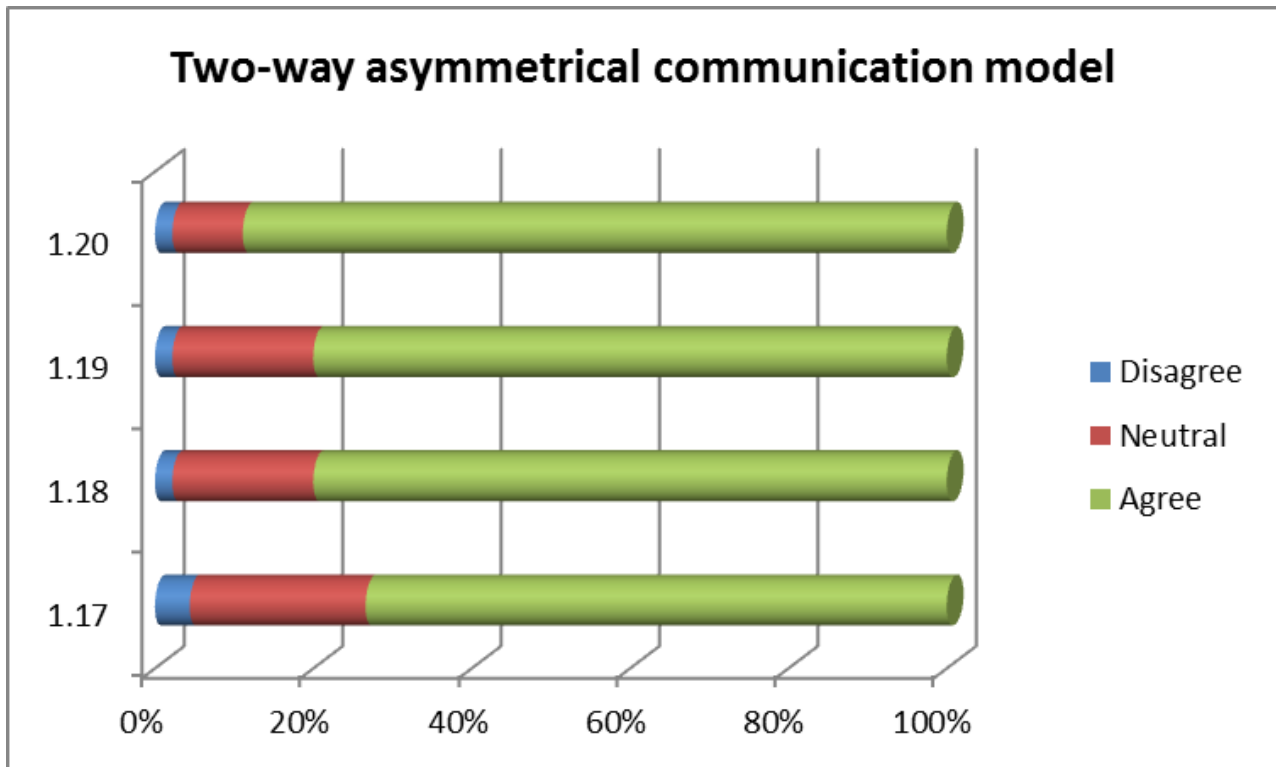


Figure 24 above indicates the total of the combined valid percentages (sub-questions 17-20) for the two-way asymmetrical communication model. From the Figure above, it is evident that 73.4% of the stakeholders agree that the UP CSMC should do regular stakeholder research to determine public attitudes towards the UP CSMC (1.17) and (1.19) towards malaria (80%), and how these attitudes might be changed. A percentage of 80% of the respondents agree that the UP CSMC should conduct surveys before starting a communication programme, to make sure that the organisation and its policies are described in ways that its stakeholders would likely understand (1.18). A percentage of 88.9% of the respondents agrees that the UP CSMC should do research after implementing the communication programme, to determine how effective the programme has been in changing people’s attitudes towards malaria related issues (1.20).

*Statement 2: ‘When misunderstandings happen regarding the messages received from the UP CSMC, in your experience, why did these misunderstandings occur?’*

The question consisted of eight options of which the first seven options’ data received are illustrated in Figure 25 below. The eighth option allowed respondents to indicate other misunderstandings that were not in the given options. These answers are indicated below Figure 6.

**Figure 25: Findings of misunderstandings...**

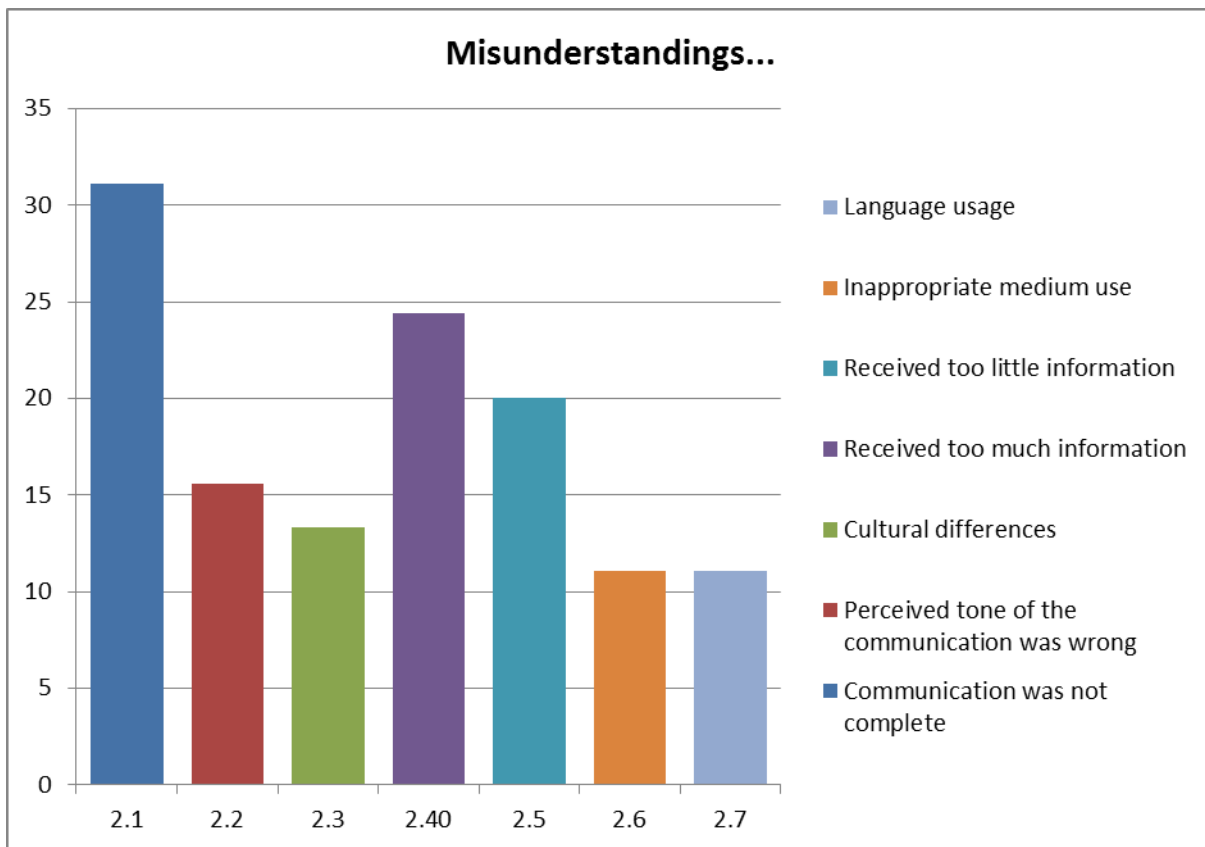


Figure 25 above illustrates that 31.1% of the respondents are of the opinion that misunderstandings occur because the communication was not complete, while 15.6% indicated that the perceived tone of the communication was wrong. A percentage of 13.3% feel there were cultural differences; 24.4% indicated that they received too much information; while others (20%) received too little information. Misunderstandings also occurred because of inappropriate medium use (11.1%) and language usage (11.1%). The respondents were also given the opportunity to provide other reasons for misunderstandings. Below is the respondents' feedback regarding the 'Other' option:

- Did not receive any messages from the UP CSMC
- Do not know why the misunderstandings happened
- Messages must be aligned with strategic goals
- Receive information too late
- Usually the messages are not very clear

Some of the respondents indicated they have not encountered any misunderstandings with the UP CSMC communication.

## Section B: Traditional and social media

The second section, discussed in the second part of Chapter 2, referred to the use of traditional media and social media as potential communication tools at the University of Pretoria Centre for Malaria Control (UP CSMC).

Part 1: Traditional media - include all the forms of “old” media used to communicate a message to stakeholders without using Internet technologies. Examples of old media include: television, radio, newspapers, magazines and outdoor media like billboards (Erasmus, 2012:2).

Part 1 consisted of eight opinion statements which allowed the respondents to complete the sentence ‘*in my opinion the use of traditional media...*’ The respondents’ feedback is illustrated in Figure 26 below.

**Figure 26: Findings of traditional media**

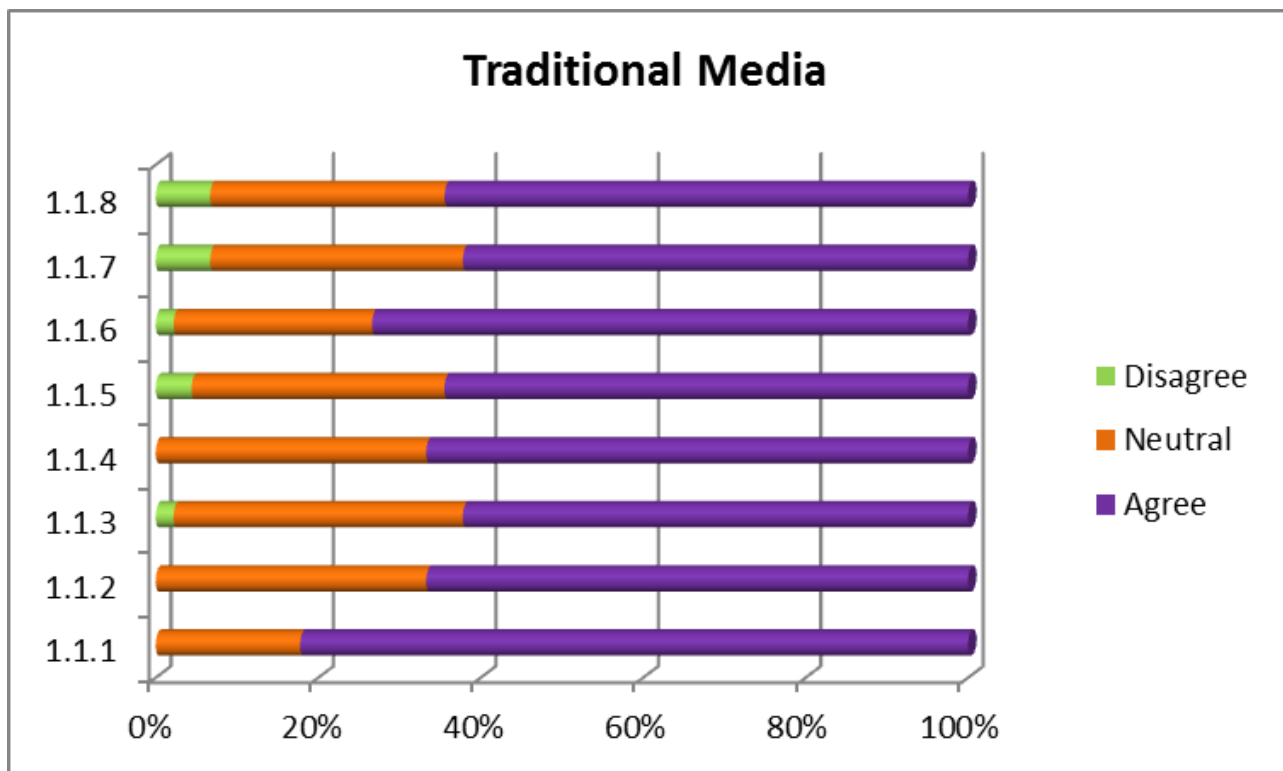


Figure 26 above illustrates that 82.3% of the respondents agree that traditional media benefits the UP CSMC (1.1.1). Traditional media also satisfies 66.7% of stakeholder needs (1.1.2), while 62.2% of respondents feel that it creates effective communication with stakeholders (1.1.3). A percentage of 66.7% of respondents feel that traditional media can

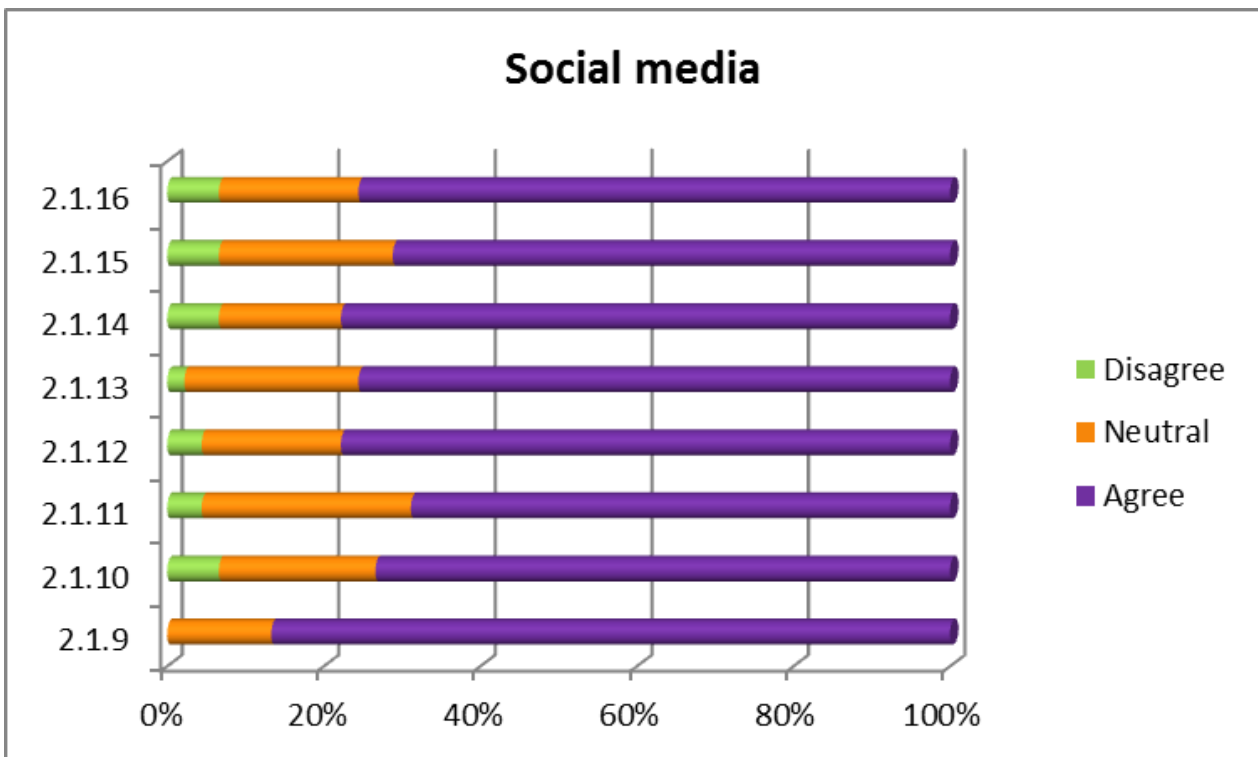


enable the establishment of long-term stakeholder relationships (1.1.4) and 64.4% agree that it provides more relevant information about malaria related issues (1.1.5). A large amount of the respondents (73.3%) agree that traditional media develops awareness amongst stakeholders (1.1.6), and 62.2% feels that traditional media empowers the UP CSMC to connect with its stakeholders (1.1.7). Lastly, 64.5% of respondents agree that the use of traditional media creates opportunities for open dialogue (1.1.8).

Part 2: Social media - according to Mangold and Faulds (2009:357-365) social media as “a wide range of online word-of-mouth forums including blogs, company-sponsored discussion boards and chat rooms, stakeholder-to-stakeholder e-mails ... Internet discussion boards and forums, mobile blogs (sites containing digital audio, images, movies, or photographs), and social websites (such as Facebook and Twitter), to name a few”.

Part 2 consisted of eight opinion statements which allows the respondents to complete the sentence *‘in my opinion the use of social media...’* The respondents’ feedback is illustrated in Figure 27 below.

**Figure 27: Findings of social media**



The use of social media had a very positive response and most of the respondents share the same opinions. Figure 8 above illustrates that 86.7% of the respondents agree that social media may benefit the UP CSMC (2.1.9) and 73.4% that it may satisfy stakeholder needs (2.1.10). According to 68.8% of respondents social media will lead to effective communication with stakeholders (2.1.11) and 77.8% believe it can enable the establishment of long-term stakeholder relationships (2.1.12). The respondents (75.5%) agree that the use of social media can provide them with more relevant information about malaria related issues (2.1.13) and 77.8% is of opinion that it develops awareness amongst stakeholders (2.1.14). A percentage of 71.1% of the respondents agree that the use of social media will empower the UP CSMC to connect with its stakeholders (2.1.15), while 75.5% agree that it creates an opportunity for open dialogue (2.1.16).

The second set of options in Part 2 covers channels the UP CSMC uses to transmit information to stakeholders.

*2.2.1 Respondents were required to: 'Tick the box that best indicates the channel through which they currently receive information. They could choose more than one box.'*

Figure 28 below illustrates the channels through which respondents currently receive information.

**Figure 28: Findings of channels through which information is currently received**

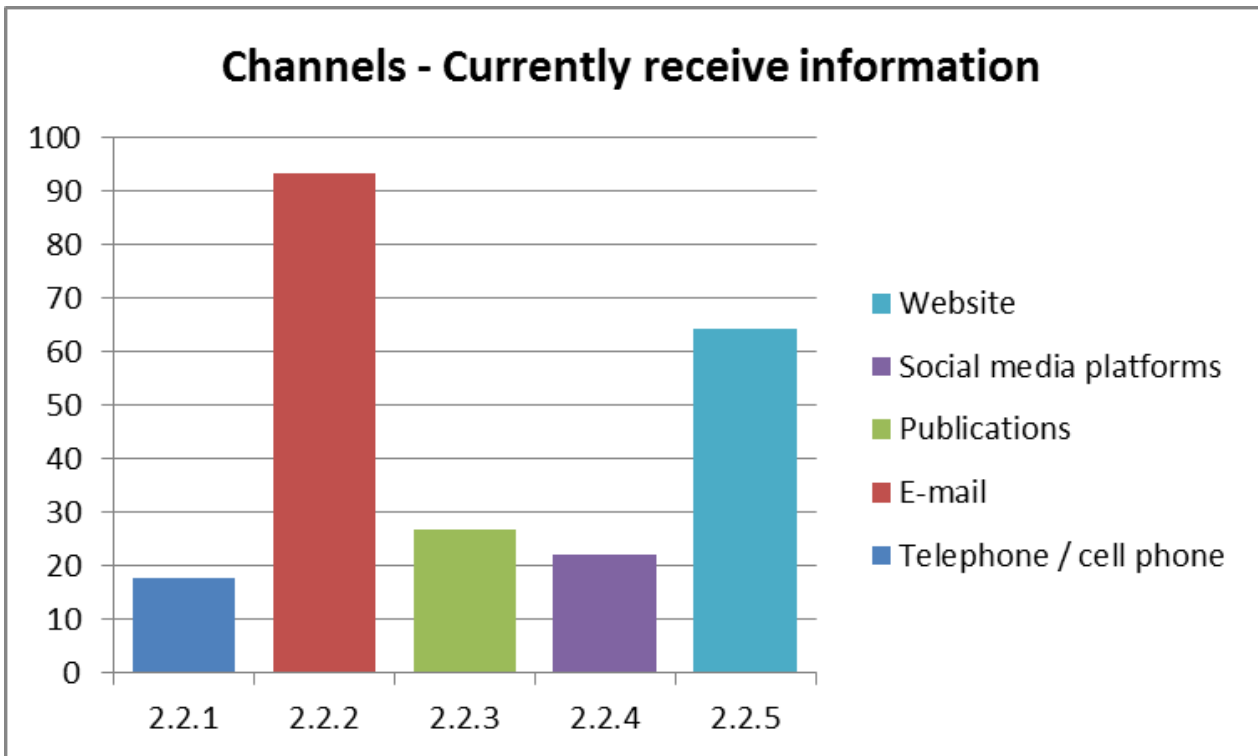


Figure 28 above illustrates that 17.8% of the respondents currently receive information over the telephone / cell phone while most of the respondents (93.3%) receive information through their e-mail. A percentage of 26.7% of respondents receive information through publications, another 22.2% through social media platforms (Facebook, Twitter, LinkedIn and ResearchGate) and 64.4% from the UP CSMC website.

2.2.1\_A: Respondents were required to ‘tick the box that best indicates the channel through which they prefer to receive information. They could choose more than one box.’

Figure 29 below illustrates the respondents’ feedback regarding the channels they prefer to receive information through.

**Figure 29: Findings of channels respondents prefer to receive information through**

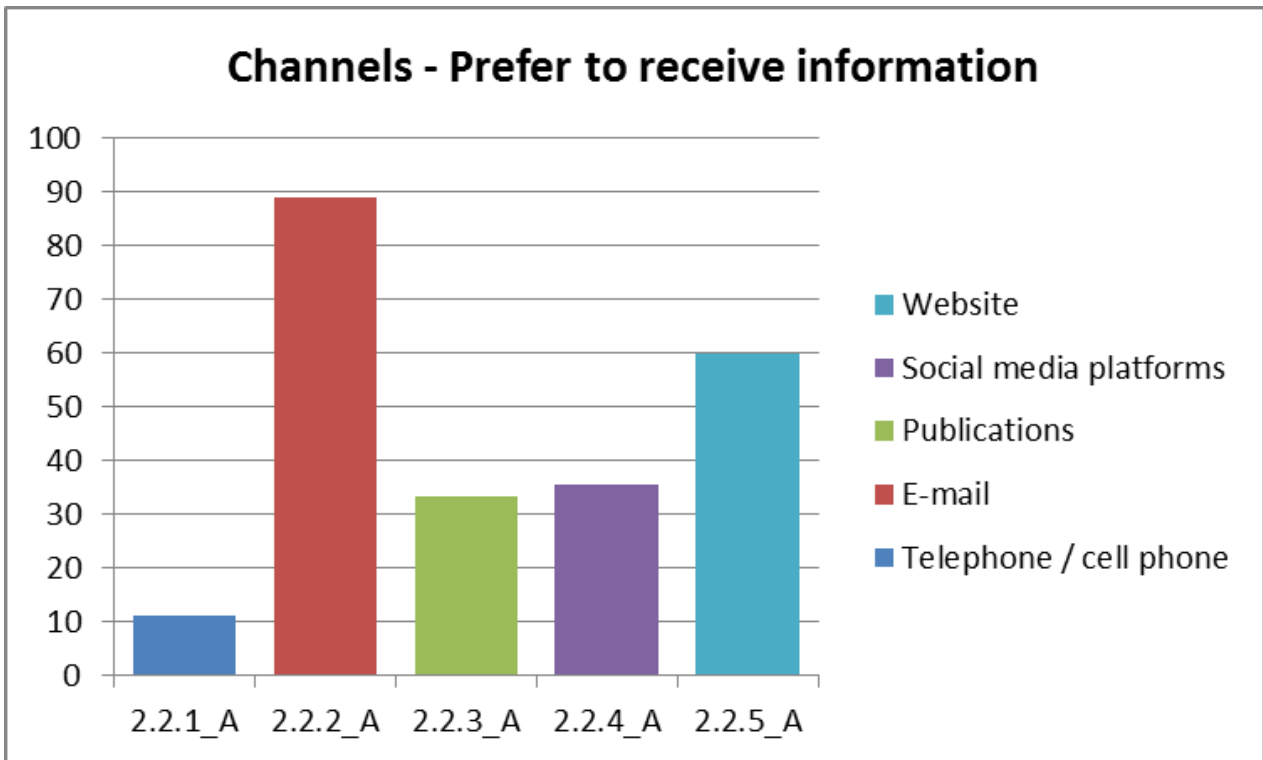


Figure 29 above illustrates that 11.1% of the respondents prefer to receive information through the telephone / cell phone as oppose to 88.9% who would rather receive information by e-mail. A percentage of 33.3% of respondents prefer publications and 35.6% prefer social media platforms (Facebook, Twitter, LinkedIn and ResearchGate). The UP CSMC website also received a high percentage rate (60%) as a preferred channel. The feedback indicates that e-mail and websites are the most preferred channels to receive information from the UP CSMC.

*Question 2.3 Part 2 required of the respondents ‘to indicate whether they are a member of a social media networking site?’*

Figure 30 below illustrates whether the respondents (expressed as a percentage) are a member of a social media networking site or not.

Figure 30: Findings of total stakeholders who are a member of a social media networking site

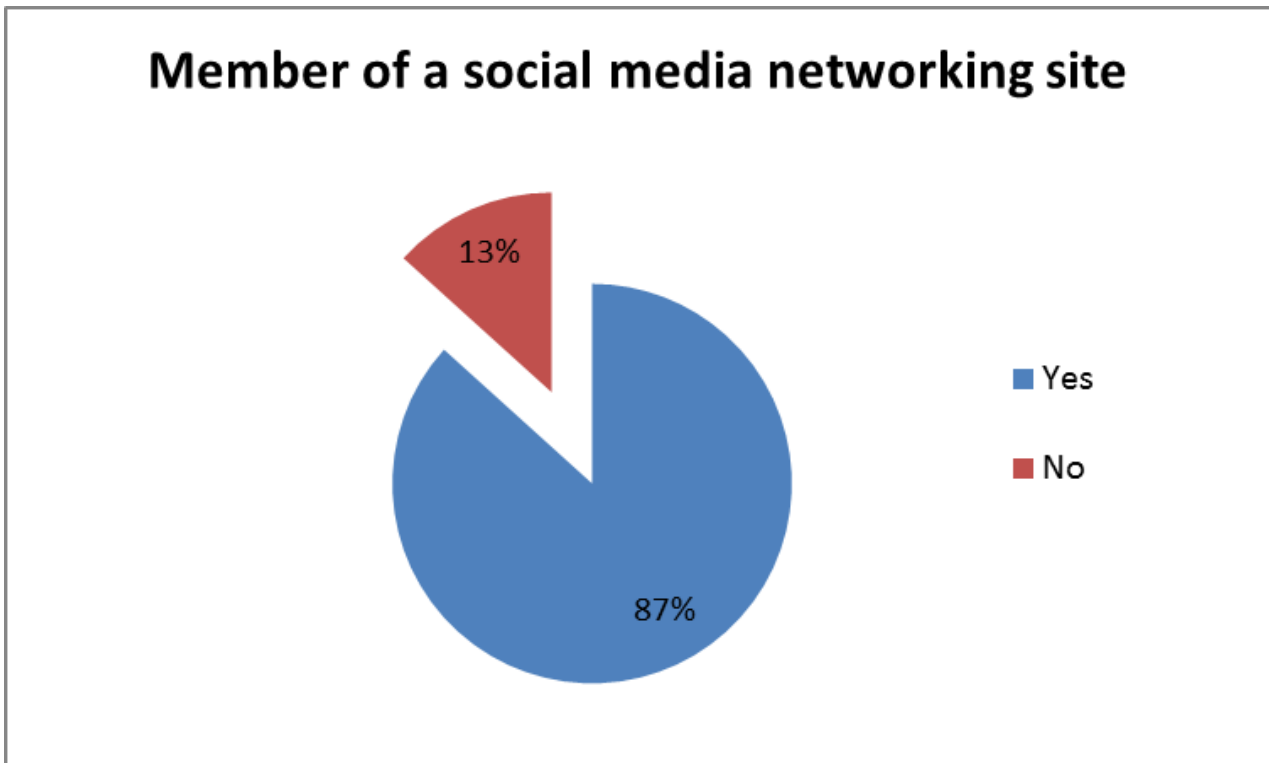
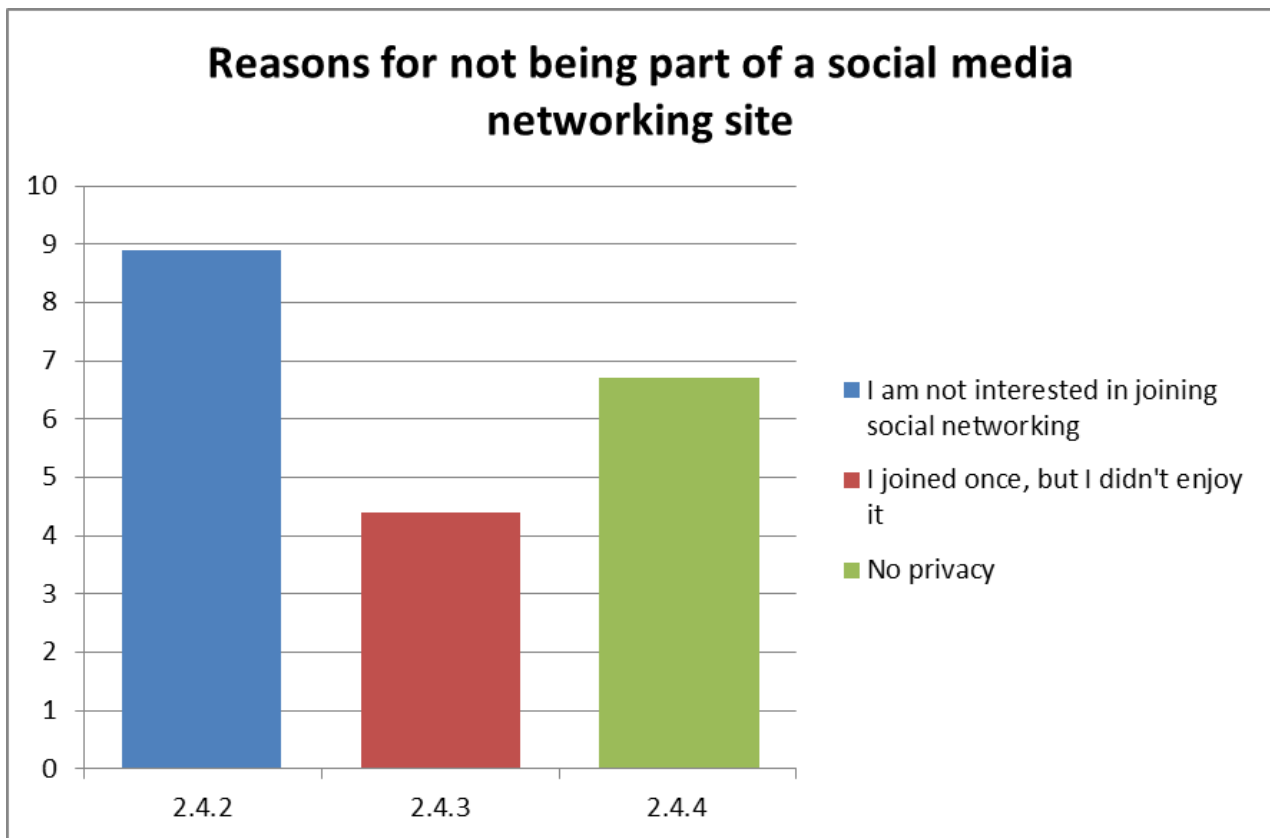


Figure 30 above illustrates that 86.7% of the respondents are a member of a social media networking site – see question 2.5 for detail of the social media networking sites respondents use. A percentage of 13.3% of the respondents are not a member of a social media networking site – see choice of options per 2.4 below for reasons in this regard.

2.4 – The respondents were asked to choose reason(s) why they are not a member of a social media networking site. The response of the 13.3% of the respondents who indicated 'no' is as follow (Figure 31):

**Figure 31: Findings of the reasons for not being part of a social media networking site**



Option 2.4.1 is not illustrated in Figure 31 above since all of the respondents know what a social media network is. A percentage of 8.9% of the respondents stated that they are not interested in joining a social networking site whilst 4.4% of respondents stated that, having already joined once before; they did not enjoy being part of a social network. A number (6.7%) of respondents believe that a social media network offers no privacy. Respondents were also allowed to provide reasons (other than listed above) for not being a member of a social media network. The responses are as follows:

- Requires too much attention. Results in excess information being received, of which much is irrelevant
- Time wasting
- Older generation prefers face-to-face communication

2.5 – The respondents were requested to indicate from the available options the social media sites they use. They were allowed to choose more than one option. The response of the 86.7% of the respondents who indicated ‘yes’ is as follows (Figure 32):

**Figure 32: Findings of respondents' choice of social media sites**

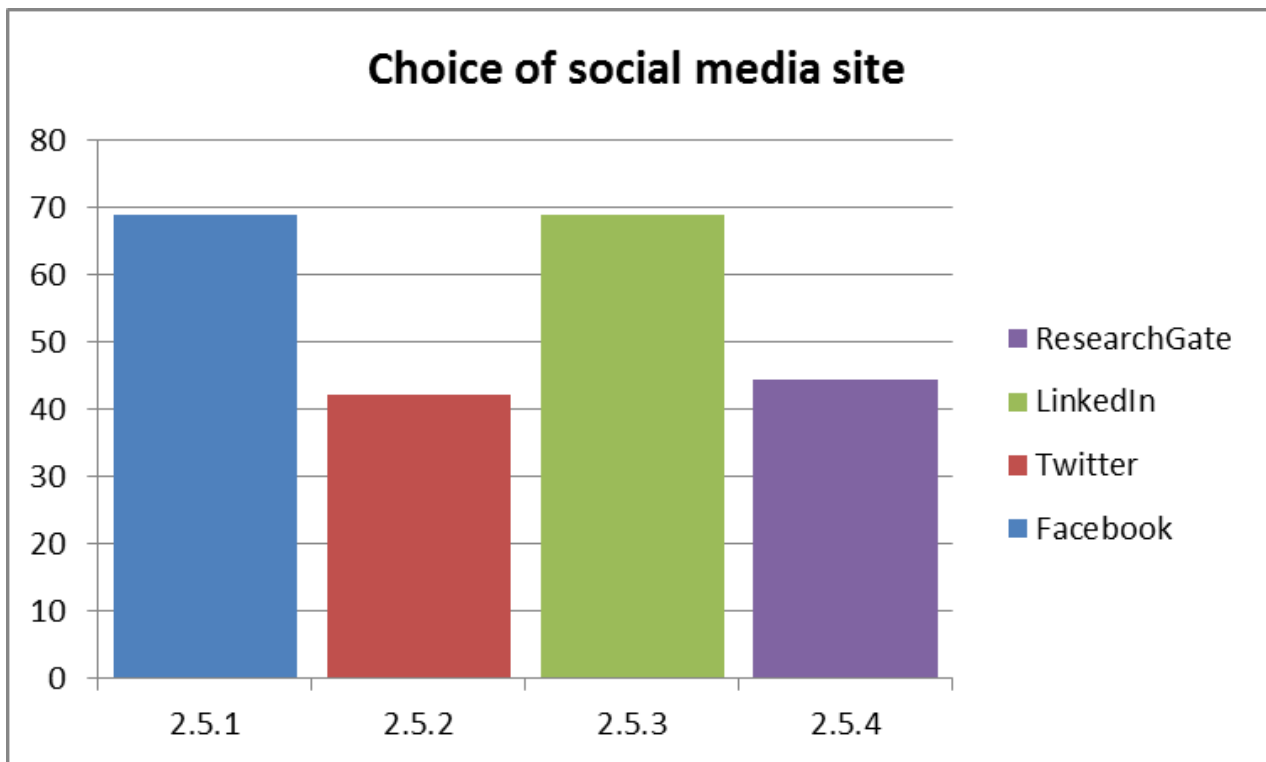


Figure 32 above illustrates the choice of social media sites respondents use. A percentage of 68.9% uses Facebook, versus 42.2% Twitter, 68.9% LinkedIn and 44.4% ResearchGate. A percentage of respondents (8.9%) indicated the use of other social media sites listed below:

- Instagram
- YouTube
- Website

2.6 – The respondents were requested to select from the available options social media platforms they would use to read about the UP CSMC. The respondents were allowed to choose more than one option. Figure 33 below illustrates the percentage of respondents and the social media platform they would use to read about the UP CSMC.



**Figure 33: Findings of social media platforms used to read about the UP CSMC**

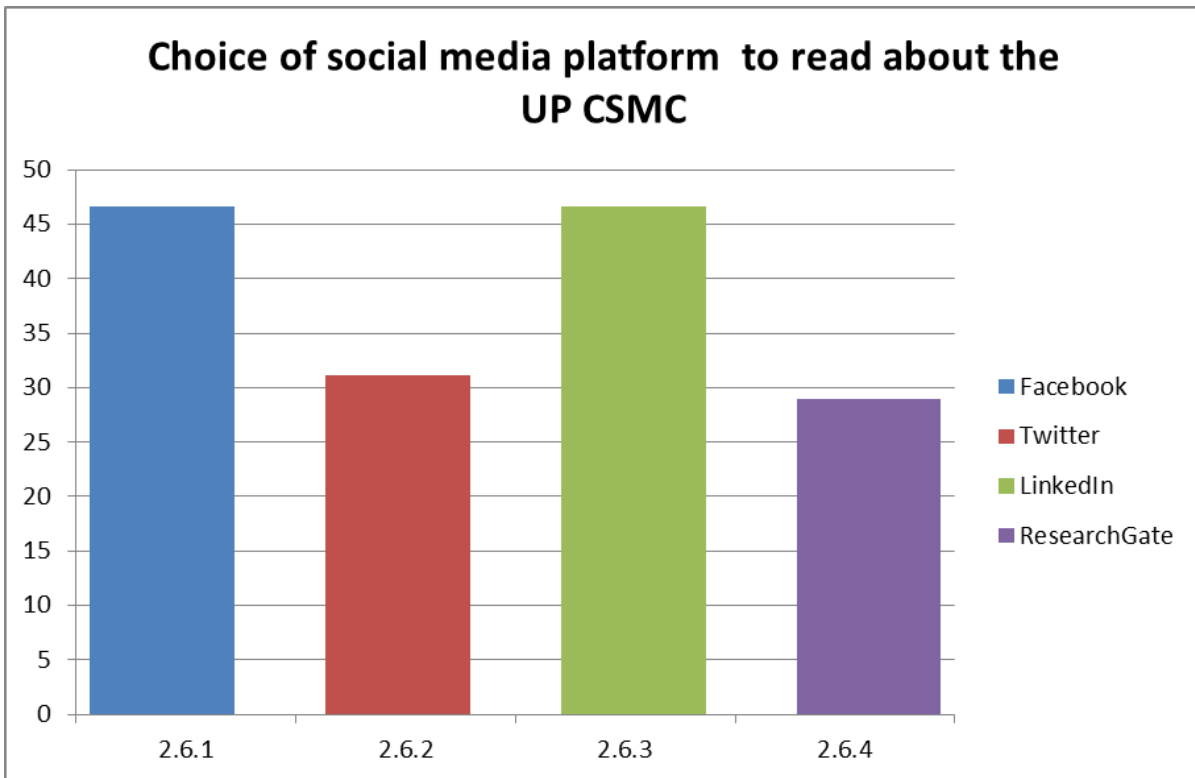


Figure 33 above illustrates that 46.7% would use Facebook to read about the UP CSMC. A percentage of 31.1% would use Twitter, 46.7% would use LinkedIn and 28.9% would use ResearchGate. Some respondents (6.7%) indicated the other social media platforms that they would use to read about the UP CSMC, as listed below:

- E-mail
- Website

A small percentage of respondents (4.4%) indicated that they would not use a social media platform to read about the UP CSMC.

2.7 – The respondents were requested to select from the available options a reason why they would use an online social network to interact with the UP CSMC. The respondents were allowed to choose more than one option. Figure 34 below illustrates the reasons chosen by respondents to interact with the UP CSMC.

**Figure 34: Findings of the reasons why online social network is used to interact with UP CSMC**

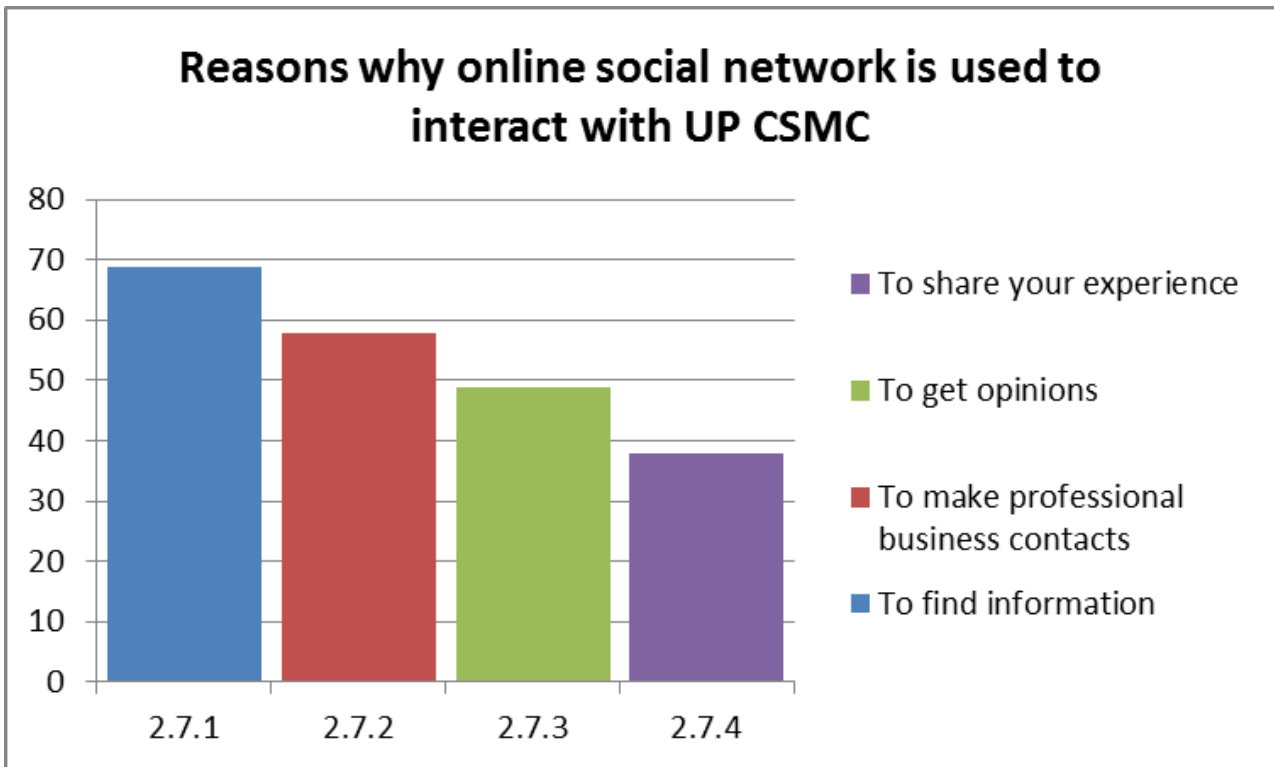
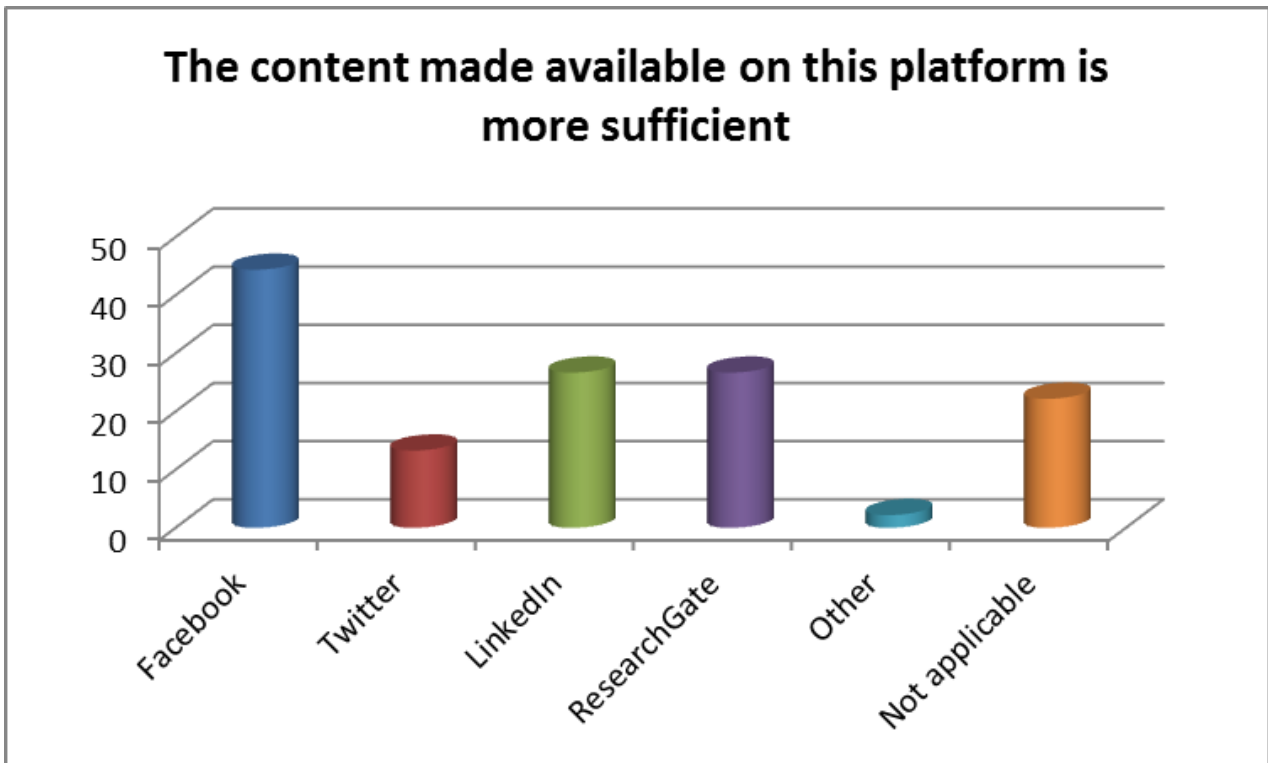


Figure 34 above illustrates the reasons why the respondents would use an online social network to interact with the UP CSMC. A percentage of 68.9% would use an online social network to interact with the UP CSMC to find information. A further percentage of 57.8% indicated they would use an online social network to make professional and business contacts. Furthermore, 48.9% chose “to get opinions” as a reason to interact with the UP CSMC via an online social network, whilst 37.8% indicated that their reason for interacting with the UP CSMC via an online social network is to share their experiences.

2.8 – The respondents were requested to indicate their preference (in order of relevance) of the social media platforms Facebook, Twitter, LinkedIn and ResearchGate. Figure 35 to Figure 40 below illustrate the respondents’ preference for social media platforms. Each construct is illustrated in its own figure, which will be discussed separately below.

**Figure 35: Findings of the content made available on social media platform which is more sufficient**



Illustrated by Figure 35 above, 44.4% of respondents are of the opinion that Facebook provides sufficient content, whilst ResearchGate and LinkedIn are reported to equally provide sufficient content by 26.7% of respondents. On the other hand, 13.3% of respondents chose Twitter as the social media platform to provide sufficient content followed by the options Other (2.2%) and Not applicable (22.2%) as an indication that the options are not preferred by them as sufficient.

Figure 36 below illustrates the accessibility of social media platforms to stakeholders from most accessible to least accessible, as per respondents' opinion.

Figure 36: Findings of the platform that is more accessible to stakeholders

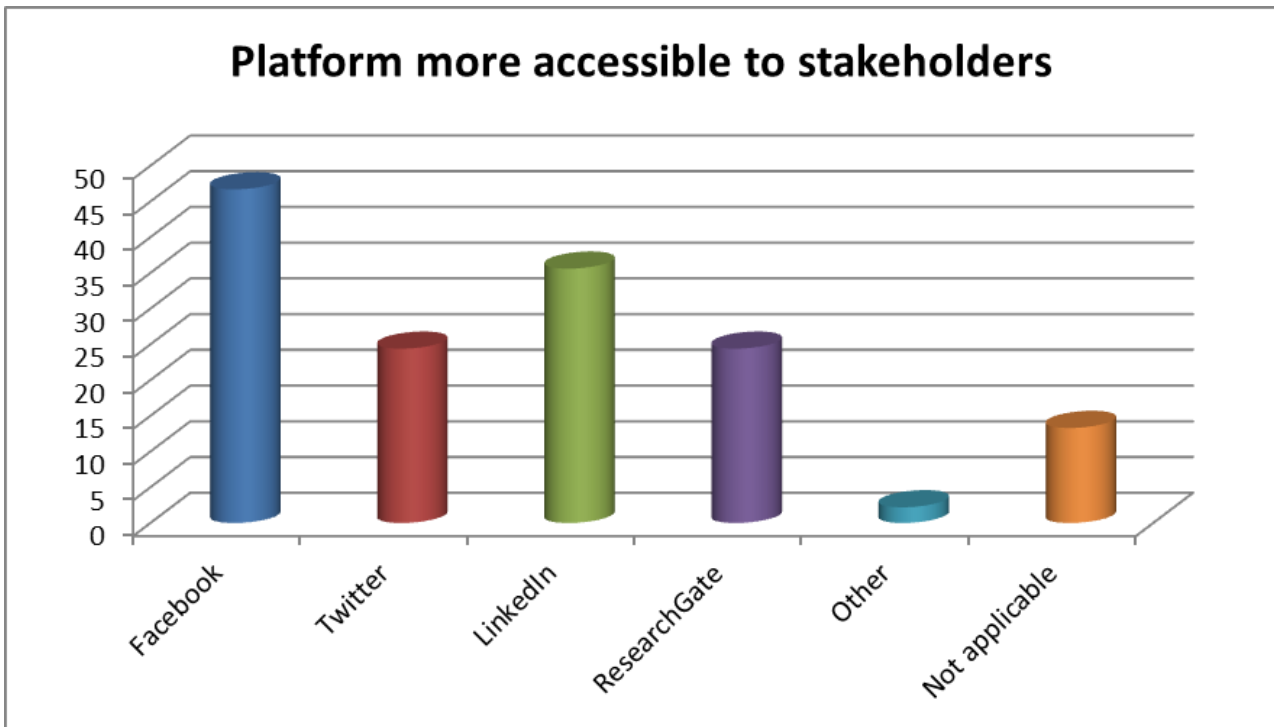


Figure 36 above illustrates that 46.7% of respondents chose Facebook as most accessible to stakeholders, whilst 35.6% indicated LinkedIn as being more accessible, followed by ResearchGate (24.4%) and Twitter (24.4%). Only 2.2% of respondents are of the view that other social media platforms than mentioned above are accessible to stakeholders, which really is considered an insignificant percentage.

Figure 37 below illustrates the platform which is considered most suitable to collaborate more with stakeholders.

**Figure 37: Findings of the platform that offers the means to collaborate more with stakeholders**

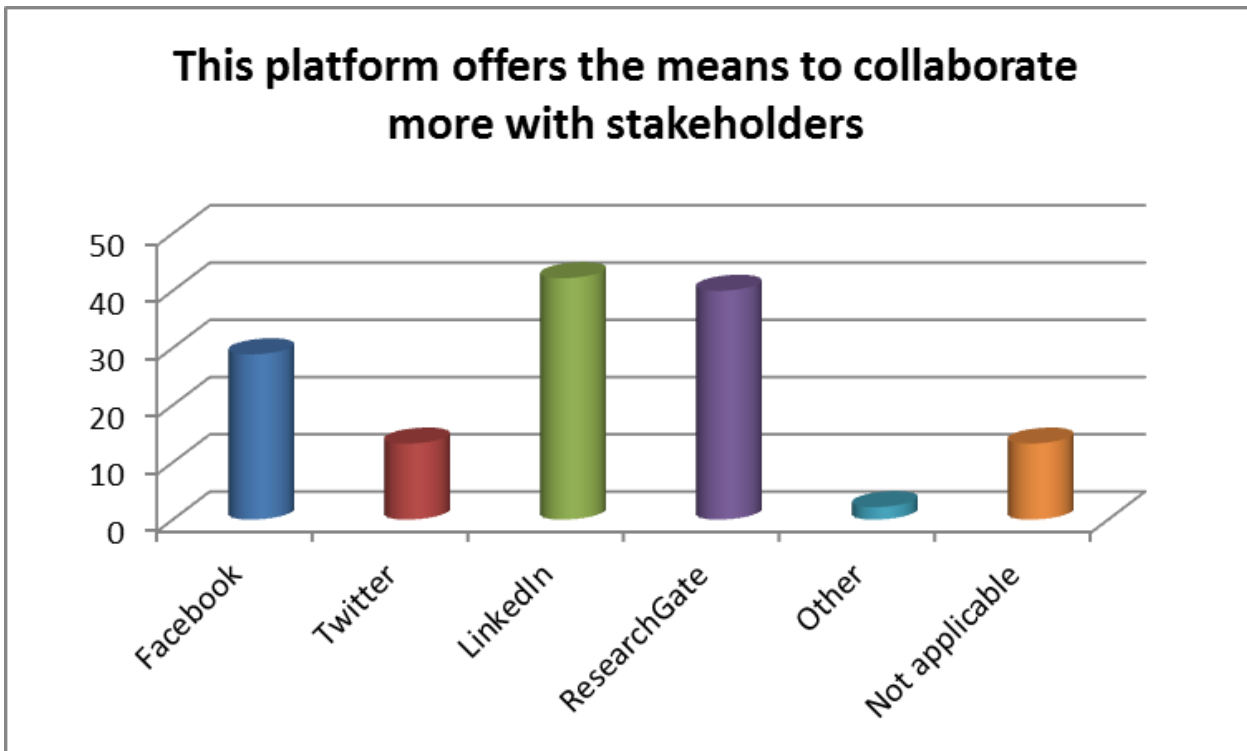
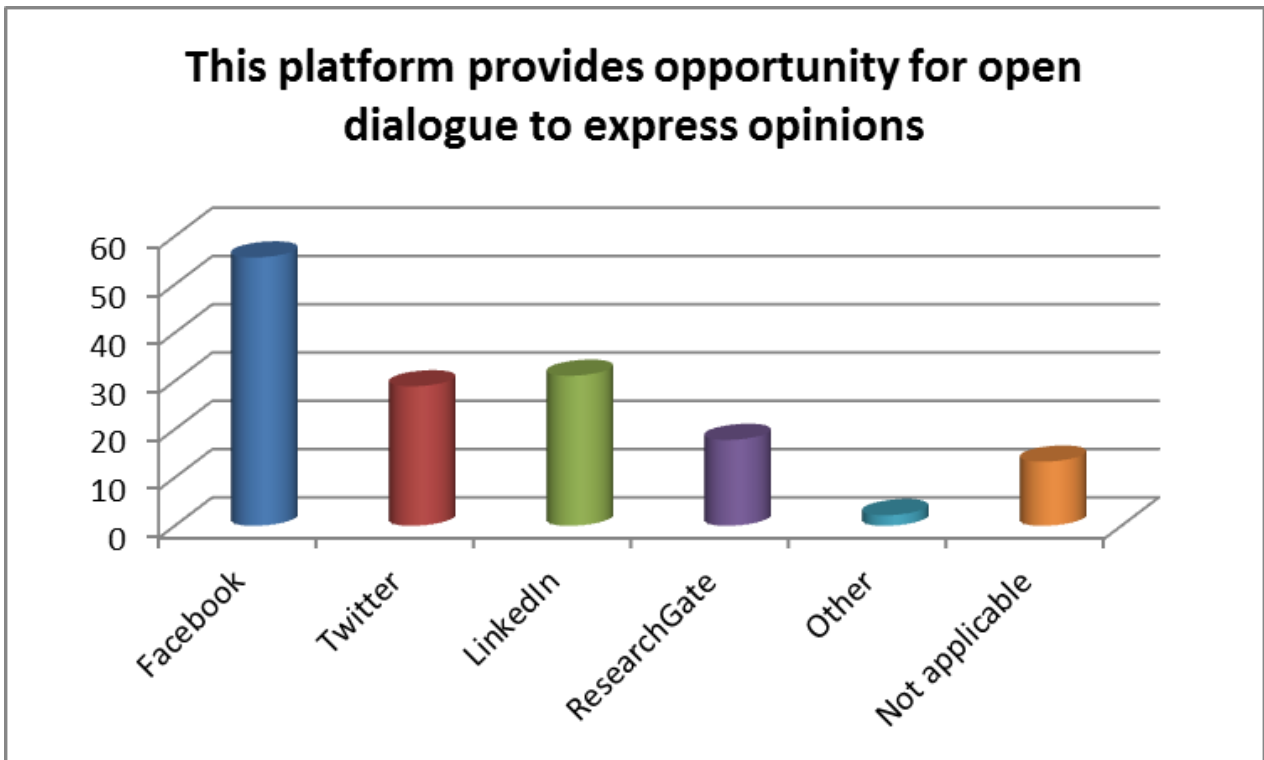


Figure 37 above illustrates the order of platforms most suitable to collaborate with stakeholders according to the respondents views, as follows: LinkedIn 42.2%, ResearchGate 40%, Facebook 28.9%, Twitter 13.3% and 2.2% indicated Other. Again, the latter represents an insignificant choice.

Figure 38 below illustrates the order of platforms from most suitable for open dialogue to express opinions, to least suitable, according to respondents' views.

**Figure 38: Findings of the platform that provide an opportunity for open dialogue to express opinions**



Indicated in Figure 38 above, platforms providing opportunity for open dialogue to express opinions reflect Facebook 55.6%, LinkedIn 31.1%, Twitter 28.9%, ResearchGate 17.8%, and Other 2.2%. This is not unexpected, as Facebook is commonly known as the social media platform by which open dialogue and expression of opinion is experienced.

Figure 39 below illustrates the respondents' choice of social media platform that provides opportunity for participation.

Figure 39: Findings of the platform which provides an opportunity for participation

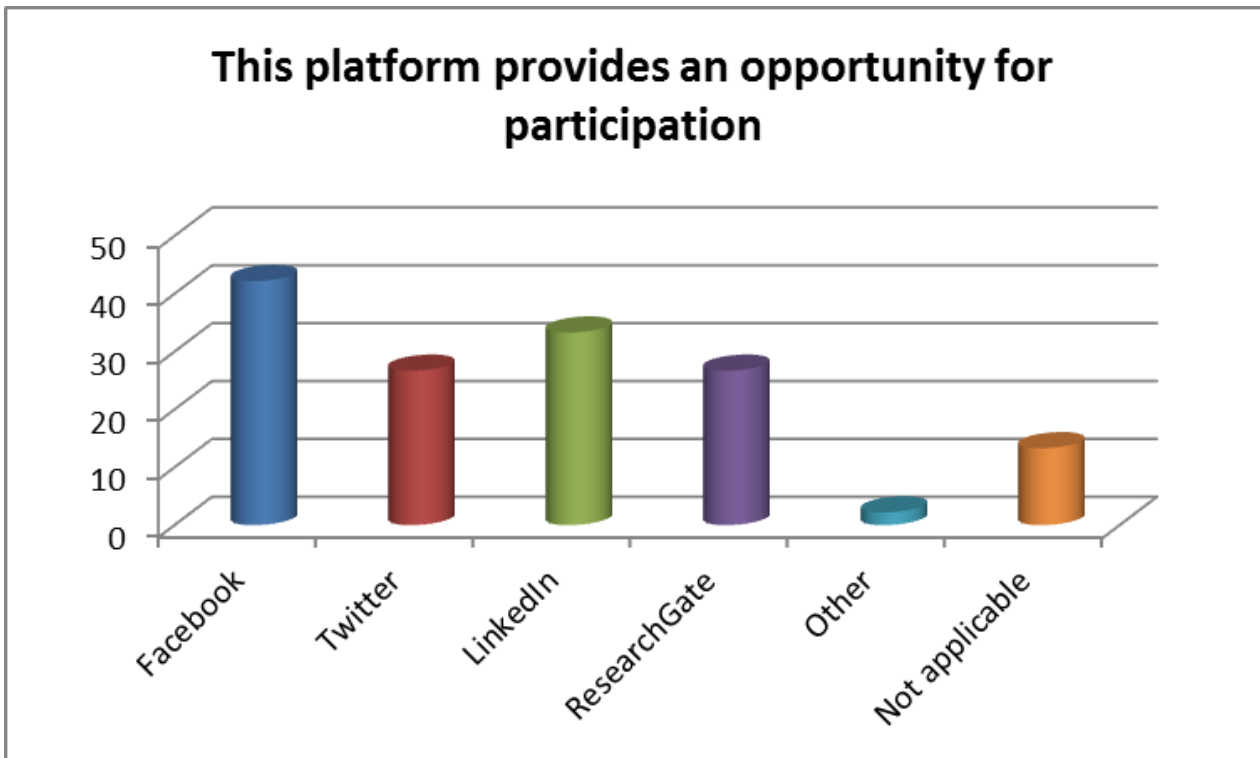


Figure 39 above indicates that 42.2% of respondents feel that Facebook provides the ideal opportunity for participation; this is followed by LinkedIn (33.3%), ResearchGate and Twitter (26.7%) and Other (2.2%). Active participation on social media platforms is a common phenomenon during social collaboration.

Figure 40 below illustrates the platform that, according to respondents, offers the means to collaborate with a larger number of stakeholders.

**Figure 40: Findings of the platform that offers the means to collaborate with a larger number of stakeholders**

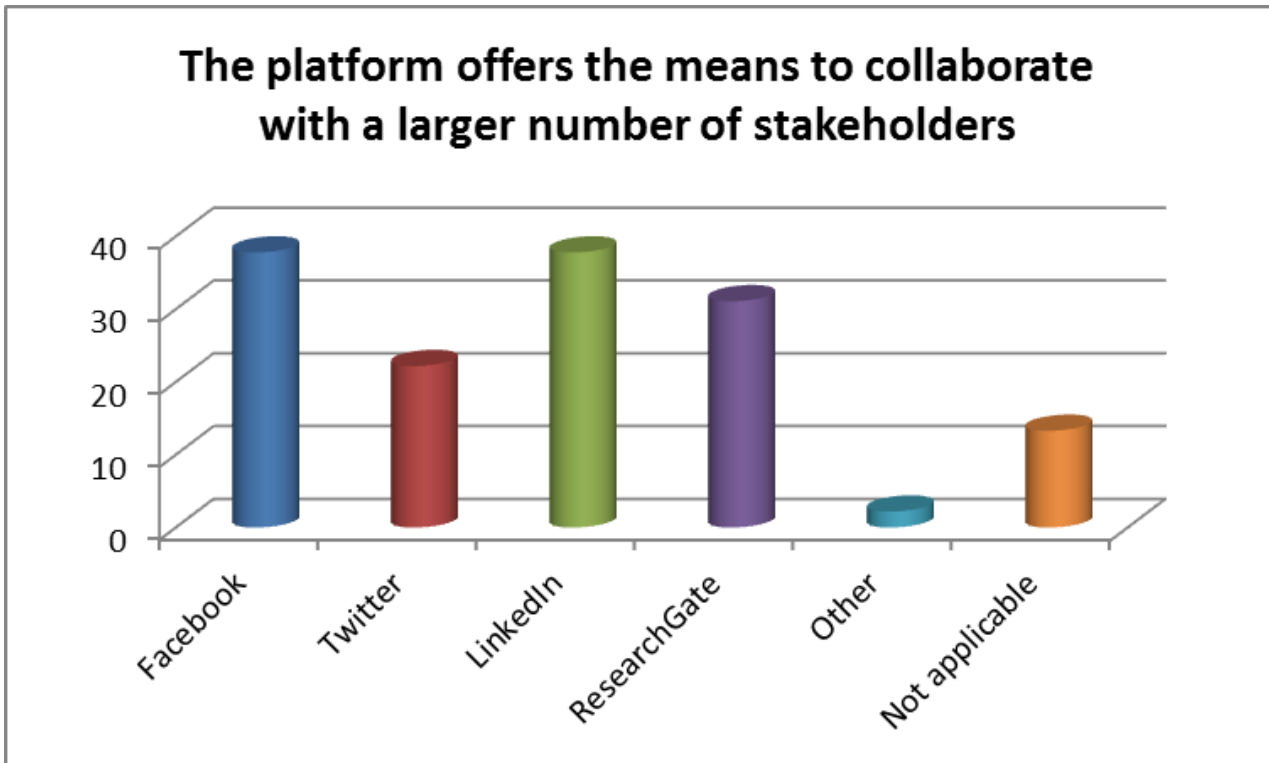


Figure 40 above illustrates respondents' view of a platform that offers the means to collaborate with a larger number of stakeholders as follows: Facebook 37.8%, LinkedIn 37.8%, ResearchGate 31.1%, Twitter 22.2% and Other 2.2%. Illustrated earlier, 68.9% of respondents make use of Facebook and LinkedIn, which clearly aligns with the respondents' view illustrated in Figure 40 above, namely that Facebook and LinkedIn offers the means to collaborate with a larger number of stakeholders.

### **Section C: Stakeholder relationships**

In Part 1 of Chapter 3, stakeholder relationships was discussed. Part 3 of the measuring instrument deal with the stakeholder involved with the UP CSMC in particular the standing relationship. This section consists of eleven statements focussing on the relationship and the benefit to stakeholders provided by the relationship. Figure 41 below provides context to the stakeholders' opinion about the relationship.



**Figure 41: Findings of the existence and mutual benefits of stakeholder relationships**

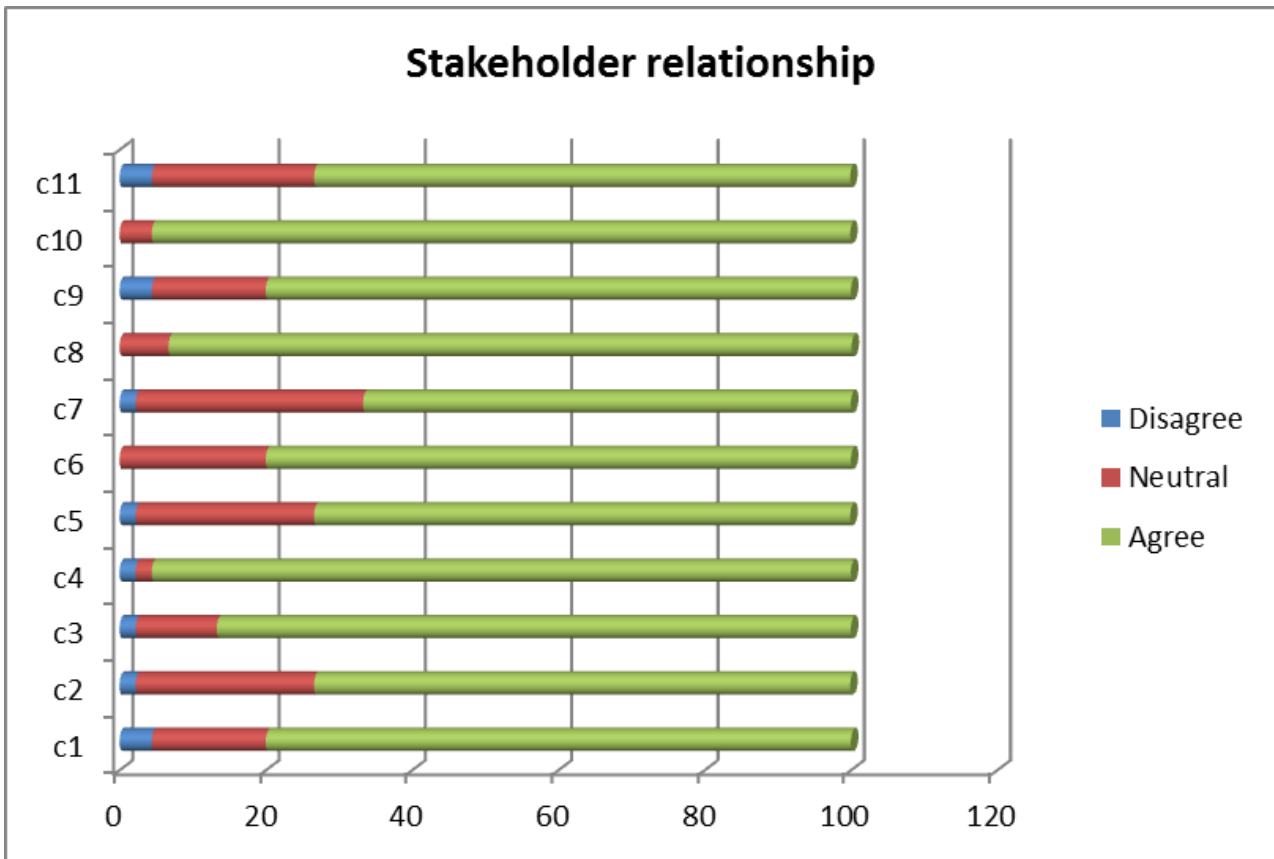


Figure 41 above illustrates the existence and mutual benefits of the relationships between the UP CSMC and its stakeholders as follows: A percentage of 80% of respondents confirmed having a standing relationship with the UP CSMC (c1). Of the latter, 73.3% feels the UP CSMC is very dynamic in maintaining good long-term relationship with its stakeholders (c2). Long-term stakeholder relationships help forge a deep emotional bond that could lead to enhance perceptions is the view of 86.7% of the respondents (c3). In general 95.6% of the respondents feel that long-term relationships are built on mutual understanding (c4) - as such, 73.3% of respondents are of the opinion that UP CSMC can be relied on to keep its promises (c5). Of the respondents who have an existing relationship with the UP CSMC 80% suggest that relationship behaviour at the UP CSMC is guided by sound principles (c6) and 66.7% of the respondents in an existing relationship with UP CSMC agree that they are acknowledged and their views taken into account when communicating with the UP CSMC (c7). Having a level of understanding of malaria related issues is confirmed by 93.4% of the respondents (c8), while 80% of the respondents make an effort to understand the communication from the UP CSMC about malaria related issues (c9). As illustrated by c10 in the Figure above, 95.5% of respondents agree that

they gain a better understanding of the information provided when listening actively, whilst 73.3% strongly agree that the use of social media platforms will increase shared understanding between stakeholders about malaria related issues (c11).

**Section D: Corporate communication strategy**

In Part 2 of Chapter 3, corporate communication strategy were discussed. Part 4 of the measuring instrument explains components of the UP CSMC communication, specifically the corporate communication strategy, stakeholder perceptions about the UP CSMC, and the UP CSMC image as seen by stakeholders. Firstly, corporate communication strategy of the UP CSMC is illustrated by Figure 42 below.

**Figure 42: Findings of the content of corporate communication strategy**

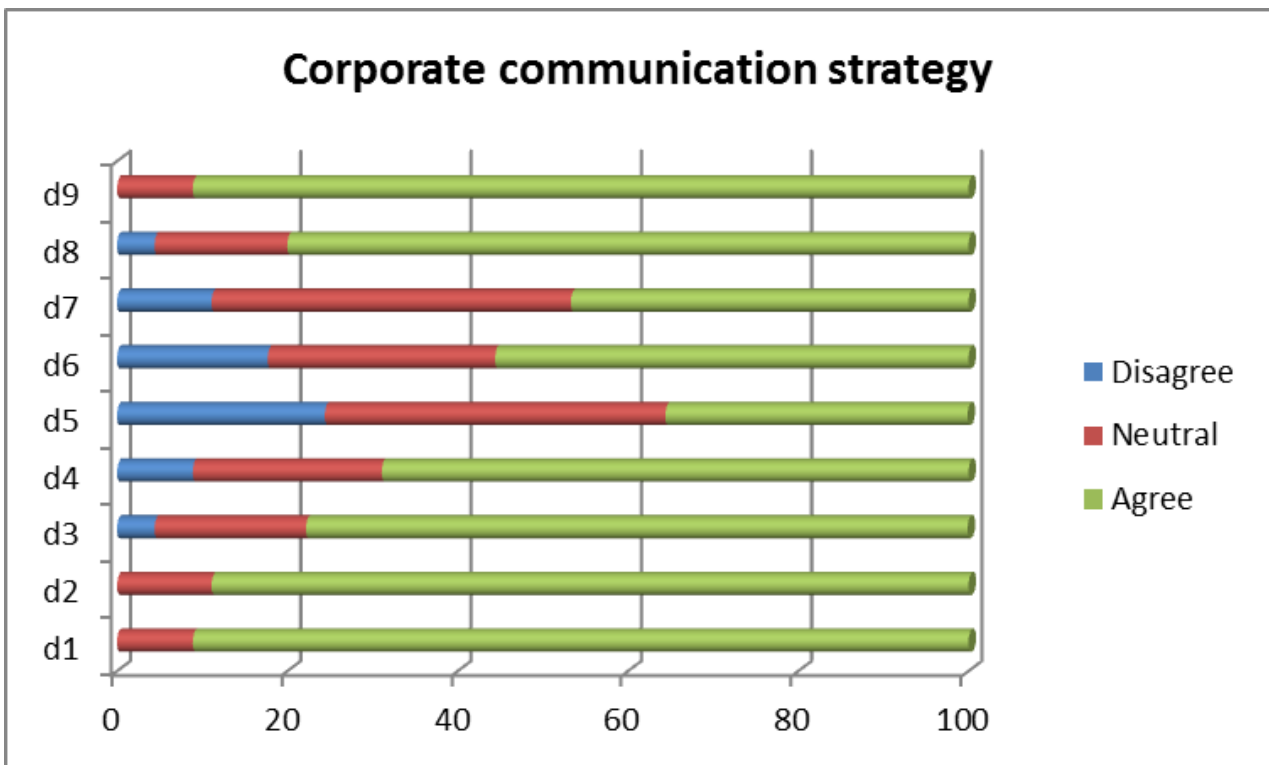


Figure 42 above illustrates that 91.1% of the respondents participating in the study would like to read about malaria related issues in the media (d1), and that 88.9% of respondents would like to receive information about malaria related issues from the UP CSMC (d2). Level d3 in Figure 23 above reflects that 77.7% of respondents indicate that they would take part in awareness campaigns about malaria related issues arranged by the UP CSMC - as such, 68.9% would like to receive information about the corporate strategy of the UP CSMC including its vision, mission, policies and values (d4). Only 35.5% of respondents

would like to become more involved with the UP CSMC decision-making (d5) however, while 55.6% (d6) of respondents indicated they would like to assist the UP CSMC with identifying key strategic issues relating to malaria. Interest is shown to know the higher hierarchical orientation of the UP CSMC to understand who to communicate with (46.7% of the respondents) (d7). There is also a need indicated by 80% of respondents to receive feedback regarding the status of their input when the UP CSMC engage with them about malaria related issues (d8), while 91.1% would like to read in the media about the activities of the UP CSMC (d9).

The concept that follows focusses on stakeholder perceptions about the UP CSMC.

**Figure 43: Findings of stakeholder perception about the UP CSMC**

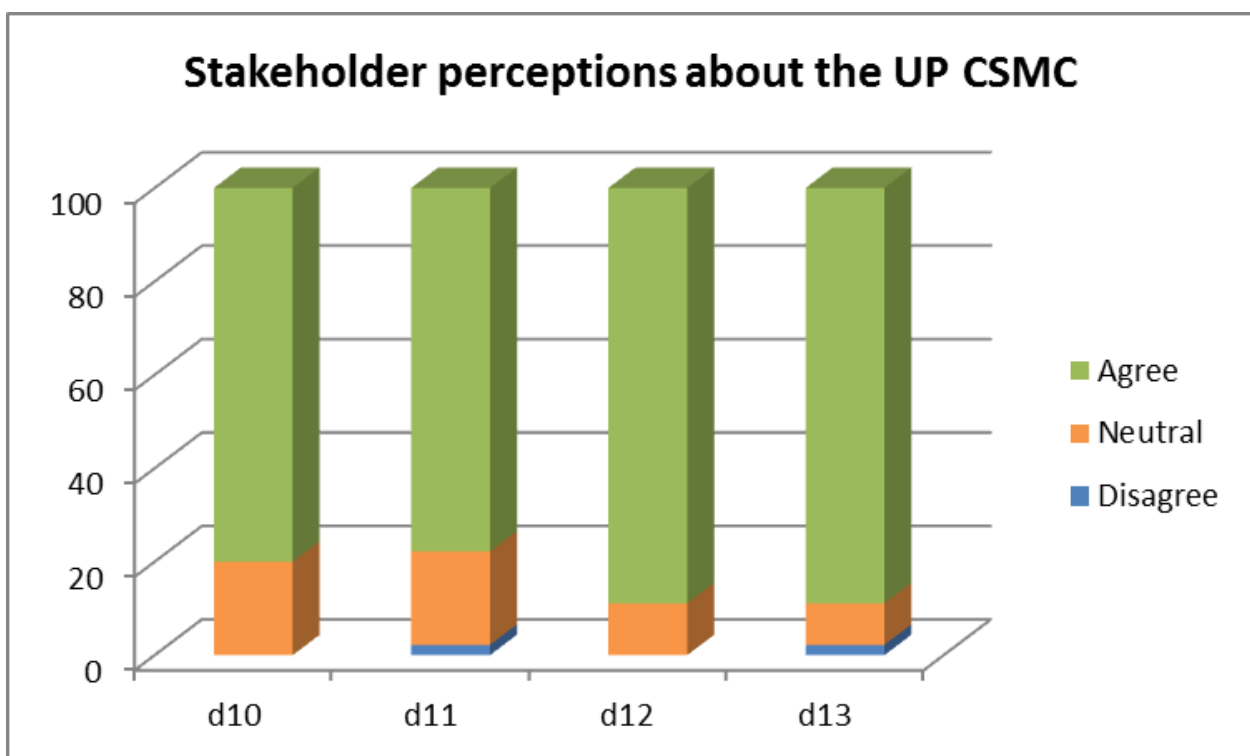


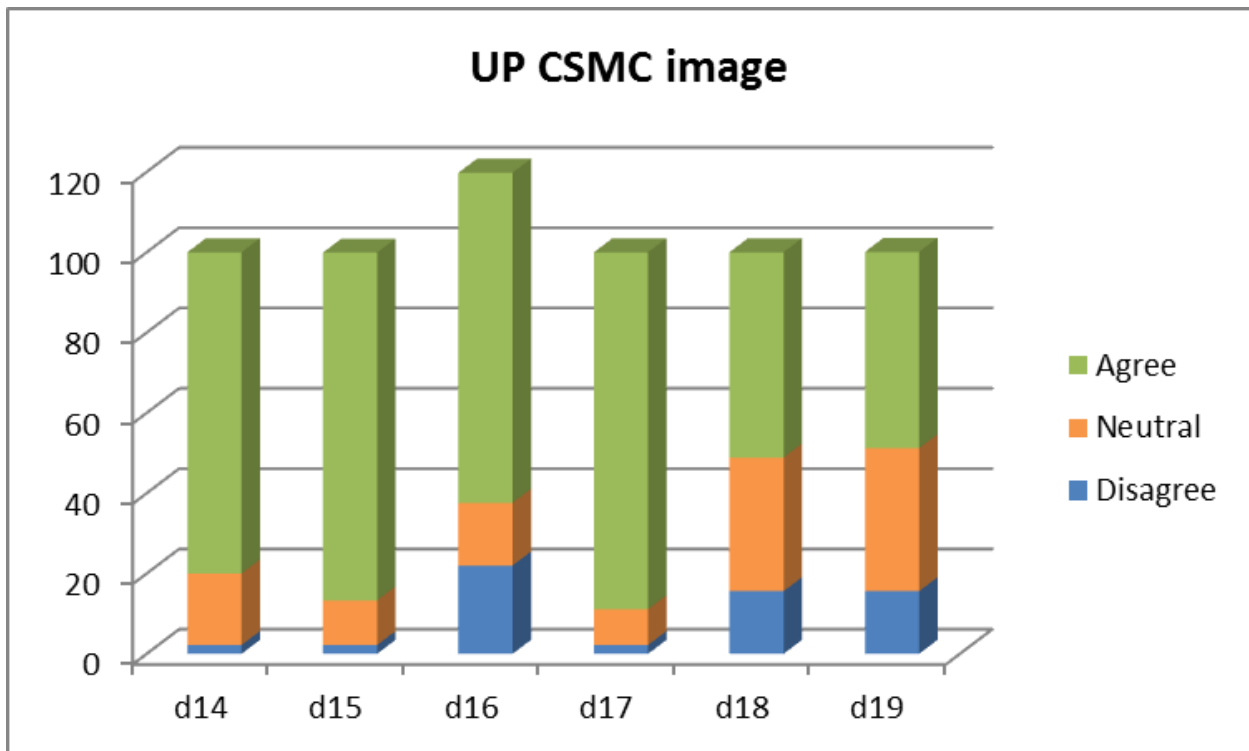
Figure 43 above reflects the respondents' view of stakeholder perceptions about the UP CSMC as follow:

- A percentage of 80% agreed that it is formed through stakeholder expectations of the Centre (d10)
- A total of 77.8% feel it is influenced by the interest of stakeholders in the activities of Centre (d11)
- A percentage of 88.9% indicate that perceptions can be changed based on the information that stakeholders receive (d12)

- A total of 88.9% agree that their perception of the UP CSMC as a malaria related knowledge sharing centre is good (d13)

The last part of Section D covers the image of the UP CSMC. This is illustrated in Figure 44 below.

**Figure 44: Findings of the UP CSMC image**



As gathered from Figure 44 above, most of the respondents have a positive image of the UP CSMC. A percentage of 80% of the respondents agree that the UP CSMC provides a connection with its stakeholders (d14), while 86.6% agree that the UP CSMC portrays its credibility towards stakeholders (d15). A relatively large number of respondents (82.2%), as reflected by d16, agree that the UP CSMC manifests trust in its image, which leads to 88.9% (d17) having a positive impression of the UP CSMC as a malaria related research centre. A percentage of 51.1% indicated that the UP CSMC changed stakeholders' (respondents') attitudes towards malaria related issues (d18), in comparison to the 48.9% who indicated that the UP CSMC changed stakeholders' (respondents') behaviour towards malaria related issues (d19).

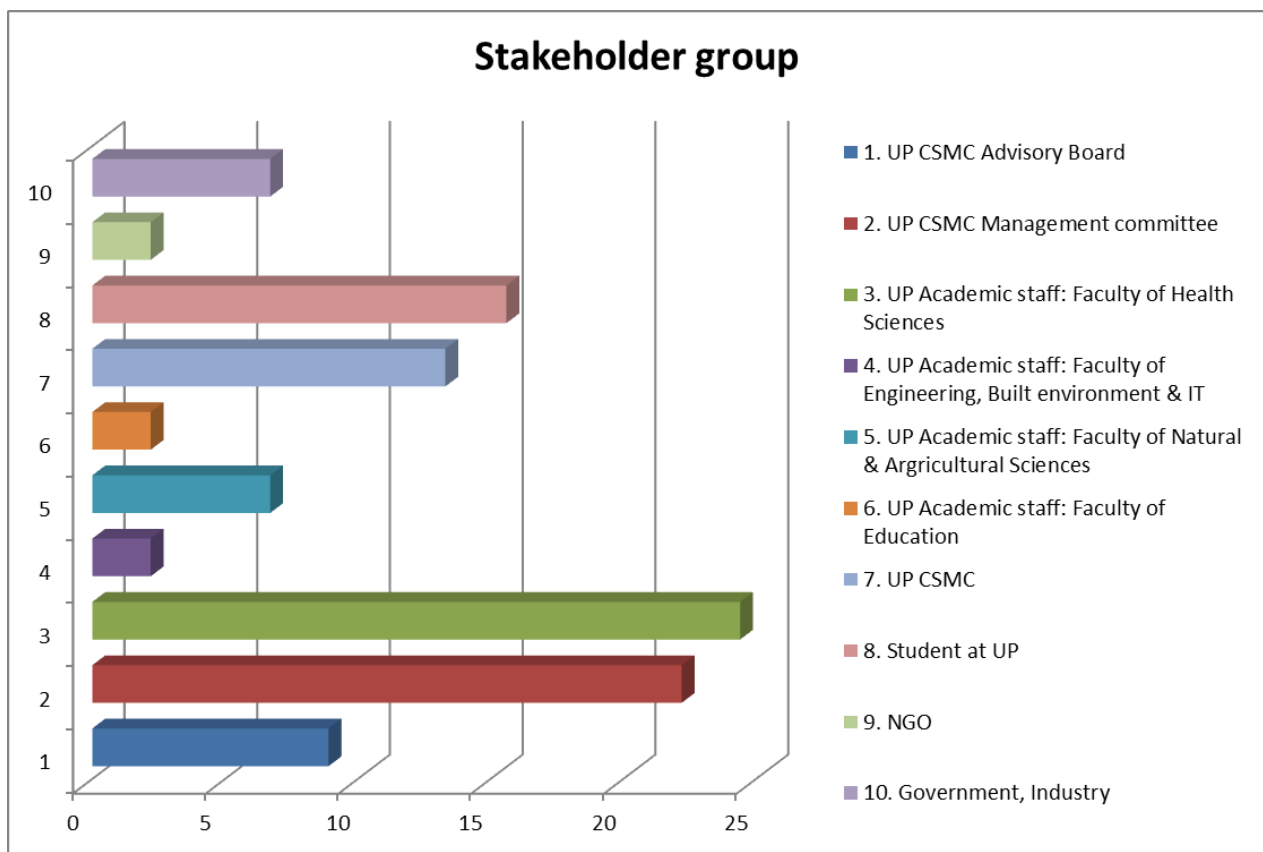
The following section will make use of ratio and interval data to obtain information about stakeholders. According to Kotze (2005), when ratio and interval data are obtained, the

mean, standard deviation, as well as a histogram (for ratio data scales) can be used to report the results.

### Section E: Demographic information

Section E describes the demographic information of the participants in the study (as stakeholders of the UP CSMC) as reflected in the figures that follow. Figure 45 reflects the stakeholder group of the respondent; Figure 46 reflects years involved with the UP CSMC; Figure 47 reveals the number of stakeholders who want to receive information from the UP CSMC regarding malaria related issues; whilst Figure 48 indicates the frequency of information to be received by respondents who choose to receive updates from the UP CSMC. Figure 49 indicates the number of respondents who would share information about the UP CSMC through online communication; and finally, Figure 50 illustrates the respondents' preferred platform to share information about the UP CSMC.

**Figure 45: Stakeholder group representation**



As depicted by Figure 45 above, most responses were received from stakeholders from the University of Pretoria (UP) Academic staff, including: Faculty of Health Sciences (24.4%), then the UP CSMC management committee (22.2%), followed by UP students (15.6%). Only the three highest percentages are highlighted here, as it is possible that other stakeholder groups did not have sufficient time to attend to the request extended. However, it is also assumed that stakeholder groups with a higher response rate are closer related to the concept of malaria control and related issues, news and updates. This could manifest from the existing communication efforts of the UP CSMC towards its long-term stakeholders (about malaria-related issues) which are not strategically sustainable, and in many cases, not effective.

- **Years involved with the UP CSMC**

A multiple-choice question was used to measure the number of years involved with the UP CSMC, noted in years, not months. Question 2 asked respondents: “Number of years involved with the University of Pretoria Centre for Sustainable Malaria Control (UP CSMC)” in order to determine the years of involvement. The multiple-choice question is summarized in the Figure below.

**Figure 46: Years involved with the UP CSMC**

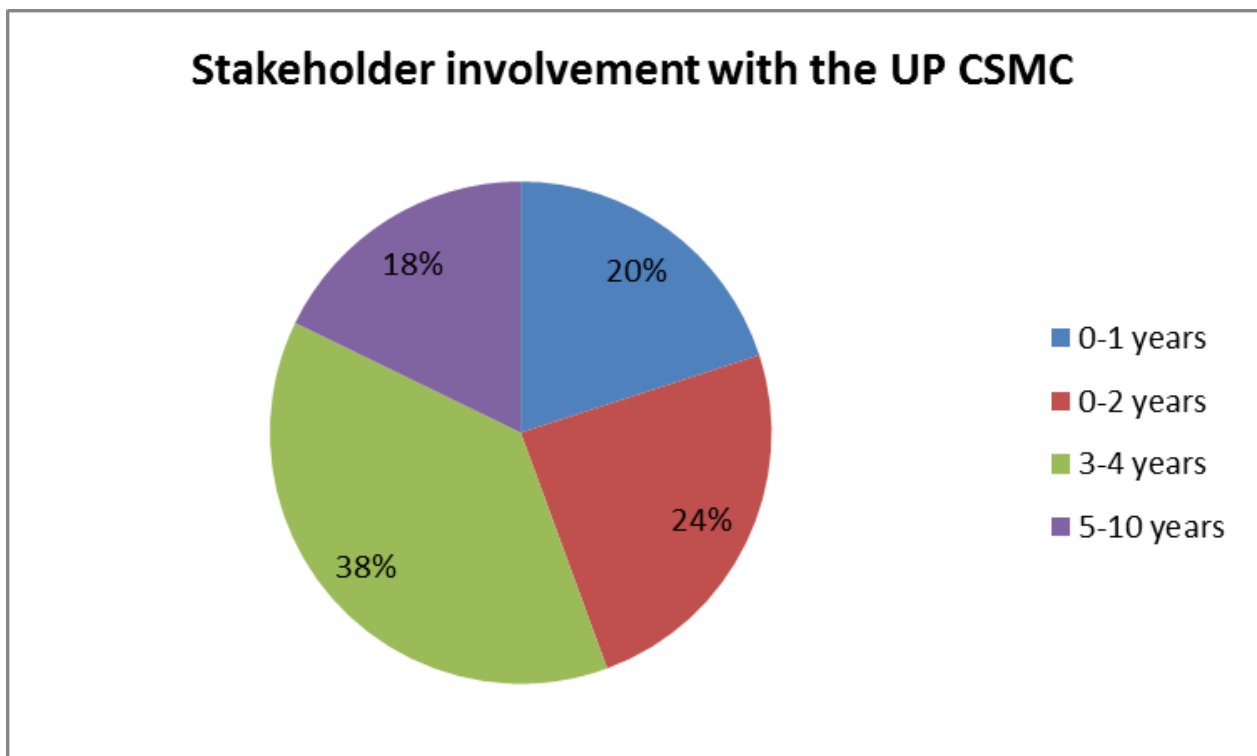


Figure 46 indicates a balanced involvement with the UP CSMC amongst respondents, ranging from 0-1 (20%), 1-2 (24%), 3-4 (38%) to 5-10 (18%).

**Figure 47: Indication of stakeholders who want to receive information from the UP CSMC regarding malaria related issues**

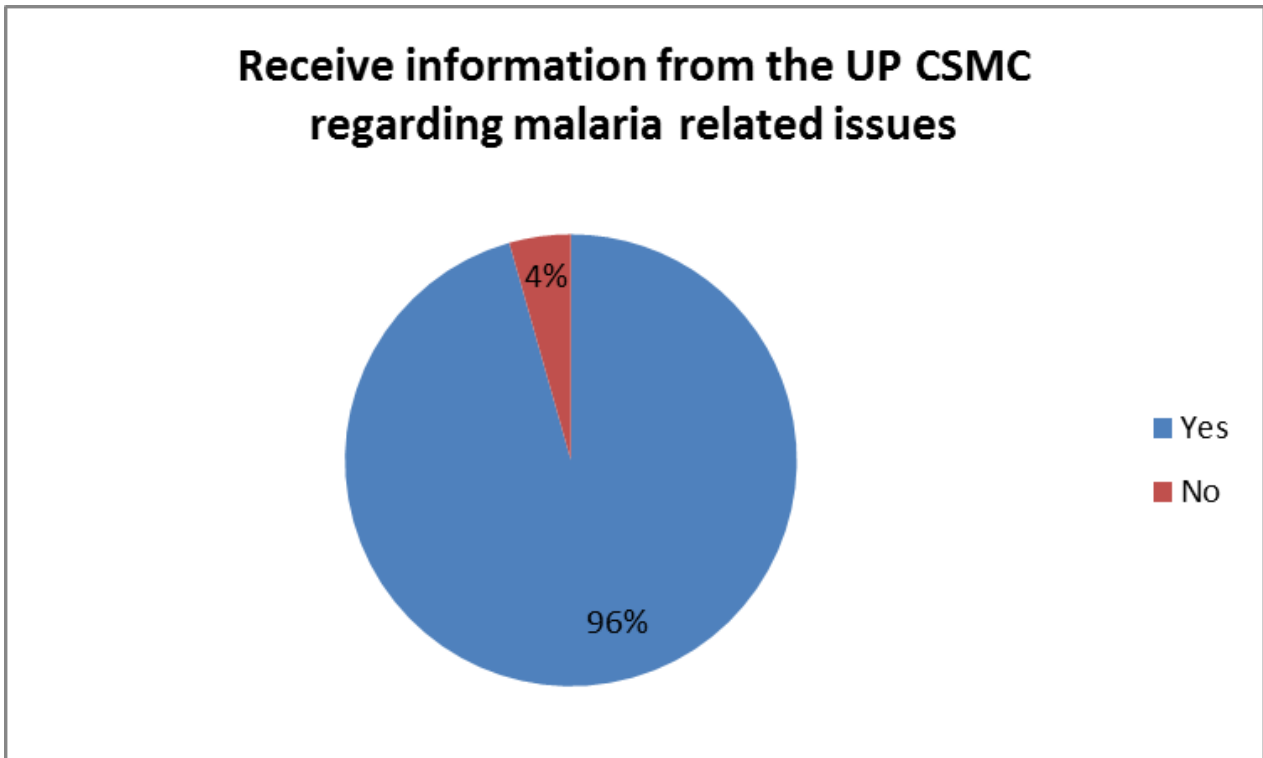


Figure 47 indicates that the majority of respondents want to receive information about malaria related issues from the UP CSMC, which emphasises the need for an improvement of communication efforts and stakeholder relationships on the part of the Centre.

**Figure 48: Findings of the frequency of information to be received**

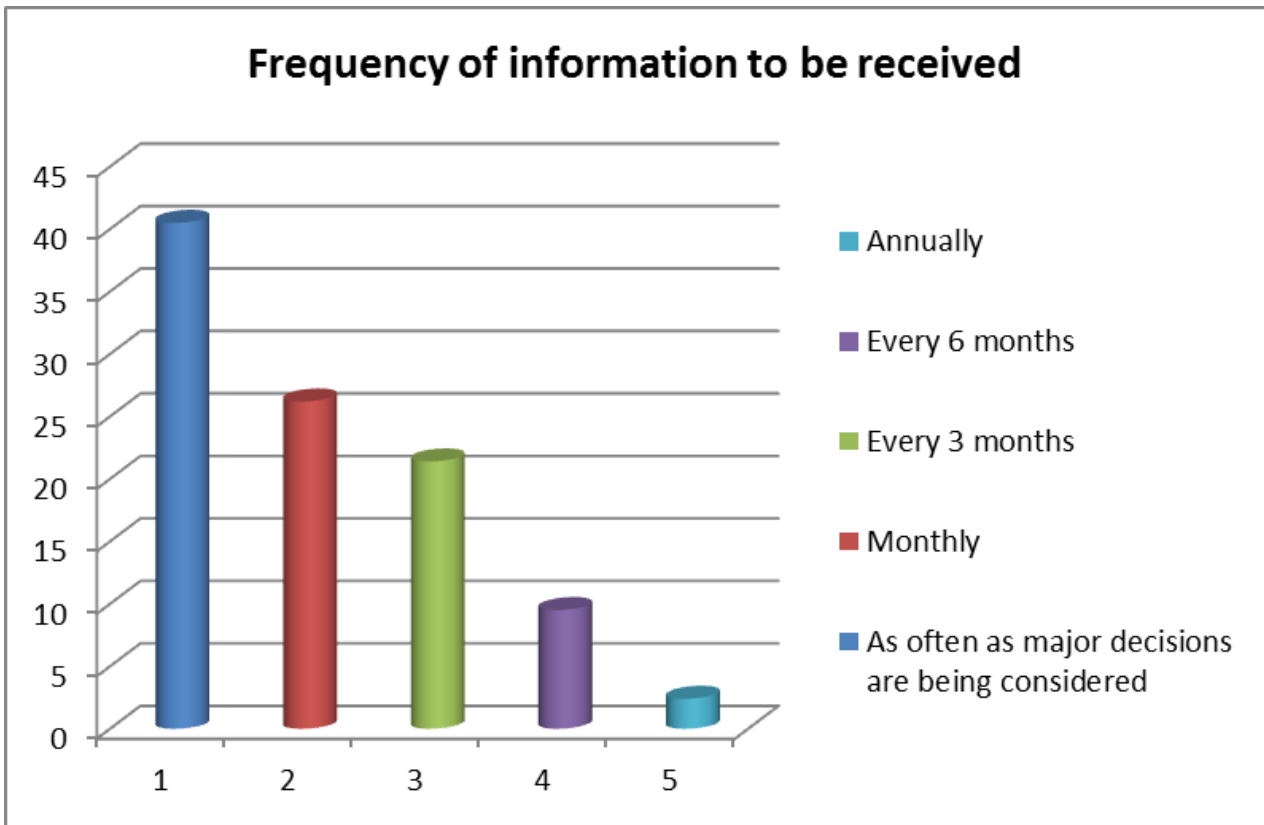


Figure 48 shows that the majority of respondents (40.5%) indicated the need to receive updates from the UP CSMC regarding malaria related issues as often as major decisions are considered. This implies a high level of interest and a need to be regularly informed about the current status of malaria related information. A percentage of 26.2% of respondents would like to receive updates on a monthly basis, which further support the before mentioned statement regarding a high level of interest and awareness about the current status of malaria related information.



**Figure 49: Findings of the amount of respondents who would share information about the UP CSMC through online communication**

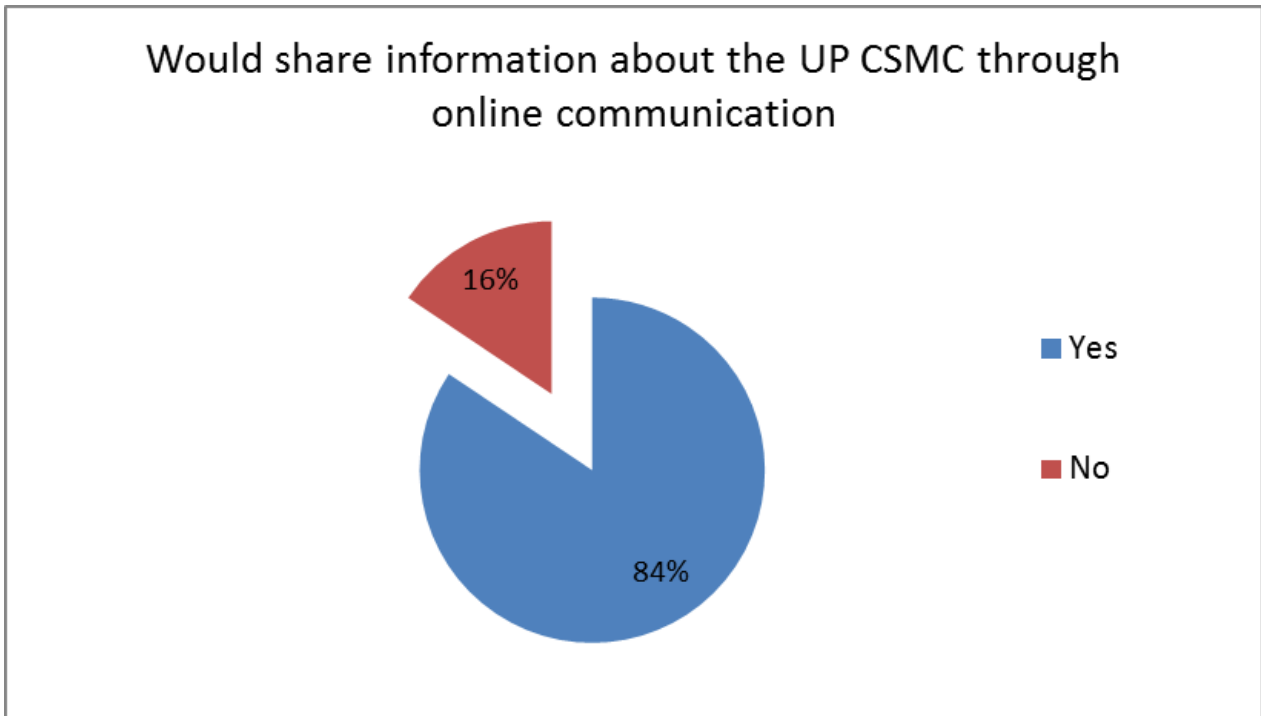
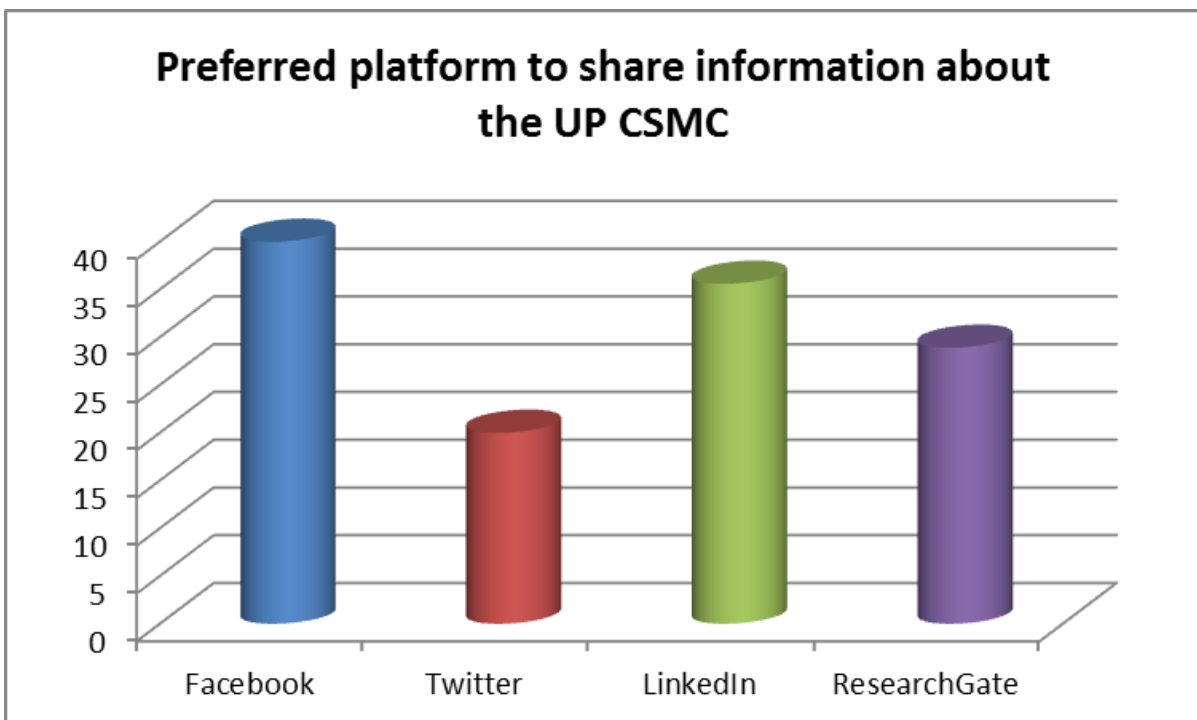


Figure 49 above is self-explanatory as far as the willingness of respondents are concerned, to share information about the UP CSMC through online communication. This is explained in more detail in Figure 50.

**Figure 50: Findings of the respondents preferred platform to share information about the UP CSMC**



As illustrated by Figure 50 above, popular platforms chosen by respondents to share information about the UP CSMC through online communication yet again are Facebook (40%) and LinkedIn (35.6%). ResearchGate (28.9%) and Twitter (20%) are the less popular platforms chosen by respondents to share information. The respondents were also given an Other option where 22.2% of respondents chose platforms like e-mail, a webpage and Instagram as their method to share information about the UP CSMC online.

The analysis to determine the reliability of the measuring instrument will be discussed next.

## **5.4 RELIABILITY AND VALIDITY ASSESSMENT**

Both a factor analysis and reliability assessment +was conducted in order to purify the used scale. These were discussed in more depth in the previous Chapter.

### **5.4.1 Factor analysis**

A factor analysis, specifically a principal component factor analysis, was conducted on *communication management, social media, stakeholder relationships and corporate communication strategy* in order to ascertain whether specific factors account for the variance in the data.

In order to measure the key constructs of this study, a summarised scale (or scale that represents the mean of all the scale items) was calculated for all the constructs. The following section analyses the reliability of these summated scales.

## **SECTION A: COMMUNICATION MANAGEMENT**

The following Table summarises the scale items posed in Section A, which includes the constructs *communication about science, effective stakeholder communication, two-way symmetrical communication model* and *two-way asymmetrical communication model*. These findings are illustrated in Table 12 below.

**Table 12: Factor analysis of Section A: Communication management**

	KMO (> 0.5) & Bartlett's Test (p<0.05)	% Variance explained	Factor Loadings			Cronbach Alpha $\alpha$
Communication about science (CAS)	0.702 (p = 0.000)	35.46%				0.680
1.1. I enjoy reading scientific articles			0.596			
1.2. I understand the content of communication about science			0.836			
1.3. I like to read opinions about science related articles			0.646			
1.4. Training about malaria related issues should be a key component of science education at the UP CSMC			0.475			
1.5. I am interested in voluntary involvement with communication about science			. (a)			
Effective stakeholder communication (ESC)	0.632 (p = 0.000)	73.98%				
			1	2	3	
1.6. The UP CSMC communicates with me about malaria related issues			0.836			0.798
1.8. The UP CSMC communicates with stakeholders on a regular basis			0.872			
1.10. The UP CSMC provides feedback to stakeholders about their malaria related queries			0.766			
1.7. I communicate with other stakeholders about malaria related issues				0.821		0.496
1.9. Regular feedback helps to build long-term relationships with stakeholders				0.857		
1.11. I am interested in receiving information about opportunities to become involved in malaria research					0.826	0.643
1.12. Receiving information about funding opportunities for malaria research will encourage me to donate money to the UP CSMC					0.867	
Two-way symmetrical communication model (TWSM)	0.581 (p=0.000)	58.01%				
			1	2	-	
1.13. Communication from the UP CSMC helps me to change my <i>perception</i> about malaria related issues			0.881			0.736
1.14. The UP CSMC would consider changing some of their actions about malaria related issues if I communicate an idea to them			0.510			
1.15. Communication from the UP CSMC helps me to change my <i>actions</i> towards malaria related issues			0.783			
1.16. Before starting a communication programme,				0.619		(a)

surveys or informal research should be conducted by the UP CSMC to determine how much its management and its stakeholders understand each other						
Two-way asymmetrical communication model (TWAM)	0.582 (p=0.000)	59.56%				0.847
1.17. The UP CSMC should do regular stakeholder research to determine public attitudes towards the <i>UP CSMC</i> and how these attitudes might be changed				0.777		
1.18. Before starting a communication programme, the UP CSMC should conduct surveys to make sure that the organisation and its policies are described in ways that its stakeholders would likely understand				0.822		
1.19. The UP CSMC should do regular stakeholder research to determine public attitudes towards <i>malaria</i> , and how these attitudes might be changed				0.625		
1.20. After implementing a communication programme, the UP CSMC should do research to determine how effective this programme has been in changing people's attitudes towards malaria related issues				0.844		

(a) – There was no value indicated for specific construct.

The Table above summarises the factor analysis of Section A: Communication management. The first construct covered, was *communication about science (CAS)*, that indicated a 0.702 (KMO) and  $p=0.000$  (Bartlett's test) – this is also the value for all the constructs tested with the Bartlett's test method. The variance percentage was 35.46% which is a good percentage for this study, as well as the 0.680 Cronbach Alpha value. *Effective stakeholder communication* is the second construct, which is divided into two valid sections, as the Cronbach Alpha values were high enough. *Effective stakeholder communication* had a 0.632 (KMO). The first section 1.6, 1.8 and 1.10 (ESC1) focussed on the *UP CSMC* (Factor 1) and calculated a Cronbach Alpha value of 0.798; while the second section (ESC2) 1.9, 1.11 and 1.12 focussed on *receiving information* (Factor 3) and had a Cronbach Alpha value of 0.643. *Two-way symmetrical communication model (TWSM)* had a KMO of 0.581. The variance percentage was a high percentage of 58.01%. The Cronbach Alpha value was calculated as 0.736, which is really good for this study. However, the *two-way asymmetrical communication model (TWAM)* had a KMO of 0.582 and a variance percentage of 59.56%. This construct had a really good Cronbach Alpha value of 0.847.

## SECTION B: TRADITIONAL AND SOCIAL MEDIA

The following Table summarises the scale items posed in Section B, which includes constructs of *traditional media* and *social media*. The findings are illustrated in Table 13 below.



**Table 13: Factor analysis of Section B: traditional media and social media**

	KMO (> 0.5) & Bartlett's Test (p<0.05)	% Variance explained	Factor Loadings		Cronbach Alpha $\alpha$
			1	2	
Traditional media (TradMed)	0.769 (p = 0.000)	60.22%			
1.1.1. ... benefits the UP CSMC				0.464	0.654
1.1.7. ... empowers the UP CSMC to connect with its stakeholders				0.821	
1.1.8. .... creates an opportunity for open dialogue				0.839	
1.1.2. ... satisfies stakeholder needs			0.750		0.824
1.1.3. ... creates effective communication with stakeholders			0.792		
1.1.4. ... can enable the establishment of long-term stakeholder relationships			0.603		
1.1.5. ... provides more relevant information about malaria related issues			0.628		
1.1.6. ... develops awareness amongst stakeholders			0.800		
Social media (SocMedfin)	0.879 (p=0.000)	75.8%			0.961
2.1.9. ... may benefit the UP CSMC			0.890		
2.1.10. ... may satisfy stakeholder needs			0.882		
2.1.11. ... will lead to effective communication with stakeholders			0.882		
2.1.12. ... can enable the establishment of long-term stakeholder relationships			0.883		
2.1.13. ... can provide me with more relevant information about malaria related issues			0.790		
2.1.14. ... develops awareness amongst stakeholders			0.906		
2.1.15. ... will empower the UP CSMC to connect with its stakeholders			0.899		
2.1.16. ... creates an opportunity for open dialogue			0.827		

The Table above summarise the factor analysis for Section B: Traditional and social media. The first part of the Table consists of the section *traditional media*. The first construct covered was TradMed1 (1.1.1, 1.1.7, 1.1.8) and TradMed2 (1.1.2 – 1.1.6) that indicated a 0.769 (KMO) and  $p=0.000$  (Bartlett’s test) – this is also the value for all the constructs tested with the Bartlett’s test method. The variance percentage was 60.22% which is a good percentage for this study. Factor 1 (TradMed 1 - *the emphasis were placed on the UP CSMC*) had a 0.654 Cronbach Alpha value, while Factor 2 (TradMed 2 - *the emphasis were placed on the stakeholders*) had a Cronbach Alpha value of 0.824. *Social media* (SocMedfig) is the second construct, which had a very high Cronbach Alpha value of 0.961.

### SECTION C: STAKEHOLDER RELATIONSHIPS

The following Table summarises the scale items posed in Section C, which includes the constructs of *long-term stakeholder relationships* and *mutual understanding about malaria related issues*. These findings are illustrated in Table 14 below.

**Table 14: Factor analysis of Section C: Stakeholder relationships**

	KMO (> 0.5) & Bartlett’s Test ( $p<0.05$ )	% Variance explained	Factor Loadings		Cronbach Alpha $\alpha$
			1	2	
Stakeholder relationships (SRLT) (SRMU)	0.802  ( $p = 0.000$ )	73.71%			
<b>c1.</b> I have a relationship with the UP CSMC			0.815		0.891
<b>c2.</b> The UP CSMC is very dynamic in maintaining good long-term relationships with its stakeholders			0.789		
<b>c5.</b> The UP CSMC can be relied on to keep its promises			0.862		
<b>c6.</b> Sound principles seem to guide behaviour at the UP CSMC			0.899		
<b>c7.</b> The UP CSMC listens to me when I communicate with them			0.790		
<b>c3.</b> Long-term stakeholder relationships help forge a deep emotional bond that can lead to enhanced perceptions				0.897	0.752

c4. Long-term relationships are built on mutual understanding				0.880	
	0.652 (p=0.000)	45.78%			
c8. I have an understanding of malaria related issues			0.844		0.724
c9. I make an effort to understand the UP CSMC when communicating about malaria related issues			0.642		
c10. I gain a better understanding of the information provided when I listen actively			0.619		
c11. The use of social media platforms will increase shared understanding between stakeholders about malaria related issues				(a)	

(a) – There was no value indicated for specific construct.

The Table above summarises the factor analysis for Section C: Stakeholder relationships. This construct calculated a 0.802 (KMO) and  $p=0.000$  (Bartlett's test) – this is also the value for all the constructs tested with the Bartlett's test method. The variance percentage was 73.71%, which is a good percentage for this study. This construct is divided into three sections: firstly, SRLT1 (c1, c2, c5, c6, c7) which calculated a Cronbach Alpha value of 0.891; secondly SRLT2 (c3, c4) which had a Cronbach Alpha value of 0.752; and thirdly, SRMU (c8, c9, c10) with the Cronbach Alpha value calculated as 0.724. Two factors were isolated. Factor 1 (SRLT1 - which specifically focussed on the view of the stakeholders about the UP CSMC) while Factor 2 (SRLT2 – placed emphasis on a lasting relationship (deep emotional bond supported by mutual understanding)).

## SECTION D: CORPORATE COMMUNICATION STRATEGY

The following Table summarises the scale items posed in Section D, which includes constructs of *corporate communication strategy*, *stakeholder perceptions about the UP CSMC* and the *UP CSMC image*. These findings are illustrated in Table 15 below.



**Table 15: Factor analysis of Section D: Corporate communication strategy**

	KMO (> 0.5) & Bartlett's Test (p<0.05)	% Variance explained	Factor Loadings		Cronbach Alpha $\alpha$
			1	2	
Corporate communication strategy (CCS)	0.763 (p = 0.000)	51.29%			0.761
<b>d1.</b> I would like to read about malaria related issues in the media					
<b>d2.</b> I would like to receive information about malaria related issues from the UP CSMC				0.660	
<b>d3.</b> I would take part in awareness campaigns about malaria related issues arranged by the UP CSMC				0.666	
<b>d8.</b> When the UP CSMC engages with me about malaria related issues, I would like to receive feedback regarding the status of my input				0.474	
<b>d9.</b> I would like to read in the media about the activities of the UP CSMC				0.542	
<b>d4.</b> I would like to receive information about the corporate strategy of the UP CSMC (vision, mission, policies, values)			0.783		0.830
<b>d5.</b> I would like to become more involved with the UP CSMC decision-making			0.977		
<b>d6.</b> I would like to assist the UP CSMC with identifying key strategic issues relating to malaria			0.829		
<b>d7.</b> I would like to know the hierarchical orientation of the UP CSMC to understand who I can communicate with			0.434		
Stakeholder perceptions about the UP CSMC (SP)	0.695 (p=0.000)	46.04%			0.755
<b>d10.</b> ... are formed through stakeholder expectations of the Centre			0.841		
<b>d11.</b> ... are influenced by the interest of stakeholders in the activities of the Centre			0.667		
<b>d12.</b> ... can be changed based on the information stakeholders receive			0.672		
<b>d13.</b> ... as a malaria-related knowledge sharing centre is good			0.490		



The UP CSMC image (SI)	0.795 (p=0.000)	64.52%		0.900
<b>d14.</b> ... provides a connection with its stakeholders			0.712	
<b>d15.</b> ... portrays its credibility towards stakeholders			0.818	
<b>d16.</b> ...manifests trust			0.851	
<b>d17.</b> ... creates a positive impression of the UP CSMC as a malaria-related research centre			0.852	
<b>d18.</b> ... changed my attitude towards malaria-related issues			0.758	
<b>d19.</b> ... changed my behaviour towards malaria-related issues			0.818	

The Table above summarises the factor analysis for Section D: Corporate communication strategy. The first part, *corporate communication strategy*, had a KMO of 0.763 and  $p=0.000$  (Bartlett's test) – this is also the value for all the constructs tested with the Bartlett's test method with a variance percentage of 51.29%. This part was divided into two sections: firstly, (Factor 1) CCS1 (focussed on the awareness of malaria related issues) (d1, d2, d3, d8, d9) which had a Cronbach Alpha value of 0.761; whilst the second section, (Factor 2) CCS2 (focussed on the stakeholders becoming involved with the UP CSMC) (d4, d5, d6, d7) had a Cronbach Alpha value of 0.830. The second part of Section D, *stakeholder perceptions about the UP CSMC* (SP) had a KMO of 0.695 and a variance percentage of 46.04%. This part has a very good Cronbach Alpha value of 0.755. The third part of this section; the *UP CSMC image* (SI) had a KMO of 0.795, variance percentage of 64.52% and an excellent Cronbach Alpha value of 0.900.

The Tables below summarise the factor analysis for all the constructs which were tested in this study.

**Table 16: Summary 1 of factor analysis**

	CaS	TWSM	TWAM	SRLT1	SRLT2	SRMU	CCS1	CCS2	SP	SI	SocMedfin
N Valid	45	45	45	45	45	45	45	45	45	45	45
Missing	0	0	0	0	0	0	0	0	0	0	0
Mean	4.2711	3.7704	4.1500	4.1333	4.3556	4.3704	3.5000	4.2356	4.0833	3.9370	4.0653
Median	4.2000	3.6667	4.2500	4.2000	4.0000	4.3333	3.5000	4.4000	4.0000	4.0000	4.0000
Std. Deviation	.46350	.69203	.65148	.71858	.63624	.56058	.81009	.51573	.50283	.74814	.63206
Skewness	-.696	-.070	-.546	-.556	-1.156	-.603	-.122	-.747	.045	-.735	-.392
Std. Error of Skewness	.354	.354	.354	.354	.354	.354	.354	.354	.354	.354	.354
Kurtosis	.570	-.344	-.123	-.817	2.818	-.163	-.093	.339	-.053	1.341	-.201
Std. Error of Kurtosis	.695	.695	.695	.695	.695	.695	.695	.695	.695	.695	.695
Minimum	3.00	2.00	2.50	2.60	2.00	3.00	1.75	3.00	3.00	1.50	2.50
Maximum	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00

**Table 17: Summary 2 of factor analysis**

		Statistics			
		ESC1	ESC2	TradMed1	TradMed2
N	Valid	45	45	45	45
	Missing	0	0	0	0
Mean		4.0667	3.5333	3.8444	3.9185
Median		4.3333	3.5000	3.8000	4.0000
Std. Deviation		.81216	.93784	.57349	.63228
Skewness		-1.043	-.685	.117	-.133
Std. Error of Skewness		.354	.354	.354	.354
Kurtosis		.775	.769	-.114	-.426
Std. Error of Kurtosis		.695	.695	.695	.695
Minimum		1.67	1.00	2.60	2.33
Maximum		5.00	5.00	5.00	5.00

The Tables above indicate that stakeholders would like to have a (long-term) relationship with the UP CSMC (SRLT1 - which specifically focussed on the view of the stakeholders about the UP CSMC); and that they regard a mutual understanding about malaria related issues (SRLT2 – placed emphasis on a lasting relationship (deep emotional bond

supported by mutual understanding) as being important, based on the strength of the mean = 4.3704.

#### **5.4.2 Validity assessment**

In the previous Chapter, the content and criterion validity of the measurement instrument were discussed and ascertained. The construct validity, however, could only be determined after the data analysis phase of the research.

Construct validity refers to the “degree to which a measure confirms a network of related hypotheses generated from a theory based on the concepts” (Zikmund, 2003:302) and relates to the match between the theory and the findings of the study. The following key findings from the data analysis have confirmed the theoretical background that was provided in Chapters 2 and 3 of the dissertation:

- The stakeholders of the UP CSMC have positive perceptions about the UP CSMC and want to be part of the important decisions to be made.
- There is a positive relationship between *communication management, social media, stakeholder relationships* and the *corporate communication strategy*. Holtzhausen (2007:17) states that there has been an increasing recognition of the need for “strategically managed communication programs that can contribute effectively to the company’s relationships with its stakeholders, which in turn might make it possible for the company to achieve its business objectives”.

The following sections contribute to the validation of the theory stated in Chapters 2 and 3.

### **5.5 HYPOTHESES TESTING**

Eighteen hypotheses were stated as a result of this analysis.

#### **Hypothesis 1**

In order to test Hypothesis H1, a linear regression was conducted with *effective stakeholder communication* (ESC1) and (ESC2) as independent variables and CAS (*communication about science*) as dependent variable.

ESC1 focussed mainly on *the UP CSMC* whereas ESC 2 focussed on *receiving information*. The Hypothesis was formulated as follows:

**H1:** Communication about science can take place through effective stakeholder communication.

**H0:** Communication about science cannot take place through effective stakeholder communication.

The Table below indicates the results of Hypothesis 1.

**Table 18: Results of Hypothesis 1**

Construct	Result
	Standardized Beta Coefficients
ESC 1	0.182
ESC 2	0.462**
R square (adjusted R square)	0.293 (0.259)
F (Significance)	8.692 (0.001)

**$p \geq 0.05$  (non-significance);  $p < 0.05^*$  and  $p < 0.01^{**}$  (significance)**

As can be seen in the Table above, Standardised Beta Coefficients are present. ESC 2 is a moderate positive statistical significance predictor of CAS. The results of the regression support the hypothesis that communication about science can take place through effective stakeholder communication.

## Hypotheses 2 and 4

In order to test Hypotheses H2 and H4, a linear regression was conducted with *Traditional media* (TradMed1) (TradMed2), and *Social media* (SocMedfin) as independent variables and *communication about science* (CAS) as dependent variable.

TradMed1 focussed mainly on *the UP CSMC*, whereas TradMed2 focussed on *stakeholders* which is why the construct is divided into TradMed1 and TradMed2. The Hypotheses were formulated as follows:

**H2:** Communication about science can take place through traditional media.

**H0:** Communication about science cannot take place through traditional media.

**H4:** Communication about science can take place through social media.

**H0:** Communication about science cannot take place through social media.

The Table below indicates the results of Hypotheses 2 and 4.

**Table 19: Results of Hypotheses 2 and 4**

Construct	Result
	Standardized Beta Coefficients
<b>TradMed 1</b>	-0.136
<b>Tradmed 2</b>	0.264
<b>SocMedfin</b>	-0.159
R square (adjusted R square)	0.058 (-0.011)
F (Significance)	0.834 (0.483)

**$p \geq 0.05$  (non-significance);  $p < 0.05^*$  and  $p < 0.01^{**}$  (significance)**

As can be seen in the Table above, Standardised Beta Coefficients are present, but Tradmed2 are moderate positive statistical non-significance predictors of CAS. The results of the regression do not support the hypothesis that communication about science can take place through traditional media. Social media on the other hand is a moderate negative statistical non-significance predictor of CAS. Social media was tested with traditional media - the results of the regression do not support the hypothesis that communication about science can take place through social media.

### **Hypothesis 3 and 5**

In order to test Hypotheses H3 and H5, a linear regression was conducted with *Traditional media* (TradMed1) (TradMed2), and *Social media* (SocMedfin) as independent variables and SRLT1 and SRLT2 (*long-term stakeholder relationships*) as dependent variable.

TradMed1 focussed mainly on *the UP CSMC* whereas TradMed2 focussed on the *stakeholders*. SRLT1 focussed mainly on *the view of the stakeholders about the UP CSMC* whereas SRLT2 focussed a lasting relationship (deep emotional bond supported by mutual understanding). The Hypotheses were formulated as follows:

**H3:** Long-term stakeholder relationships can be established through traditional media channels.

**H0:** Long-term stakeholder relationships cannot be established through traditional media channels.

**H5:** Long-term stakeholder relationships can be established through social media channels.

**H0:** Long-term stakeholder relationships cannot be established through social media channels.

The Table below indicates the results of Hypotheses 3 and 5 (SRLT1).

**Table 20: Results of Hypotheses 3 and 5 (SRLT1)**

Construct	Result
	Standardized Beta Coefficients
<b>TradMed 1</b>	-0.118
<b>Tradmed 2</b>	0.197
<b>SocMedfin</b>	0.126
R square (adjusted R square)	0.052 (-0.017)
F (Significance)	0.756 (0.525)

**$p \geq 0.05$  (non-significance);  $p < 0.05^*$  and  $p < 0.01^{**}$  (significance)**

As can be seen in the Table above, Standardised Beta Coefficients are present but Tradmed2 (emphasis on the stakeholders) and SocMedfin are moderate positive statistical non-significance predictors of SRLT1 (which specifically focussed on the view of the stakeholders about the UP CSMC). The results of the regression do not support the hypothesis that long-term stakeholder relationships can be established through *traditional media* channels specifically. Although, *Social media* was moderate positive, it was statistically tested together with traditional media - the results of the regression do not support the hypothesis that long-term stakeholder relationships can be established through social media channels.

The Table below indicates the results of Hypotheses 3 and 5 (SRLT2).

**Table 21: Results of hypotheses 3 and 5 (SRLT2)**

Construct	Result
	Standardized Beta Coefficients
<b>TradMed 1</b>	0.146
<b>Tradmed 2</b>	0.156
<b>SocMedfin</b>	-0.217
R square (adjusted R square)	0.075 (0.007)
F (Significance)	1.107 (0.357)

**$p \geq 0.05$  (non-significance);  $p < 0.05^*$  and  $p < 0.01^{**}$  (significance)**

As can be seen in the table above, Standardised Beta Coefficients are present but Tradmed1 and Tradmed2 is a moderate positive statistical non-significance predictor of SRLT2 (emphasis is placed on a lasting relationship - deep emotional bond supported by mutual understanding). The results of the regression do not support the hypothesis that long term stakeholder relationships can be established through traditional media channels specifically. On the other hand, *Social media* was a moderate negative it was statistically tested together with traditional media and therefore the results of the regression do not support the hypothesis that long term stakeholder relationships can be established through social media channels.

### **Hypothesis 6 and 7 (SRLT1: Long-term stakeholder relationships 1)**

In order to test Hypotheses H6 and H7, a linear regression was conducted with *two-way asymmetrical model* (TWAM) and *two-way symmetrical model* (TWSM) as independent variables and SRLT1 and SRLT2 (*long-term stakeholder relationships*) as dependent variable.

SRLT1 focussed mainly on the stakeholders view about the *UP CSMC* while SRLT2 focussed on a *lasting relationship (deep emotional bond supported by mutual understanding)*.

The Hypotheses were formulated as follows:

**H6:** Long-term stakeholder relationships can be enhanced through the two-way symmetrical model of communication.

**H0:** Long-term stakeholder relationships cannot be enhanced through the two-way symmetrical model of communication.

**H7:** Long-term stakeholder relationships can be enhanced through the two-way asymmetrical model of communication.

**H0:** Long-term stakeholder relationships cannot be enhanced through the two-way asymmetrical model of communication.

The Table below indicates the results of Hypotheses 6 and 7.

**Table 22: Results of Hypotheses 6 and 7 (SRLT1)**

Construct	Result
	Standardized Beta Coefficients
<b>TWSM</b>	0.507**
<b>TWAM</b>	-0.106
R square (adjusted R square)	0.232 (0.195)
F (Significance)	6.346 (0.004)

**$p \geq 0.05$  (non-significance);  $p < 0.05^*$  and  $p < 0.01^{**}$  (significance)**

As can be seen in the Table above, Standardised Beta Coefficients are present. TWSM is a moderate positive statistical significance predictor of SRLT1. The results of the regression support the hypothesis that long-term stakeholder relationships can be enhanced through the two-way symmetrical model of communication. TWAM on the other hand was statistically tested together with TWSM but, given that it reflects as a moderate statistical non-significance predictor of SRLT1. The results of the regression also support the hypothesis that long-term stakeholder relationships can be enhanced through the two-way asymmetrical model of communication.

The Table below indicates the results of Hypothesis 6 and 7 (**SRLT2: Long-term stakeholder relationships 2**)



**Table 23: Results of Hypotheses 6 and 7 (SRLT2)**

Construct	Result
	Standardized Beta Coefficients
<b>TWSM</b>	0.285
<b>TWAM</b>	-0.105
R square (adjusted R square)	0.072 (0.028)
F (Significance)	1.633 (0.207)

**$p \geq 0.05$  (non-significance);  $p < 0.05^*$  and  $p < 0.01^{**}$  (significance)**

As can be seen in the Table above, Standardised Beta Coefficients are present. TWSM is a moderate positive statistical significance predictor of SRLT2. The results of the regression do not support the hypothesis that long-term stakeholder relationships can be enhanced through the two-way symmetrical model of communication. TWAM was statistically tested together with TWSM but, it is a moderate negative statistical non-significance predictor of SRLT2. The results of the regression do not support the hypothesis that long-term stakeholder relationships can be enhanced through the two-way asymmetrical model of communication.

### **Hypothesis 8**

In order to test Hypothesis H8, a linear regression was conducted with *communication about science* (CAS) as an independent variable, with *stakeholder relationships of mutual understanding* (SRMU) as dependent variable.

The Hypothesis was formulated as follows:

**H8:** Mutual understanding about malaria related issues can be achieved by communicating about science.

**H0:** Mutual understanding about malaria related issues cannot be achieved by communicating about science.

The Table below indicates the results of Hypothesis 8.

**Table 24: Results of Hypothesis 8**

Construct	Result
	Standardized Beta Coefficients
<b>SRMU</b>	0.264
R square (adjusted R square)	0.070 (0.048)
F (Significance)	3.214 (0.080)

**$p \geq 0.05$  (non-significance);  $p < 0.05^*$  and  $p < 0.01^{**}$  (significance)**

As can be seen in the Table above, Standardised Beta Coefficients are present. SRMU is a moderate positive statistical non-significance predictor of CAS. The results of the regression do not support the hypothesis that mutual understanding about malaria related issues can be achieved by communicating about science.

### **Hypothesis 9 (SRLT1 – Long-term stakeholder relationships 1)**

In order to test Hypothesis H9, a linear regression was conducted with *stakeholder relationships of mutual understanding* (SRMU) as an independent variable while SRLT1 + SRLT2 (*long-term stakeholder relationships*) as dependent variable.

SRLT1 focussed mainly on *the view of the stakeholders about the UP CSMC* whereas SRLT2 focussed a lasting relationship (deep emotional bond supported by mutual understanding). The Hypothesis was formulated as follow:

**H9:** Mutual understanding about malaria related issues can contribute to the establishment of long-term stakeholder relationships.

**H0:** Mutual understanding about malaria related issues cannot contribute to the establishment of long-term stakeholder relationships.

The Table below indicates the results of Hypothesis 9 in terms of SRLT1.

**Table 25: Results of Hypothesis 9 for SRLT1**

Construct	Result
	Standardized Beta Coefficients
<b>SRMU</b>	0.657**
R square (adjusted R square)	0.432 (0.418)
F (Significance)	32.653 (0.000)

**$p \geq 0.05$  (non-significance);  $p < 0.05^*$  and  $p < 0.01^{**}$  (significance)**

As can be seen in the Table above, Standardised Beta Coefficients are present. SRMU is a moderate positive statistical significance predictor of SRLT1. The results of the regression support the Hypothesis that mutual understanding about malaria related issues can contribute to the establishment of long-term stakeholder relationships.

The Table below indicates the results of Hypothesis 9 (SRLT2).

**Table 26: Results of Hypothesis 9 (SRLT2)**

Construct	Result
	Standardized Beta Coefficients
<b>SRMU</b>	0.419**
R square (adjusted R square)	0.175 (0.156)
F (Significance)	9.152 (0.004)

**$p \geq 0.05$  (non-significance);  $p < 0.05^*$  and  $p < 0.01^{**}$  (significance)**

As can be seen in the Table above, Standardised Beta Coefficients are present. SRMU is a moderate positive statistical significance predictor of SRLT2. The results of the regression support the Hypothesis that mutual understanding about malaria related issues can contribute to the establishment of long-term stakeholder relationships.

### **Hypotheses 10, 11, 12, 13, 14, 15**

In order to test Hypotheses H10, H11, H12, H13, H14 and H15, a linear regression was conducted with *communication about science (CAS)*, *effective stakeholder communication (ESC1 + ESC2)*, *two-way symmetrical communication (TWSM)*, *two-way asymmetrical communication (TWAM)*, *traditional media (TradMed1 and TradMed2)* and *social media*

(SocMedfin) as independent variables and with *corporate communication strategy* (CCS1) is as dependent variable.

CCS1 (awareness of malaria related issues) indicates that stakeholders like to read about malaria related issues in the media; like to receive information about malaria related issues from the UP CSMC; take part in awareness campaigns about malaria related issues arranged by the UP CSMC; like to receive feedback regarding the status of their input; and like to read in the media about the activities of the UP CSMC.

The Hypotheses were formulated as follows:

- H10:** The corporate communication strategy can include communication about science.  
**H0:** The corporate communication strategy cannot include communication about science.
- H11:** The corporate communication strategy can include effective stakeholder communication.  
**H0:** The corporate communication strategy cannot include effective stakeholder communication.
- H12:** The corporate communication strategy can include two-way symmetrical practices.  
**H0:** The corporate communication strategy cannot include two-way symmetrical practices.
- H13:** The corporate communication strategy can include two-way asymmetrical practices.  
**H0:** The corporate communication strategy cannot include two-way asymmetrical practices.
- H14:** The corporate communication strategy can include traditional media channels.  
**H0:** The corporate communication strategy cannot include traditional media channels.
- H15:** The corporate communication strategy can include social media channels.  
**H0:** The corporate communication strategy cannot include social media channels.

The Table below indicates the results of Hypothesis 10 to 15 (CCS1).

**Table 27: Results of Hypotheses 10, 11, 12, 13, 14, 15 (CCS1)**

Construct	Result
	Standardized Beta Coefficients
CAS	0.039
TWSM	0.047
TWAM	0.115
SocMedfin	0.120
ESC1	0.049
ESC2	0.313
TradMed1	-0.211
TradMed2	0.361
R square (adjusted R square)	0.376 (0.238)
F (Significance)	2.717 (0.019)

**$p \geq 0.05$  (non-significance);  $p < 0.05^*$  and  $p < 0.01^{**}$  (significance)**

As can be seen in the Table above, Standardised Beta Coefficients are present. CAS, TWSM, TWAM, SocMedfin, ESC1, ESC2 and TradMed2 are moderate positive statistical significance predictors of CCS1. The results of the regression support the Hypotheses that the corporate communication strategy can include communication about science; the corporate communication strategy can include effective stakeholder communication; the corporate communication strategy can include two-way symmetrical practices; the corporate communication strategy can include two-way asymmetrical practices; the corporate communication strategy can include social media channels specifically. TradMed1 (focussed on the UP CSMC) is a moderate negative statistical significance predictor of CCS1 but is tested with all of the constructs and are therefore also supported. The results of the regression support the Hypothesis that the corporate communication strategy can include traditional media channels.

The following Table summarises CCS2 (*stakeholders are becoming involved with the UP CSMC*) which indicates that the stakeholders like to receive information about the corporate strategy of the UP CSMC (vision, mission, policies, values); like to become more involved with the UP CSMC decision-making; like to assist the UP CSMC with identifying

key strategic issues relating to malaria; like to know the hierarchical orientation of the UP CSMC to understand who they can communicate with.

**Table 28: Results of Hypotheses 10, 11, 12, 13, 14, 15 (CCS2)**

Construct	Result
	Standardized Beta Coefficients
CAS	0.059
TWSM	-0.087
TWAM	0.535**
SocMedfin	-0.035
ESC1	0.125
ESC2	0.113
TradMed1	0.140
TradMed2	0.117
R square (adjusted R square)	0.420 (0.291)
F (Significance)	3.262 (0.007)

**$p \geq 0.05$  (non-significance);  $p < 0.05^*$  and  $p < 0.01^{**}$  (significance)**

As can be seen in the table above, Standardised Beta Coefficients are present. Only the construct TWAM have a moderate positive statistical significance predictor of CCS2. Therefore, the results of the regression support the hypothesis 'the corporate communication strategy can include two-way asymmetrical practices'. CAS, ESC1, ESC2, TradMed1 and TradMed2 are a moderate positive statistical non-significance predictor of CCS2. But all of the constructs were tested together and are therefore supported. The results of the regression support the hypotheses 'the corporate communication strategy can include communication about science; the corporate communication strategy can include effective stakeholder communication; the corporate communication strategy can include traditional media channels' specifically, while TWSM and SocMedfin are a moderate negative statistical non-significance. The results of the regression also support the hypotheses that 'the corporate communication strategy can include two-way symmetrical practices; and the corporate communication strategy can include social media channels' specifically.

## Hypothesis 16 (SRLT1)

In order to test Hypothesis H16, a linear regression was conducted with *corporate communication strategy* (CCS1 + CCS2) as independent variable, with *long-term stakeholder relationships* (SRLT1) is as dependent variable.

The hypothesis was formulated as follow:

**H16:** The corporate communication strategy can support long-term stakeholder relationships.

**H0:** The corporate communication strategy cannot support long-term stakeholder relationships.

The Table below indicates the results of Hypothesis 16.

**Table 29: Results of hypotheses 16 (SRLT1)**

Construct	Result
	Standardized Beta Coefficients
CCS1	0.287
CCS2	0.069
R square (adjusted R square)	0.105 (0.062)
F (Significance)	2.465 (0.097)

**$p \geq 0.05$  (non-significance);  $p < 0.05^*$  and  $p < 0.01^{**}$  (significance)**

As can be seen in the Table above, Standardised Beta Coefficients are present. CCS1 and CCS2 is a moderate positive statistical non-significance predictor of SRLT1. The results of the regression do not support the Hypothesis that the corporate communication strategy can support long-term stakeholder relationships.

The Hypothesis was formulated as follow:

**H16:** The corporate communication strategy can support long term stakeholder relationships.

**H0:** The corporate communication strategy cannot support long term stakeholder relationships.

The Table below indicates the results of Hypothesis 16 (SRLT2).

**Table 30: Results of Hypothesis 16 (SRLT2)**

Construct	Result
	Standardized Beta Coefficients
CCS1	0.319*
CCS2	0.198
R square (adjusted R square)	0.198 (0.160)
F (Significance)	5.179 (0.010)

**$p \geq 0.05$  (non-significance);  $p < 0.05^*$  and  $p < 0.01^{**}$  (significance)**

As can be seen in the Table above, Standardised Beta Coefficients are present. CCS1 is a moderate positive statistical significance predictor of SRLT2. The results of the regression support the Hypothesis that ‘the corporate communication strategy can support long-term stakeholder relationships.’

### **Hypothesis 17**

In order to test Hypothesis H17, a linear regression was conducted with *corporate communication strategy* (CCS1 + CCS2) as independent variable, and with stakeholder relationships of *mutual understanding* (SRMU) as dependent variable.

The Hypothesis was formulated as follows:

**H17:** The corporate communication strategy can support mutual understanding about malaria related issues.

**H0:** The corporate communication strategy cannot support mutual understanding about malaria related issues.

The Table below indicates the results of Hypothesis 17.



**Table 31: Results of Hypotheses 17**

Construct	Result
	Standardized Beta Coefficients
CCS1	0.074
CCS2	0.402*
R square (adjusted R square)	0.194 (0.156)
F (Significance)	5.057 (0.011)

**$p \geq 0.05$  (non-significance);  $p < 0.05^*$  and  $p < 0.01^{**}$  (significance)**

As can be seen in the Table above, Standardised Beta Coefficients are present. CCS2 is a moderate positive statistical significance predictor of SRMU. The results of the regression support the hypothesis that the corporate communication strategy should support mutual understanding about malaria related issues.

### **Hypothesis 18 (SP – Stakeholder perceptions...)**

In order to test hypothesis H18, a linear regression was conducted with *corporate communication strategy* (CCS1 + CCS2) as independent variable and with *stakeholder perceptions about the University of Pretoria Centre for Sustainable Malaria Control and its image* (SP) is as dependent variable.

The Hypothesis was formulated as follows:

**H18:** The corporate communication strategy can address stakeholder perceptions about the University of Pretoria Centre for Sustainable Malaria Control and its image.

**H0:** The corporate communication strategy cannot address stakeholder perceptions about the University of Pretoria Centre for Sustainable Malaria Control and its image.

The Table below indicates the results of Hypothesis 18.

**Table 32: Results of Hypotheses 18 (SP)**

Construct	Result
	Standardized Beta Coefficients
CCS1	0.262*
CCS2	0.528**
R square (adjusted R square)	0.471 (0.446)
F (Significance)	18.733 (0.000)

$p \geq 0.05$  (non-significance);  $p < 0.05^*$  and  $p < 0.01^{**}$  (significance)

As can be seen in the Table above, Standardised Beta Coefficients are present. CCS1 and CCS2 is a moderate positive statistical significance predictor of SP. The results of the regression support the Hypothesis that the corporate communication strategy can address stakeholder perceptions about the University of Pretoria Centre for Sustainable Malaria Control and its image.

### **Hypothesis 18 (SI – Stakeholder image...)**

In order to test Hypothesis H18, a linear regression was conducted with *corporate communication strategy* (CCS1 + CCS2) as independent variable, and with *stakeholder perceptions about the University of Pretoria Centre for Sustainable Malaria Control and its image* (SI) is as dependent variable.

The Hypothesis was formulated as follows:

**H18:** The corporate communication strategy can address stakeholder perceptions about the University of Pretoria Centre for Sustainable Malaria Control and its image.  
**H0:** The corporate communication strategy cannot address stakeholder perceptions about the University of Pretoria Centre for Sustainable Malaria Control and its image.

The Table below indicates the results of Hypothesis 18.

**Table 33: Results of Hypothesis 18 (SI)**

Construct	Result
	Standardized Beta Coefficients
CCS1	0.444*
CCS2	0.134
R square (adjusted R square)	0.269 (0.234)
F (Significance)	7.733 (0.001)

**$p \geq 0.05$  (non-significance);  $p < 0.05^*$  and  $p < 0.01^{**}$  (significance)**

As can be seen in the Table above, Standardised Beta Coefficients are present. CCS1 and CCS2 is a moderate positive statistical significance predictor of SI. The results of the regression support the Hypothesis that ‘the corporate communication strategy can address stakeholder perceptions about the University of Pretoria Centre for Sustainable Malaria Control and its image.’

## 5.6 CONCLUSION

This Chapter focussed on the findings based on the developed measurement instrument. The descriptive statistics, factor analysis and hypothesis testing were illustrated and explained.

The next chapter, Chapter 6 is the final chapter for this study. The focus will be on developing a model for a corporate communication strategy, recommendations for future research and managerial implications for the organisation to include in its corporate communication strategy. These will in-turn guide the organisation to have more sustainable and effective communication with its stakeholders.

## CHAPTER 6: DEVELOPING A MODEL FOR A CORPORATE COMMUNICATION STRATEGY

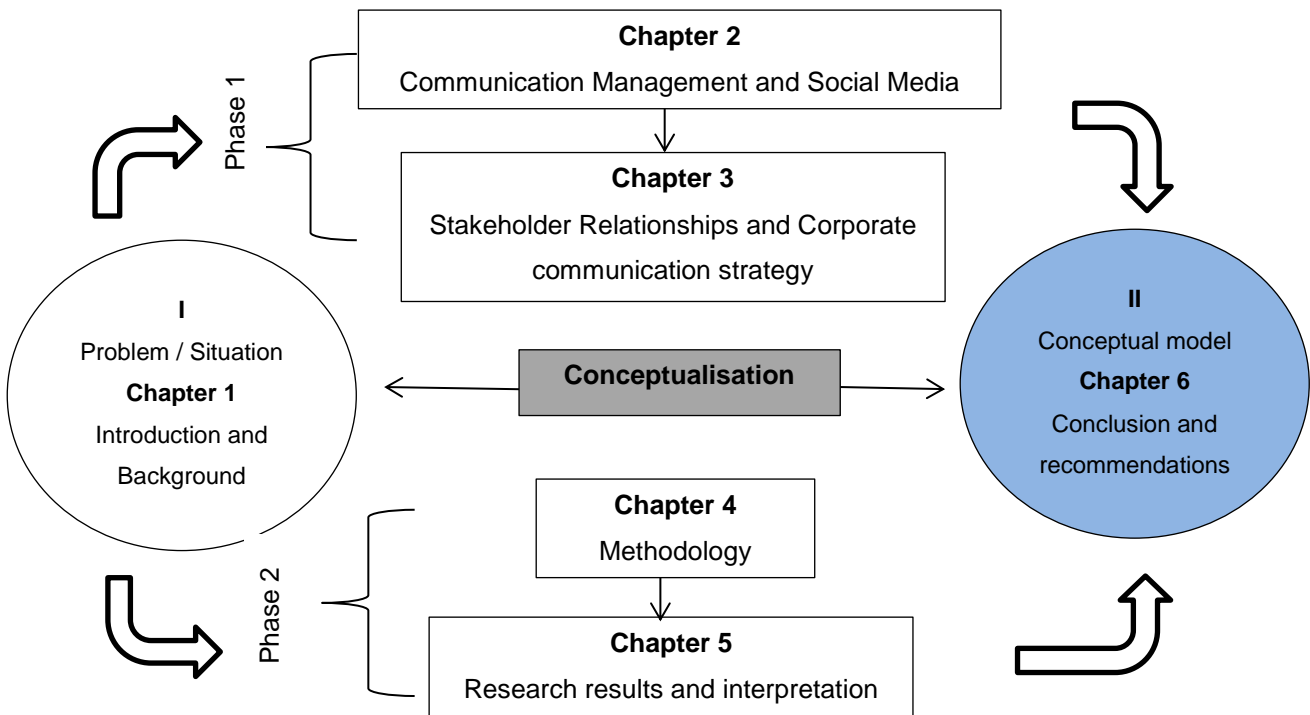
### 6.1 INTRODUCTION

The previous Chapter reflected on the results, interpretation and analysis of the data collected from the developed e-mail survey. The four constructs, *communication management*, *social media*, *stakeholder relationships* and *corporate communication strategy* were confirmed to be highly correlated to one another. By analysing the components individually, knowledge was gained of the whole. The way in which the components are connected was also investigated. The constitutive variables or factors relevant to understanding the phenomena were isolated through analysis, while the connections between the variables were again reconstructed to gain insight in the causes and contributory factors to the phenomenon (Mouton & Marais, 1989:103). It was also found that the measurement instrument is reliable and valid and measured the concepts *communication management*, *social media*, *stakeholder relationships* and *corporate communication strategy*, so that a corporate communication strategy model could be developed for the University of Pretoria Centre for Sustainable Malaria Control (UP CSMC).

An inferential strategy was followed in this study. The study was, therefore, started with a clear frame of reference – a theory. This framework leads to the conceptualisation, operationalisation and data collection and eventually formed the frame of reference for analysis and interpretation (Mouton & Marais, 1989:103). However, inductive reasoning was also used to establish the connections and patterns in the data.

This Chapter focusses on three main areas – the conclusions, recommendations of the empirical study, as well as the developed corporate communication strategy model. These are presented in relation to the research objectives set in the theoretical orientation of the first three chapters. Furthermore, the limitations of the research and possibilities for future research are addressed. Figure 51 highlights this Chapter's position in relation to the rest of the dissertation.

**Figure 51: Chapter 6 in relation to the other chapters**



Source: Adapted from Mitroff *et al.* (1974).

## 6.2 MAIN PURPOSE AND PROBLEM STATEMENT OF THE STUDY

The purpose of this research is to develop a corporate communication strategy model for the University of Pretoria Centre for Sustainable Malaria Control (UP CSMC).

The problem addressed in this study is *that many of the University of Pretoria Centre for Sustainable Malaria Control's traditional communication efforts towards its long-term stakeholders about malaria-related issues are not strategically sustainable, and in many cases, not effective.* It is suggested that a conceptual framework for a more formal and sustainable corporate communication strategy be developed for the strategic management of communication about science at the University of Pretoria Centre for Sustainable Malaria Control.

## 6.3 IMPORTANCE OF THE STUDY

The study aimed to contribute to the body of knowledge in science communication through the effective utilisation of social media and other communication methods. Social media has developed into a reality that modern managers cannot ignore. However, there is uncertainty amongst managers on how social media should be incorporated into the

organisation's goal achievement processes. These issues focus less on the technical or design capabilities of social media, and more on its contribution to the organisation's goal achievement process, specifically with regards to corporate communication. It follows that if social media contributes to the realisation of corporate communication goals, then corporate communication practitioners should be involved in the management process.

The researcher conceptualises an important activity for the corporate communication manager on the functional level, namely that of developing a corporate communication strategy for the organisation as guide for communication transformation in a late modern society. In creatively applying concepts from one discipline to another, the corporate communication strategy provides the missing link between the corporate communication function and the corporate strategy.

## **6.4 THE CONCLUSIONS TO RESEARCH OBJECTIVES**

Each of the specific research objectives articulated in Chapter 1 will now be discussed in association with the empirical results and findings from the literature. For ease of navigation, content will be arranged under relevant sub-headings, which will be introduced in the opening paragraph pertaining to each objective.

### **6.4.1 Conclusion of Research Objective 1**

To determine whether communication about science can take place through effective stakeholder communication.

To address this objective, firstly the concept of science communication also defined for this study as communication about science is highlighted; thereafter-effective stakeholder communication is explained as supported by relevant literature. The relationship between the constructs is summarised.

Science communication is still a new concept to the UP CSMC. This study provided fresh insights into a corporate communication strategy framework for communicators of the UP CSMC, and others from diverse industries, who will be able to see the relevance and significance of the corporate communication strategy model developed in this study. It will allow them to compare their practices with high performing organisations and adapt or change their plans in order to improve communication.

Burns *et al.* (2003) define science communication as the use of appropriate skills, media, activities, and dialogue to produce one or more of the following responses to science:

- Awareness, including familiarity with new aspects of science
- Enjoyment of other affective responses, e.g. appreciating science as entertainment or art
- Interest, as evidenced by voluntary involvement with science or its communication
- Opinions, the forming, reforming, or confirming of science-related attitudes
- Understanding of science, its content, processes, and social factors.

Based on the above, it is evident that science communication must be purposeful. The following main types of science communication methods, described by Rowe and Frewar (2005) as a three-pronged approach, can be used to guide the organisation to communicate about science to its stakeholders: Firstly, communication is information flowing from the organisation to its stakeholders; secondly, the communication process, also known as consultation, is the direction of travel of information from stakeholders to the organisation. This communication process is also the main focus point for this study. Thirdly is participation, which is the two-way communication between organisations and their stakeholders (if feedback was given).

Any science communication activity involves a mix of communication approaches according to the needs of the stakeholders and the organisation involved. This will build on effective stakeholder communication.

One can detect a growing recognition that effective communication requires initiatives that sponsor dialogue, trust, relationships and stakeholder participation across a diversity of social settings and media platforms. Effective communication will necessitate connecting a scientific topic to something the stakeholders already value or prioritise, conveying personal relevance (Nisbet & Scheufele, 2009:1767-1778).

In order for communication to be effective, communication requires each party to make some effort to understand the other party. Effective communication can help an organisation to achieve satisfied and well-motivated stakeholders, and to develop innovative and creative strategies (Blundel, 2004:2). Effective communication is also correlated to the organisation's goals and the attainment of these goals through organisational relationships with stakeholders.

Based on the discussion above, the findings demonstrated in the previous Chapter that *effective stakeholder communication* is a moderate positive statistical significance predictor of *communication about science*. The results of the regression therefore support the Research Objective 1, to determine whether ‘communication about science can take place through effective stakeholder communication’ as depicted in H1. It can therefore be argued that when communicating about science, the UP CSMC should aim to achieve effective communication between the Centre and its stakeholders. The Centre’s corporate communication strategy should also include objectives to achieve effective stakeholder communication when communicating about science.

#### **6.4.2 Conclusion of Research Objectives 2 and 4**

Objective 2: To determine whether communication about science can take place through traditional media channels

Objective 4: To determine whether communication about science can take place through social media.

A general discussion about communication about science was conducted in the previous section. A more detailed discussion about communication about science from a technology perspective is provided below. The concepts traditional media channels and social media are also described in more detail. The relationship between communication about science and traditional media channels and social media is explained.

Science communication should be driven by a desire to meet the needs and interests of stakeholders. All forms of communication (written/spoken) are socially rooted; they arise in a certain social and cultural context. The same can be asserted about science and more specifically about technology (Rus, 2014:655).

Borchelt (2001) argued that active involvement (particularly from management) is critical for success when communicating about science. Borchelt (2001) furthermore recognised that emerging information technologies – especially the Internet – may offer science communication unparalleled opportunities to reach stakeholders directly and to allow for direct interaction between management and the stakeholders. Research also shows that interest in science-related issues is highest among respondents who rely mainly on new information technologies for information, as opposed to traditional mass communication



channels (Nisbet & Scheufele, 2009). The findings for this study however, do not support the statement of Nisbet and Scheufele (2009) above.

Communication about science is an important issue for many stakeholders, although they do not want to be inundated with information which is not relevant to their needs. It is less important for stakeholders to have the information than for them to know where to find it when they need it. Finding information requires connectivity of the stakeholder to the channel of communication in use at the organisation, in this case the UP CSMC.

Traditional media include all the forms of “old” media used to communicate a message to stakeholders without using Internet technologies. Examples of old media include: television, radio, newspapers, magazines and outdoor media like billboards (Erasmus, 2012:2).

Communication is becoming more interactive, moving from one-way to two-way communication through to interactive media (Mangold & Faulds, 2009). In recent years, people have witnessed the rapid proliferation of a new class of information technologies, commonly known as social media, which supports interpersonal communication and collaboration using Internet-based platforms. Social network usage has increased in popularity especially among the younger population; however, this does not mean that the older generation has not been attracted to this medium. “The most influential people on the web today are the 24-44 year olds who embrace the Internet, not just as a tool, but as a way of life,” stated Reigner (2007:447).

Mangold and Faulds (2009:357-365) define social media as “a wide range of online word-of-mouth forums including blogs, company-sponsored discussion boards and chat rooms, stakeholder-to-stakeholder e-mails ... Internet discussion boards and forums, moblogs (sites containing digital audio, images, movies, or photographs), and social websites (such as Facebook and Twitter), to name a few”.

The potential use of social media for organisations has become a topic of much debate in management literature and can be considered as an improved tool for ‘open’ practices and engagement with stakeholders (Ninesigma, 2014:138). The implementation of social media lends itself towards organisational adaptations to facilitate alignment. As technology becomes integrated into operational units and commercialisation processes, significant

adaptation in organisational culture and structure is required to socialise managers, combat cultural afflictions, and promote openness to users (Ninesigma, 2014:139).

Based on the discussion above, the findings as explained in the previous Chapter demonstrated that *traditional media (where the emphasis were placed on the UP CSMC and the stakeholders)* is a moderate statistical non-significance predictor of *communication about science*. The results of the regression do not support the objective that ‘communication about science can take place through traditional media channels. *Social media* on the other hand, is a moderate negative statistical non-significance predictor of *communication about science*. Since social media was tested with traditional media the combined results of the regression do not support the objective that ‘communication about science can take place through social media’.

The results of the regression therefore do not support the Research Objectives 2 and 4, to determine whether ‘communication about science can take place through traditional media channels’ as depicted in H2 and the Research Objective 4, to determine whether ‘communication about science can take place through social media’ as depicted in H4. The hypotheses were not supported as the respondents (stakeholders of the UP CSMC) feel that they want to contribute in decision-making through open-dialogue. This supports the view of Marx, Bosch, Du Plessis, De Villiers and Crous (1998:555), that the organisation’s success is inseparably linked to its stakeholders’ success, because stakeholder relationship encounters involve interpersonal communication with a stakeholder. These authors emphasise the importance of ensuring that stakeholders realise the significance of their individual contributions, interpersonal communication enhances contributions at a personal level.

It can therefore be suggested that when communicating about science, the UP CSMC should aim to rather communicate through different forms of interpersonal communication such as one-on-one engagements, events, seminars, exhibitions and other presentations. The Centre’s corporate communication strategy should also include objectives to improve communication about science through interpersonal communication with stakeholders.

### **6.4.3 Conclusion of Research Objectives 3 and 5**

Objective 3: To determine whether long-term stakeholder relationships can be established by using traditional media channels.

Objective 5: To determine whether long-term stakeholder relationships can be established through social media channels.

A specific discussion about traditional media channels and social media channels was conducted in the previous section. A more detailed discussion about long-term stakeholder relationships is provided below. The relationship between long-term stakeholder relationships and traditional media channels and social media is explained.

The two major underlying differences between traditional media and social media are the different flows of communication and the speed at which it flows. In traditional media, the message flows from a sender, who then delivers the message to the receiver (in this case a media organisation) (Anderson, 2009:1).

Traditional media include all the forms of “old” media used to communicate a message to stakeholders without using Internet technologies. Examples of old media include: television, radio, newspapers, magazines and outdoor media like billboards (Erasmus, 2012:2).

Mangold and Faulds (2009:357-365) define social media as “a wide range of online word-of-mouth forums including blogs, company-sponsored discussion boards and chat rooms, stakeholder-to-stakeholder e-mails ... Internet discussion boards and forums, moblogs (sites containing digital audio, images, movies, or photographs), and social websites (such as Facebook and Twitter), to name a few”.

Social media refers to a set of online tools open for stakeholder membership that support idea sharing, creating and editing content, and building relationships through interaction and collaboration (Ninesigma, 2014:126). Social media is the number one activity on the web. Facebook, Twitter and YouTube have replaced face-to-face communication to a large extent.

An organisation’s purpose and direction are affected by its relationships with key stakeholders in its environment (Dozier *et al.*, 1995) since it influences the way

stakeholders support the organisation's goals (Ströh, 2005:111). One way in which management can therefore contribute to organisational success is by aligning these relationships to organisational strategy (Steyn & Puth, 2002).

Managing communication with stakeholders as if they were discrete and unconnected groups of people does not add value to the organisation/organisation. What is needed is a more integrated approach, supported by well thought-through strategies, systems and behaviours that enable organisations to prioritise between stakeholder's needs; to align strategies and activities directed at stakeholders; and to build bridges between them. The most important way that communication practitioners can do this is through building and maintaining excellent relationships with strategic stakeholders. Positive matching of the needs and objectives of stakeholders and the organisation is required for a lasting quality relationship (Steyn & Puth, 2000:66-67).

Any science communication effort needs to be based on a systematic empirical understanding of intended stakeholder existing values, knowledge and attitudes; their interpersonal and social contexts; and their preferred media sources and communication channels (Nisbet & Scheufele, 2009).

It is clear that communication management involves the management of stakeholder relationships through the use of communication. With a foundation in stakeholder theory, communication management is able to both advocate for the benefit of improved relations with an organisation's stakeholders and to build and strengthen those relationships. Stakeholder management includes communicating, negotiating, contracting and managing relationships with stakeholders and motivating them to behave in ways that are beneficial to the organisation and its stakeholders (Caroll, 2013:340).

Organisational relationships offer the best solution towards illustrating the value of public relations and communication. These relationships enable the organisation to attain its long- and short-term goals (Coetsee, 2008:iii). Communication is a key influencer of the success of stakeholder relationships. A shift has also occurred from purely communication management towards building mutually beneficial relationships between an organisation and its key stakeholders (Coetsee, 2008:iii).

Within communication theory, the process of inquiry explains a systematic study of experience (direct/indirect) that leads to understanding and knowledge (Littlejohn & Foss,

2005:4-5). Within communication management science, the process of inquiry is aimed at building relationships, which are of benefit to the organisation. This requires creatively communicating and understanding the needs of each stakeholder. One of the key reasons for building and expanding stakeholder relationships is to create goodwill (Du Plessis *et al.*, 2003:250). Additionally, effective and strong relationships have proved extremely beneficial in times of crises (Steyn & Bütschi, 2004:7). However, long-term relationships are two-sided. It takes two for a relationship to exist, and this has to be true for a relationship-based approach as well (Grönroos & Helle, 2012:344).

In order to establish the outcome of investments made collaboratively in a relationship, the benefits that can be created mutually have to be calculated in some way (Grönroos & Helle, 2012:345). If a relationship is to aim at helping the organisation/organisation to create a win-win situation with its stakeholders, conceptual models and metrics geared towards one-sided measurements only are not theoretically sound, nor are they helpful for business practice. Two-sided models and corresponding metrics are needed (Grönroos & Helle, 2012:345).

Based on the discussion above, the findings demonstrated *traditional media (focus is on the UP CSMC and the stakeholders)* is a moderate statistical non-significance predictor of long-term stakeholder relationships 1 (which specifically focussed on the view of the stakeholders about the UP CSMC) and long-term stakeholder relationships 2 (emphasis is placed on a lasting relationship - deep emotional bond supported by mutual understanding).. The results of the regression do not support the objective that 'long term stakeholder relationships can be established through traditional media channels.' Although, Social media was a moderate positive statistical non-significance predictor of long-term stakeholder relationships, it was statistically tested together with traditional media and therefore the results of the regression do not support the objective that 'long term stakeholder relationships can be established through social media channels'.

It can be assumed that stakeholders are not convinced long-term stakeholder relationships can be established through the use of traditional media channels or social media channels. The reason for this could be that both traditional and social media is a basic for of one-way communication with very little if any encouragement for personal engagement. These channels are traditionally used to disseminate information rather than encouraging

dialogue through personal interaction. If the opposite is to be true the potential to establish a long-term relationship is pertinent.

It can therefore be suggested that the UP CSMC should consider alternative mediums to encourage the establishment of long-term stakeholder relationships. This could include more frequent engagement with stakeholders through events like road shows, Skype presentations, and visits to stakeholder sites. The Centre's corporate communication strategy should also include objectives to increase personal stakeholder engagement more frequently.

#### **6.4.4 Conclusion of Research Objectives 6 and 7**

Objective 6: To determine whether long-term stakeholder relationships can be enhanced through two-way symmetrical communication.

Objective 7: To determine whether long-term stakeholder relationships can be enhanced through two-way asymmetrical communication.

A specific discussion about long-term stakeholder relationships was conducted in the previous section. A more detailed discussion about long-term stakeholder relationships in the context of two-way communication is provided below. A discussion with specific reference to two-way symmetrical and two-way asymmetrical communication models is explained in detail. The relationships between long-term stakeholder relationships and two-way communication are explained.

In order for organisations to succeed, it must build and maintain "healthy interactive" relationships with their stakeholders, where the purpose of a organisation's communication system is to facilitate "engagement" (van Riel & Fombrun, 2007:9). Relationships and communication are therefore intricately linked to organisational effectiveness and therefore also, both directly and indirectly, to the achievement of organisational goals.

It is clear that communication management involves the management of stakeholder relationships through the use of communication. With a foundation in stakeholder theory, communication management is able to both advocate for the benefit of improved relations with an organisation's stakeholders and to build and strengthen those relationships (Scholes, 1997:xviii).

Stakeholder management includes communicating, negotiating, contracting and managing relationships with stakeholders and motivating them to behave in ways that are beneficial to the organisation and its stakeholders (Caroll, 2013:340).

Corporate communication should provide mediation for the organisation to help management and stakeholders negotiate conflict. In this process, it is the purpose of corporate communication to change the attitudes and behaviour of management as much as it is to change the attitudes and behaviours of stakeholders (Dozier *et al.*, 1995:100).

A Corporate communication model facilitates long-term relationships among individuals and organisations in society. It can be viewed as a deliberate, planned and sustained effort to establish and maintain mutual understanding between an organisation and its stakeholders (Dowling, 1990:6; Lubbe & Puth, 1994:6).

A discussion with specific reference to two-way symmetrical and two-way asymmetrical communication models is explained below.

Communication in the two-way symmetrical model consists more of dialogue than monologue (Grunig & Hunt, 1984:23). Communication efforts are described in terms of its research base as well as the use of communication in improving understanding with key stakeholders. It presents the classic win-win situation, and implies that both the organisation and its stakeholders are benefitting (Botan & Hazelton, 1989:29; Dozier *et al.*, 1995:13). The organisation is adjusted to fit the environment. It requires bargaining, negotiating, and using strategies of conflict resolution to bring symbolic changes in the ideas, attitudes, and behaviours of the organisation and its stakeholders (Botan & Hazelton, 1989:29; Dozier *et al.*, 1995:13). If persuasion occurs, it is as likely for the organisation's behaviour and attitudes to change as it is for the stakeholder's behaviour and attitudes to change.

Broom and Dozier (in Holtzhauzen, 2007:23) state that in order for a two-way flow of communication to be established, the communication department in an organisation needs to be designed around organisational relationship goals with communication strategies employed to support the achievement of these goals. Measuring how effective communication strategies are in the organisation rests upon their ability to achieve relationship objectives and goals (Holtzhauzen, 2007:23). This study specifically



investigated the relationship between the organisation and its stakeholders and contributes towards measuring how effective communication contributes to organisational success.

The two-way symmetrical model is embedded in the systems approach and requires both technician and management roles to implement programmes. Excellent corporate communication programmes use a two-way symmetrical model of communication. According to Spicer (2007:38) “the two-way symmetrical model of public relations/corporate communication suggests that the public relations/corporate communication practitioners in the organisation may well find themselves leading the charge for collaborative engagement with the dependent stakeholders”, as key outcomes like trust are achieved through effective communication (Grunig & Huang, 2000).

The two-way symmetrical model attempts to balance interests of the organisation and its stakeholders; is based on research; and uses communication to manage conflict with other stakeholders. As a result, two-way symmetrical communication produces better long-term relationships with stakeholders. Communicators can develop relationships more effectively when they communicate with stakeholders symmetrically (Botan & Hazelton, 2009:47-55). Symmetrical communication programmes also develop and maintain quality relationships with “strategic stakeholders” (Yang & Grunig, 2005:3).

Looking at the two-way asymmetrical communication model which according to Botan and Hazelton (1989:29) and Grunig and Hunt (1984:23) also allows information flows between the organisation and its stakeholders but is imbalanced in favour of the organisation. Practitioners of this model function like the press agent, but use scientific persuasion to influence stakeholders (Grunig & Hunt, 1984:22). This model is not confined to the dissemination of information and research plays a key role.

Based on the discussion above, the findings of long-term stakeholder relationships 1 (which specifically focussed on the view of the stakeholders about the UP CSMC) demonstrated that the *two-way symmetrical model* is a moderate positive statistical significance predictor of long-term stakeholder relationships. The results of the regression support the objective that ‘long-term stakeholder relationships can be enhanced through the two-way symmetrical model of communication.’ The *two-way asymmetrical model* on the other hand was statistically tested together with the *two-way symmetrical model* and combined presented a significance predictor of long-term stakeholder relationships. The



results of the regression also support the objective that 'long-term stakeholder relationships can be enhanced through the two-way asymmetrical model of communication'.

For long-term stakeholder relationships 2 (emphasis is placed on a lasting relationship - deep emotional bond supported by mutual understanding) the following results were indicated: The *two-way symmetrical model* is a moderate positive statistical non-significance predictor of *long-term stakeholder relationships 2*. The results of the regression as such do not support the objective that 'long-term stakeholder relationships can be enhanced through the two-way symmetrical communication model specifically as  $P \geq 0.05$ . On the other hand the *two-way asymmetrical model* was statistically tested also with an emphasis on understanding together with the *two-way symmetrical model* which showed it to be a moderate negative statistical non-significance predictor of *long-term stakeholder relationships 2* – emphasis is placed on a lasting relationship (deep emotional bond supported by mutual understanding). The results of the regression do not support the objective that 'long-term stakeholder relationships can be enhanced through two-way asymmetrical communication'.

Based on the findings of long-term stakeholder relationships 1 and 2, the two-way symmetrical model showed a higher significance level. It can be assumed that the stakeholders prefer the two-way symmetrical communication model rather than the two-way asymmetrical communication model. It can therefore also be assumed that the two-way asymmetrical model does not meet all the requirements for communication between the organisation and its stakeholders to be effective. The two-way symmetrical model of corporate communication is the only true two-way communication model.

In view of the above, the statement of Olkkonen, Tikkanen and Alajoutsijarvi (2000:405) that communication cannot take place without a degree of relationship, and relationships cannot be understood without having knowledge of the communication processes that take place in relationships is supported. This statement elicits why it is the responsibility of corporate communication management to engage in two-way symmetrical communication, that objectively reflects the situation and status of stakeholder relationships through consistent interaction. The typical tasks that are suggested for managers in using this type of communication model are to negotiate with activist stakeholders; to use theories of conflict resolution in dealing with stakeholders; to help management to understand the

opinion of particular stakeholders; and to determine how stakeholders react to the organisation when asked to provide input for decision-making.

#### **6.4.5 Conclusion of Research Objective 8**

Objective 8: To determine whether mutual understanding about malaria related issues can be achieved by communicating about science.

Communication about science was previously explained in detail but for the purpose of discussing the results for objective 8 a brief discussion is provided below. A detailed discussion about mutual understanding about malaria related issues is also explained in the section below. The relationship between mutual understanding about malaria related issues and communication about science are explained.

The inclusion of the construct “mutual understanding” in this research was to determine whether the creation of mutual understanding is possible if adequate channels of communication exist between The University of Pretoria Centre for Sustainable Malaria Control and its stakeholders.

Organisational communication as a channel of communication is aimed at building relationships and mutual understanding with key stakeholders (Dolphin & Fan, 2000:99, van Riel & Fombrun, 2007:1). Within the management of communication, the process of inquiry is aimed at a mutual understanding between the University of Pretoria Centre for Sustainable Malaria Control and its stakeholders. This requires sustainable communication and understanding of the needs of the stakeholders.

Relationship-building takes time. Many of the hallmarks of good relationships, trust, mutual respect and understanding are intangibles that develop and evolve over time, based on individual and collective experiences and interactions (International Finance Corporation, 2007:6). In the early stages of any relationship, there would be a need for both parties to better understand the potential for developing a relationship based on mutual understanding and appreciation. Implicit in this process is the formulation of perceptions about how the relationship will manifest itself. Communication must be planned to achieve specific objectives concerning mutual understanding between the organisation and its stakeholders (Sandin & Simolin, 2006:7).

The communication that an organisation invests in has a strong impact on various aspects of stakeholders' perceptions and actions. It can also lead to a 'mutual understanding between stakeholders and influencing behaviour and attitude' (Sharma & Kamalanabhan, 2012). Organisation communication is aimed at building relationships and mutual understanding with key stakeholders (Dolphin & Fan, 2000:99, van Riel & Fombrun, 2007:1). The stronger the personal relationship between the organisation and its stakeholders, the greater the potential for mutual understanding, and the greater the level of informed decision-making will be (Durkin, McGowan & Babb, 2013:421).

In view of the objective making reference to malaria related issues a brief description on the concept of issues is provided. Issues management forms an important part of stakeholder relationship management and is a process that helps to detect and respond appropriately to emerging trends or changes. These trends or changes may then crystallise into an "issue", which is a situation that evokes the attention and concern of influential stakeholders. At its best, issues management represents stewardship for building, maintaining and repairing relationships with stakeholders (Heath, 2002).

Science communication is not about promoting a centre, glorifying science without asking questions, or a one-way flow of information. It is rather about dialogue and engagement; having respect for the audience and context; exploring science and how it matters to society; and considering the scientists as the key actors. Harwood and Schibeci (in Palmer & Schibeci, 2014:513) conceptualise science communication as a multifaceted process of knowledge exchange. This process involves particular types of actors who want to communicate their knowledge to others.

Therefore, communication about science involves the exchange of knowledge and the assumed understanding of that knowledge (Palmer & Schibeci, 2014:513). The difference between good, bad and average science communication (communication about science) requires understanding. According to Bucchi (2013:5) the field – and the topic of science communication in general – has long been dominated by a normative impulse.

Models in science communication have shifted from traditional, linear, sender-channel-receiver models (e.g., Lasswell, 1984; Shannon & Weaver, 1949) toward non-linear models. Important changes in these models are: (1) the direction of communication: one-way versus two-way (or multidirectional); (2) the roles of participants: namely a shift from

the perspective that scientific illiterate people passively consume science information toward a perspective in which all people can actively participate in the process of information exchange based on people's existing knowledge and previous experiences; and (3) the information that is communicated: the fact that science messages produce inherently uncertain information that has different meanings in different (social) contexts is increasingly recognised (Bos *et al.*, 2010:123).

The findings of *Mutual understanding about malaria related issues* are a moderate positive statistical non-significance predictor of *communication about science*. The results of the regression do not support the objective that 'mutual understanding about malaria related issues can be achieved by communicating about science' specifically.

It can be argued that it will be impossible for the organisation to fulfil its purpose satisfactorily unless mutual understanding about malaria related issues exists between the organisation and its stakeholders. Based on this view, it is suggested that mutual understanding about malaria related issues can be achieved through rather focussing on building long-term stakeholder relationships with stakeholders, the UP CSMC should keep its sound principles by acknowledging the views of stakeholders and taking into account when the stakeholders communicate to them about malaria related issues.

#### **6.4.6 Conclusion of Research Objective 9**

Objective 9: To determine whether mutual understanding about malaria related issues can contribute to the establishment of long-term stakeholder relationships.

Mutual understanding about malaria related issues was previously explained in detail but for the purpose of discussing the results for objective 9 a brief discussion is provided below. A discussion about long-term stakeholder relationships is also explained in the section below. The relationship between mutual understanding about malaria related issues and long-term stakeholder relationships are explained.

In current turbulent times, change is constant and sustainable relationships hinge on mutual understanding of a clear communication strategy between the organisation and its stakeholders. It is envisaged that if the communication improves, the stakeholders and the UP CSMC will have a mutual understanding about malaria-related issues communicated

by the organisation, which should result in building and maintaining long-term relationships.

The significance of the construct “mutual understanding” is to reveal that the creation of such mutual understanding is only possible if adequate channels of communication exist between The University of Pretoria Centre for Sustainable Malaria Control and its stakeholders. It will be impossible for the organisation to fulfil its purpose satisfactorily unless mutual understanding about malaria related issues exists between the UP CSMC and its stakeholders.

Within the management of communication, the process of inquiry is aimed at a mutual understanding between the University of Pretoria Centre for Sustainable Malaria Control and its stakeholders. This requires sustainable communication and understanding of the needs of the stakeholders.

To be able to manage relationships between organisations and their stakeholders, the communication between them should be managed to build long-term relationships. For this reason, Du Plessis, Bothma, Jordaan and van Heerden (2003:251) explain that corporate communication identifies and segments different stakeholders, and then fulfils their communication needs through the organisation. Communication must be planned to achieve specific objectives concerning mutual understanding between the organisation and its stakeholders (Sandin & Simolin, 2006:7).

Stakeholder relations should be mutually beneficial and management need to be accountable to all stakeholders (Steyn & Puth, 2000:190). For management to be accountable to all stakeholders they need to be able to communicate to stakeholders. Communication can be linked with relationships and both management and its stakeholders need to understand how communication fits into this concept.

Based on the discussions, the findings demonstrated that *stakeholder relationships of mutual understanding* is a moderate positive statistical significance predictor of *long-term stakeholder relationships 1* (focussed mainly on *the view of the stakeholders about the UP CSMC*) and *long-term stakeholder relationships 2* (focussed a lasting relationship deep emotional bond supported by mutual understanding). The results of the regression support the objective that ‘mutual understanding about malaria related issues can contribute to the establishment of long-term stakeholder relationships.’

Based on the findings above, it can be assumed that the UP CSMC can be relied on to keep its promises and they already have a good relationship with its stakeholders based on mutual understanding. It is therefore suggested that the UP CSMC must stay focussed on their communication with its stakeholders in order for it to stay sustainable. The communication and relationship are intricately linked to organisational effectiveness and therefore also, both directly and indirectly, to the achievement of organisational goals.

#### **6.4.7 Conclusion of Research Objective 10**

To determine whether the corporate communication strategy can include: communication about science; effective stakeholder communication; two-way symmetrical practices; two-way asymmetrical practices; traditional media channels; social media channels; long-term stakeholder relationships; mutual understanding about malaria related issues; and stakeholder perceptions about the University of Pretoria Centre for Sustainable Malaria Control and its image.

Communication about science; effective stakeholder communication; two-way symmetrical practices; two-way asymmetrical practices; traditional media channels; social media channels; long-term stakeholder relationships; mutual understanding about malaria related issues was previously explained in detail but for the purpose of discussing the results for objective 10 a brief discussion is provided below. A discussion about stakeholder perceptions about the University of Pretoria Centre for Sustainable Malaria Control and its image is also explained in the section below. The relationship between corporate communication strategy and long-term stakeholder relationships are explained.

Communication management, according to Steyn (2002), entails, amongst others, the development of a corporate communication strategy at the functional level; setting corporate communication goals; and using public relations techniques to achieve these goals. Strategic corporate communication focuses on the boundary-spanning role of information acquisition, also called the mirror function of corporate communication performed by a practitioner in the role of the communication strategist. The window function of corporate communication entails communication management or information disposal – corporate communication strategy is developed by the practitioner in the role of the corporate communication manager, while corporate communication techniques execute communication plans to achieve goals (Steyn, 2002).



Communication about science, also known as science communication, involves expertise from multiple disciplines (Fischhoff & Scheufele, 2012): (a) organisation communicator, to get the facts right; (b) decision scientists at the organisation, to identify the right facts, so that they are not missed or buried; (c) social and behavioural scientists at the organisation, to formulate and evaluate communication, and (d) business unit communication practitioners, to create trusted channels among the parties.

Therefore, communication about science involves the exchange of knowledge and the assumed understanding of that knowledge (Palmer & Schibeci, 2014:513). The difference between good, bad and average science communication (communication about science) requires understanding. According to Bucchi (2013:5) the field – and the topic of science communication in general – has long been dominated by a normative impulse.

Science communicators are on their own, forced to make guesses about how to meet their stakeholder's information/communication needs. That's why tertiary institutions need to improve the training of science communicators to explain their work to stakeholders and to focus on quality communication at all times.

This research study showed that there is a distinct similarity between the information theory and corporate communication theory. In the context of communication, Gibson and Hodgetts (1991:5) elaborate on the meaning of information by stating that communication is seen as the process of transferring messages between sender and receiver, and not merely providing information to stakeholders. Information (or messages) is transferred through various media or channels and if this information is not absorbed, it has not been communicated. There is also a parallel between information theory and the process of developing corporate communication strategy.

The purpose of corporate communication strategy is to realise corporate goals through the organisation's relationships with its stakeholders. It is not enough to simply provide information through media such as websites to the organisation's stakeholders. This process is done through two-way symmetrical communication, where the purpose for the communication exchange is not just to provide information but to provide knowledge or manage relationships between the organisation and its stakeholders (Gibson & Hodgetts, 1991:5; Botan & Hazelton, 2009:47-55).

Strategic management theory differentiates between the enterprise-, corporate-, business-unit, functional- and operational strategy. Corporate communication strategy is seen to be the outcome of a strategic thinking process by senior communicators and top managers taking strategic decisions with regard to the identification and management of, and communication with, strategic stakeholders (Steyn, 2002:iii).

According to Sinickas (2006), management communication is a strong indicator of stakeholder comprehension of strategy. The relationship between effective stakeholder communication and stakeholder comprehension indicate that timely, relevant, complete and accurate communication received from management is positively related to stakeholder understanding of corporate strategy and goals.

Strategic communication assists an organisation to adapt to its stakeholder environment by feeding into the organisation's strategy formulation process intelligence with regards to strategic stakeholders. It also contributes to an organisation's success by building mutually beneficial relationships with these stakeholders through two-way communication (Steyn, 2007:1390).

An organisation's communication system is a key tool for guiding and executing corporate strategy (Dolphin & Fan, 2000:99; van Riel & Fombrun, 2007:9). The most significant factor accounting for the "total behaviour of the organisation, is its communication system" (Walton in Broom *et al.*, 2000:16; Grunig, 1992:72). Walton states that the dynamics of the organisation can best be understood by understanding its systems of communication. When these systems of communication are aligned to attain organisational goals, the communication within these systems becomes strategic (Broom *et al.*, 2000:16).

Corporate communication practitioners help to accomplish an active outward orientation for the organisation, establishing a firm base for mutual understanding and co-operation with strategic stakeholders (Steyn & Puth, 2000:19), which incidentally covers different levels of strategic management.

The corporate communication strategist monitors the relevant environmental developments and anticipates their consequences for the organisation's policies and strategies, specifically with regard to an organisation's relationship with its stakeholders (Steyn & Puth, 2000:20). A corporate communication strategist makes inputs into an



organisation's strategic decision-making process, thereby contributing to the development of the enterprise and corporate strategy (Steyn & Puth, 2000:19).

The importance of social media, and its applications, in the organisation must be identified. Management need to determine (Cronin, 1996:8) if the electronic communication applications will add value to the organisation's core activities. The impact of social media, including its applications should therefore be considered closely in determining the organisation's corporate communication strategy. Technology should be used to keep in touch with stakeholders and not to distance the organisation (Kent & Taylor, 1998:323).

The two major underlying differences between traditional media and new media are the different flows of communication and the speed at which it flows. In traditional media, the message flows from a sender, who then delivers the message to the receiver (in this case a media organisation). The final step in the flow of communication is when the message is communicated from the media organisation to the stakeholders (Anderson, 2009:1). When it comes to new media, an organisation is able to release its publications directly into a social media sphere. The results are instantaneously available to all stakeholders.

The importance of social media, and its applications, in the organisation must be identified. Management need to determine (Cronin, 1996:8) if the electronic communication applications will add value to the organisation's core activities. The impact of social media, including its applications should therefore be considered closely in determining the organisation's corporate communication strategy. Technology should be used to keep in touch with stakeholders and not to distance the organisation (Kent & Taylor, 1998:323).

Nowadays it is of great use for organisations to incorporate social media as part of their social media communication strategy. Continuing interactions and dialogue represent important features for initiating and maintaining long-term satisfying relationships (Jo & Kim, 2003; Taylor, Kent & White, 2001; Bruning *et al.*, 2006). In order to foster their long-term relationships with stakeholders, organisations have to stimulate dialogue that includes key stakeholder input, interaction and participation, but also proactively develop their online presence.

Senior communication practitioners can therefore use the Steyn and Puth (2000) model to integrate social media and its applications, into the development and implementation of corporate communication strategy. The use of this model will ensure that social media

communication is employed strategically and that the most comprehensive approach to stakeholder management is followed.

Early engagement with stakeholders provides a valuable opportunity to influence a positive perception and set a positive tone with stakeholders. According to Ellis and McClintock (in Steinberg, 2007:69) perception can be defined as 'information which is taken in by the senses, processed by the brain, stored in memory and produces some form of physical or mental response'. Perception is therefore the process whereby information is acquired about the environment through the five senses. People perceive through a frame of reference which is a set of interlocking facts, ideas, beliefs, values and attitudes. This frame of reference provides the basis for the understanding of people, events and experiences as it filters people's perceptions (Steinberg, 2007:69).

Kotler and Keller (2006:185) explain that perception is the process by which an individual selects, organises and interprets information inputs to create a meaningful picture of the business world. Perception therefore depends not only on the physical stimuli but also the stimuli relating to the surrounding field and conditions within the individual. Therefore perception can vary among individuals exposed to the same reality.

The perceptions of the participants in stakeholder interactions can be shaped by individual experience, values, education and group dynamics. The precondition for the clarifying process requires that the organisation and stakeholders are willing to listen to each other, and to acknowledge that solutions can be found even when perceptions differ. Stakeholders among themselves may have different perceptions on common issues, like for instance in this study, communication about science. But the level of agreement or disagreement influences the strategic activities of the organisation and stakeholders.

Comparing and discussing perceptions of an issue thus helps the organisation and the stakeholders to better perceive and appreciate their values. This also serves as a basis for developing strategies (Sachs & Rühli, 2011:110). According to Copley (2004:54), perception is an individual process. It depends on internal factors such as a person's beliefs, experiences, needs, moods and expectations. The perceptual process is also influenced by the characteristics of the stimuli and the context in which it is seen or heard. The way a stakeholder perceives stimuli depends on how it is received, selected and organised (Lombard, 2007:30).

Perceptions of a stakeholder are therefore created by the stakeholder's experience of communication about science relating to goals and objectives of the UP CSMC as a knowledge sharing centre. In the next section information processing is explained and the creation of perception is divided into different stages.

According to Bollen *et al.* (2006:273-298) organisations develop websites for a wide range of activities, such as electronic commerce, creating a corporate image, disclosing information and reducing communication expenses. The use of social media by a centre like the University of Pretoria Centre for Sustainable Malaria Control suggests that it can have two interrelated promotional roles: firstly, social media will enable the Centre to talk to its stakeholders; and, secondly, social media enable stakeholders to talk to one another (Mangold & Faulds, 2009).

Simply disseminating information about a good corporate image is not going to guarantee strong relations and trust. Stakeholder relations should be mutually beneficial and management need to be accountable to all stakeholders (Steyn & Puth, 2000:190).

Individuals and organisations think about its image in the marketplace, the public's perceptions of the organisation are all-important. Public relations have a key role to play in developing understanding and support. Essentially, it helps to define and explain relationships of mutual benefit between organisations and its key stakeholders (Skinner, Mersham & Benecke, 2013:4).

Based on the discussions, the findings demonstrated *communication about science, two-way symmetrical model, two-way asymmetrical model, effective stakeholder communication, social media and traditional media* (focussed on the UP CSMC and the *stakeholders*) are a significance predictor of *corporate communication strategy 1* (focussed on the awareness of malaria related issues) and *corporate communication strategy 2* (stakeholders are becoming involved with the UP CSMC). The results of the regression support the objective that the corporate communication strategy can include communication about science; effective stakeholder communication; two-way symmetrical practices; two-way asymmetrical practices; traditional media channels; social media channels; long-term stakeholder relationships; mutual understanding about malaria related issues; and stakeholder perceptions about the University of Pretoria Centre for Sustainable Malaria Control and its image.

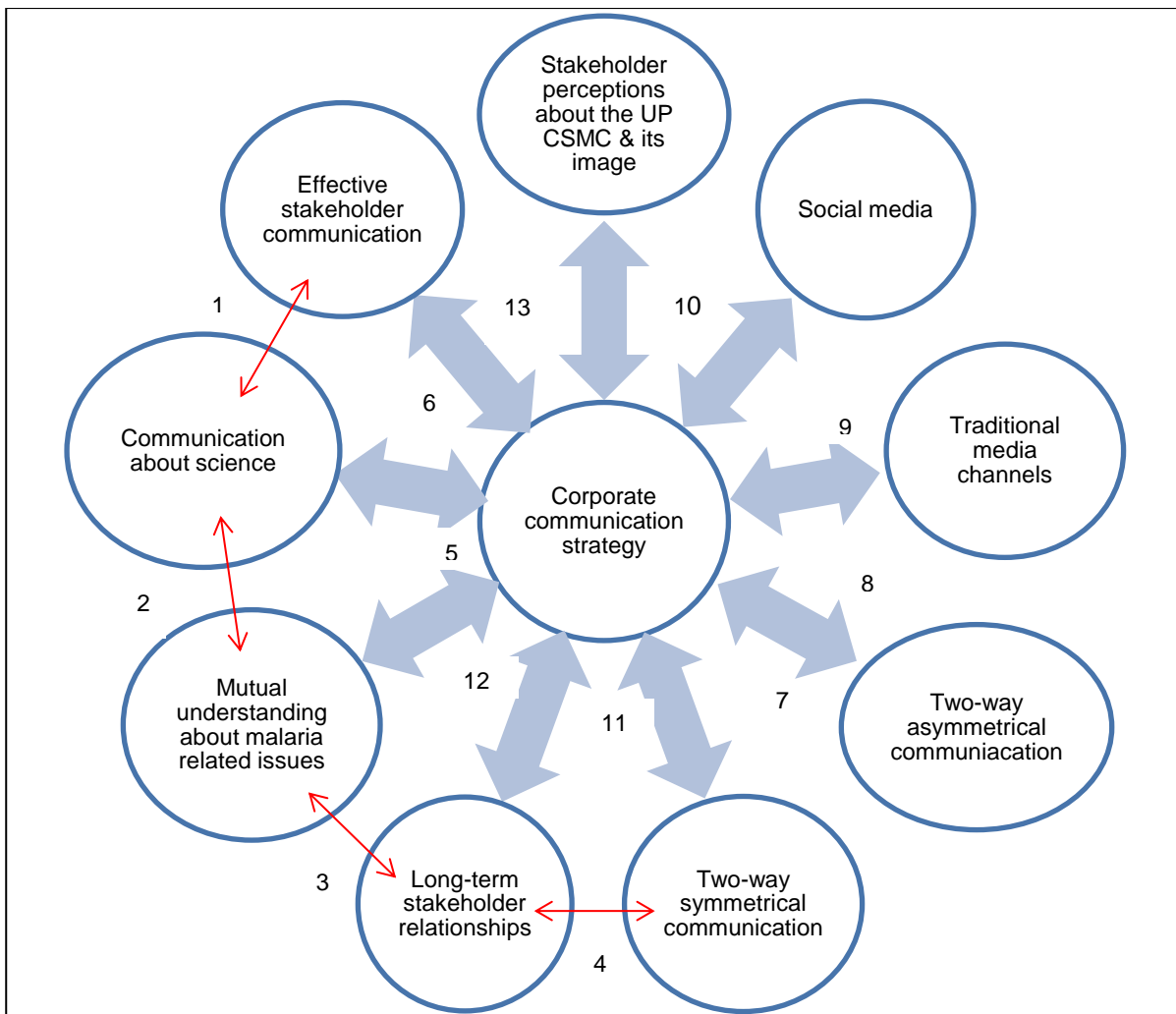
Creating an overall communication strategy based on the achievement of objective 10, can help bring coherence to all the various communication plans of the UP CSMC. Such a strategy 'provides focus and direction for an organisation's communication, building relationships with strategic stakeholders ... and provides the framework for the communication plans necessary to carry out the strategy' (Steyn & Puth, 2000:179).

## **6.5 MODEL FOR A CORPORATE COMMUNICATION STRATEGY**

Given the fact that many of the University of Pretoria Centre for Sustainable Malaria Control's (UP CSMC) traditional communication efforts towards its long-term stakeholders about malaria-related issues are not strategically sustainable, and in many cases, not effective the research confirmed the lack of a corporate communication strategy. To make communication relevant and effective in the UP CSMC requires a strategy formulation process and the development of a strategic communication plan. The strategic communication plan is the framework within which communication programmes are developed. This is very much a thinking process informed by the research conducted to identify strategic issues and stakeholders that arise around issues, the aim of which to gauge stakeholder attitudes towards the UP CSMC and to identify the consequences of the UP CSMC policies on its relationship with these stakeholders (Steyn & Puth, 2000:73-76).

Based on the information at the researcher's disposal it is suggested that a conceptual framework for a more formal and sustainable corporate communication strategy be developed as guided by the research results depicted in Figure 52 below for the strategic management of communication about science at the University of Pretoria Centre for Sustainable Malaria Control.

**Figure 52: Relationships between the different constructs**



*Figure 52 illustrates the following relationships measured through hypotheses testing:*

H1: Communication about science can take place through effective stakeholder communication (Relationship 1)

H0 (for H2): Communication about science cannot take place through traditional media

H0 (for H3): Long-term stakeholder relationships cannot be established through traditional media

H0 (for H4): Communication about science cannot take place through social media

H0 (for H5): Long-term stakeholder relationships cannot be established through social media

H6: Long-term stakeholder relationships can be enhanced through the two-way symmetrical model of communication (Relationship 4)

H0 (for H7): Long-term stakeholder relationships cannot be enhanced through the two-way asymmetrical communication

H8: Mutual understanding about malaria related issues can be achieved by communicating about science (Relationship 2)

H9: Mutual understanding about malaria related issues can contribute to the establishment of long-term stakeholder relationships (Relationship 3)

H10: The corporate communication strategy can include communication about science (Relationship 5)

H11: The corporate communication strategy can include effective stakeholder communication (Relationship 6)

H12: The corporate communication strategy can include two-way symmetrical practices (Relationship 7)

H13: The corporate communication strategy can include two-way asymmetrical practices (Relationship 8)

H14: The corporate communication strategy can include traditional media channels (Relationship 9)

H15: The corporate communication strategy can include social media channels (Relationship 10)

H16: The corporate communication strategy can support long-term stakeholder relationships (Relationship 11)

H17: The corporate communication strategy can support mutual understanding about malaria related issues (Relationship 12)

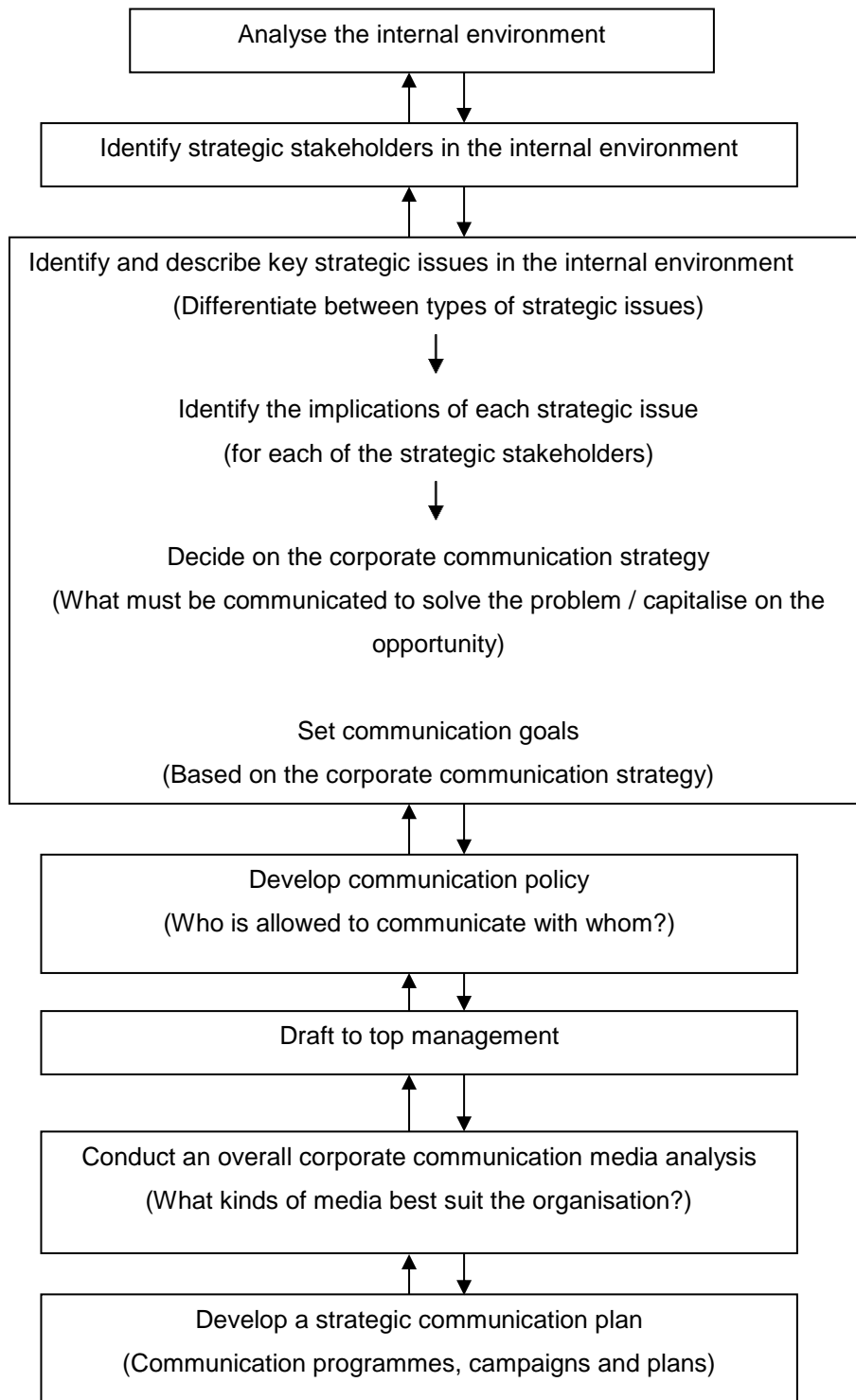
H18: The corporate communication strategy can address stakeholder perceptions about the University of Pretoria Centre for Sustainable Malaria Control and its image (Relationship 13)

Guided by the existence of relationships as described above the corporate communication strategy is formulated with the primary objective to develop a corporate communication strategy model for the University of Pretoria Centre for Sustainable Malaria Control. The proposed model will ensure communication efforts towards its long-term stakeholders about malaria-related issues are strategically sustainable and effective.

As a guiding principle for the development of a corporate communication strategy model reliance is placed on the research conducted by Steyn and Puth (and the model designed by them) for the development of a corporate communication strategy. In addition the research conducted for this study contributes to the thinking process in the design of an appropriate corporate communication strategy.

As an initial step the model designed by Steyn and Puth (2000) is considered as a point of departure. Refer to Figure 53 below:

**Figure 53: Steyn & Puth traditional model for a corporate communication strategy**

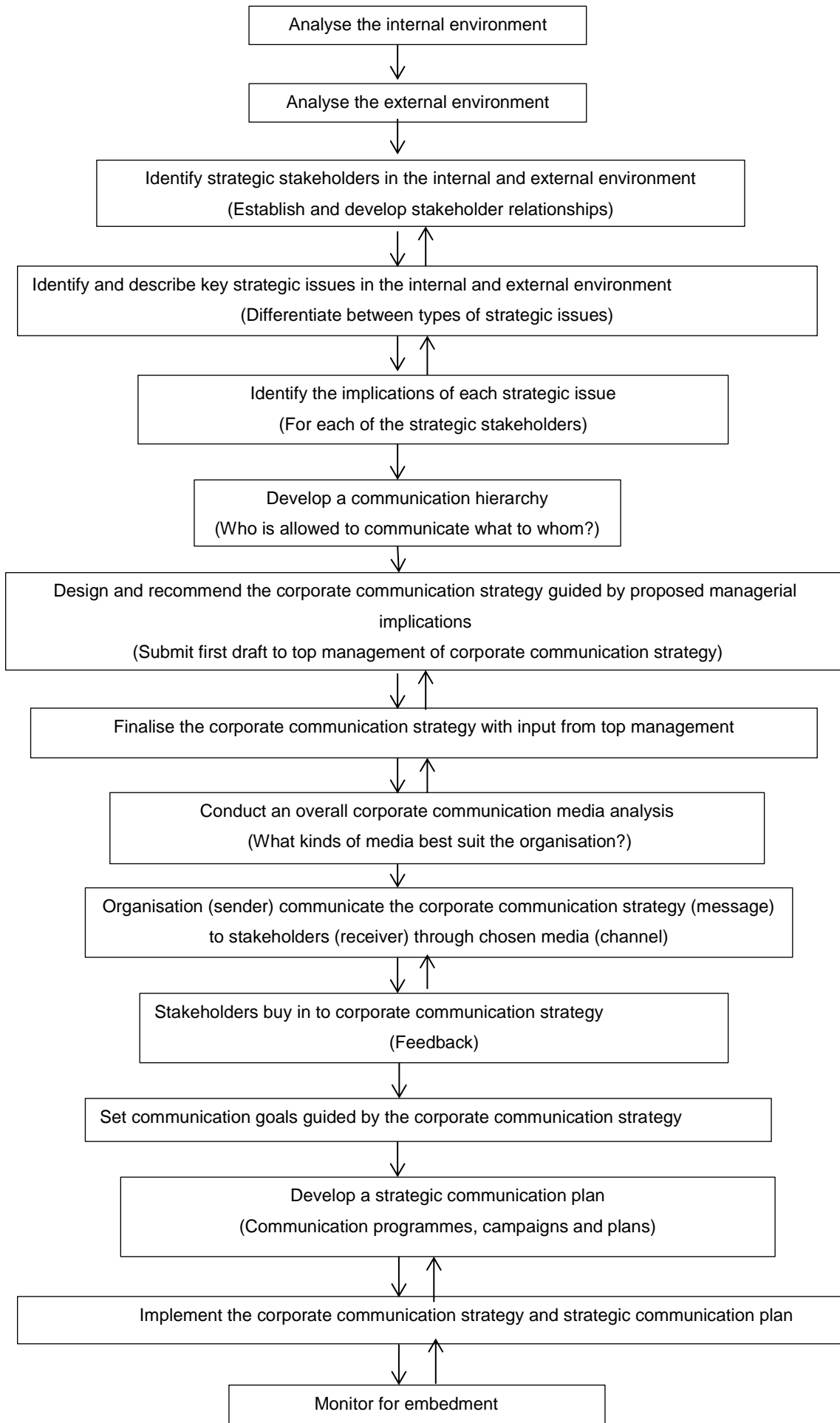


Source: Steyn & Puth (2000:63).

With due consideration to the existing relationships as illustrated in Figure 52 above and the example of a corporate communication strategy model depicted in Figure 53 the proposed model for contemplation by management of the UP CSMC reflects in Figure 54 below.



**Figure 54: Proposed model for a corporate communication strategy**



**i. Analyse the internal environment**

The internal environment in the organisation will impact on the development of a corporate communication strategy. In order to understand the internal environment, the corporate communication practitioner must study the corporate profile, vision, mission, corporate values, corporate philosophy, corporate culture and corporate policy of the organisation (Moss & Warnaby, 1997:65; Steyn & Puth, 2000:54-57).

**ii. Analyse the external environment**

Identify external parties associated with organisation and other competitors with related interests and confirm its communication strategies.

**iii. Identify strategic stakeholders in the internal and external environment**

The key component that the communication function should be anchored around is the organisation's stakeholders. The overall strategic management of an organisation is inseparable from the strategic management of relationships with stakeholders. Effective corporate communication entails identifying stakeholder groupings, establish and develop stakeholder relationships (Steyn & Puth, 2000:64).

**iv. Identify and describe key strategic issues in the internal and external environment**

Strategic issues are developments, events and trends that are considered consequential by an organisation's management because of the potential to impact the enterprise unit's strategy. Not all issues are therefore strategic. It is the role of the senior communication practitioner to identify and differentiate these key strategic issues and demonstrate, by means of the corporate communication strategy, how communication can provide solutions to key organisational problems (Steyn & Puth, 2000:64).

**v. Identify the implications of each strategic issue**

An important step in developing the corporate communication strategy is to identify the implications that key strategic issues will have for strategic stakeholders. The business issues need to be understood to determine what the implications for strategic stakeholders might be. Organisations must identify, assess and address the implications that key

strategic issues will have or already have for their strategic stakeholders (Steyn & Puth, 2000:69-70).

**vi. Develop a communication hierarchy**

Relationships between individual workers and work groups must be defined clearly. Establishing an organisational design that will support the corporate communication strategy and the strategic communication plan is required. This entails grouping members of the organisation into different units from which a communication strategy can be designed to guide communication flow within the organisation in accordance to the unity of command and the unity of direction within the organisation (who is allowed to communicate what to whom?).

**vii. Design and recommend the corporate communication strategy**

A good corporate communication strategy consists of a communication policy that deals with different functional communication areas, relationships between departments, communication goals and objectives. Once formulated top management should be informed (submit first draft to top management of corporate communication strategy) of the development and the content of the corporate communication strategy, the logic behind it and how the proposed strategy will address organisational communication programmes (Steyn & Puth, 2000:72). For the purpose of this strategy the managerial implications reflected in Section 6.8 below are considered essential components to ensure successful implementation of the strategy.

**viii. Finalise the corporate communication strategy with input from top management**

The more management understands the process that followed the reasoning behind the proposed strategy, the anticipated benefits to derive from the strategy and how the proposed strategy will contribute to change stakeholder perceptions about the communication about science, stakeholder perceptions regarding issues of concern, the positive influence on the organisation's image and the impact on the bottom line of the organisation the easier it will be for management to support the proposal (Steyn & Puth, 2000:72).

**ix. Conduct an overall corporate communication media analysis**

It is necessary to investigate the various communication media that might be suitable for the organisation and its stakeholders. In the communication strategy phase, the aim is not to identify specific media for communication plans, but rather to establish broad guidelines as to different kinds of media that might be considered. Communication media can range from interpersonal media (face-to-face), to group or organisational media (meetings) (Steyn & Puth, 2000:73). (What kinds of media best suit the organisation?)

**x. Organisation (sender) communicate the corporate communication strategy (message) to stakeholders (receiver) through chosen media (channel)**

The sender (organisation) forms the message (the corporate communication strategy) into signals; these signals should be adapted through the channel (chosen media) to the receiver (stakeholders). The message (the corporate communication strategy) carries the support and blessing of management and depending on the media channel can be viewed as being both a mass communication medium and a one-on-one interactive communication medium. The communication model that the organisation uses should be a two-way communication model allowing stakeholders to provide feedback (McQuail & Windahl, 1981:12).

**xi. Stakeholder buy in to corporate communication strategy**

Stakeholder management includes communicating, negotiating, contracting (with regular feedback from stakeholder) as a component of managing relationships with stakeholders and motivating them to contribute in ways that are beneficial to the organisation and its stakeholders (Caroll, 2013:340).

**xii. Set communication goals guided by the corporate communication strategy**

A communication goal is the destination to be reached by means of the organisation's communication. Based on the corporate communication strategy, which identifies what should be communicated about, communication goals are developed to indicate what the organisation wants to achieve with its communication strategy. The step of goal setting is the link between the corporate communication strategy and the communication plan. A

communication goal can be defined as the destination to be reached by means of the organisation's communication (Steyn & Puth, 2000:71).

### **xiii. Develop a strategic communication plan**

The strategic communication plan is the framework within which communication programmes, (continuous communication with strategic stakeholders, communication) campaigns and communication plans, (developed to achieve specific communication goals) are developed (Steyn & Puth, 2000:73).

### **xiv. Implement the corporate communication strategy and strategic communication plan**

Tourish and Hargie (2009:398) identified four key stages to implement a communication strategy:

- Secure senior management commitment;
- identify current practice;
- set standards to measure success;
- incorporate this strategy into the organisation's planning cycle (and psyche) of the organisation.

The strategy should be codified into a communication plan, defined as "a written statement of what communication actions will be taken to support the accomplishment of specific organisational goals" (Potter, 2006:85). The effective communication of a corporate strategy communicated through a corporate communication plan builds staff morale, stakeholder satisfaction and confidence in the ability of management to lead the organisation (Tourish & Hargie, 2009:401).

### **xv. Monitor for embedment**

The roll out of a plan and the successful embedment thereof depends on the design of effective controls (preventative and detective) regular monitoring and testing for effectiveness will result in complete embedment and sustainability.

## 6.6 LIMITATIONS OF THE STUDY

Possible sources of limitations of the study could have resulted from the use of a survey, specifically an electronic survey. The main sources of error detected in studies utilising survey data is sampling error, questionnaire error, high refusal rates or high non-response, respondent effects, data capturing errors and the inappropriate selection of statistical techniques (Mouton, 2005:153). These errors form part of errors of explanation as opposed to errors of definition (Tustin *et al.*, 2005:375). Low response rate is a common limitation of electronic surveys (Alreck & Settle, 1995:184). Fortunately, this limitation did not have such a great impact on the study as the sample was purposive and the total of feedback received from respondents was sufficient to obtain the data.

Scott (2007:269) states that one possible limitation can arise through the use of the measurement instrument. It appears that the concept of having “relationships” with organisations rather than individuals is not always a comfortable concept for respondents to entertain.

Another limitation can be time, as discussed the measurement instrument was developed specifically for the purpose of this study. Each item in the questionnaire was formulated to fit the constructs. Due to the fact that the measurement instrument was designed and developed pilot testing was needed. Before the data collection commenced ethical clearance approval took time due to the nature of the sample used for this study.

The term ‘stakeholders’ were not identified and explained to respondents in the study and therefore might have been interpreted differently by respondents than what the researcher required.

Another limitation for this study was that the sources of information that were used were to a large extent limited to the writings of the authors of the corporate communication strategy model, Steyn and Puth, since the most comprehensive research on this topic was done by them. Where the work of other writers was consulted for this study, the research of the corporate communication strategy was often quoted and discussed.

## 6.7 RECOMMENDATIONS FOR FUTURE RESEARCH

The following recommendations for future research can be made:

- The developed model can be made available to other organisations, modified to meet the organisation's specific requirements, implemented and tested for effectiveness.
- Focus on a specific social media platform rather than a variety.
- Focus on a bigger variety of social media platforms in the form of a content analysis.
- Can use the same developed measurement instrument for a similar study and test it in different circumstances, aiming to improve the Cronbach's Alpha.
- Can remove some of the items in the measurement instrument and include different items to determine their findings.
- The hypotheses can be stated differently.
- Add items in the measurement instrument which will test the effectiveness of face-to-face / interpersonal communication.

## 6.8 MANAGERIAL IMPLICATIONS

The following are managerial implications the UP CSMC can include in its corporate communication strategy:

- Different kinds of media options rather than traditional media channels and social media, for instance interactive centres and events.
- Use media that will not be too expensive and takes a lot of extra time.
- When social media platforms are used, focus on Facebook, LinkedIn and ResearchGate which appear to be stakeholder preferred platforms.
- Use online social networks for informational purposes rather than conversational purposes.
- Predominantly use mediums like for example e-mail and websites, to communicate with stakeholders.
- Managers take note how technology can affect the communication process.
- Events (seminars/conferences/exhibitions) to build on long-term stakeholder relationships.
- Establish and maintain stakeholder relationships based on mutual understanding of malaria related issues.

- Advice departments about the management of communication and the integration of communication efforts of the organisation.
- Focus on current communication efforts and continuous scanning of the internal and external environments.
- Communication goal (incorporate communication about major decisions) should be included.
- Further improvement of regular/effective communication efforts.
- Training for the communicators to communicate to the stakeholders – identify the science message that is relevant to the stakeholders.
- Establish and maintain two-way symmetrical communication.
- Disseminate well-designed science related articles and bulletins regarding the UP CSMC's activities.
- Communicate the corporate strategy including the vision, mission, policies and values to stakeholders monthly and/or when major decisions are made.
- Training interventions on science education including malaria related issues/subjects.
- Enhance voluntary involvement of stakeholders with communication about science.
- Concerted effort to positively influence stakeholder perceptions by meeting stakeholder expectations.

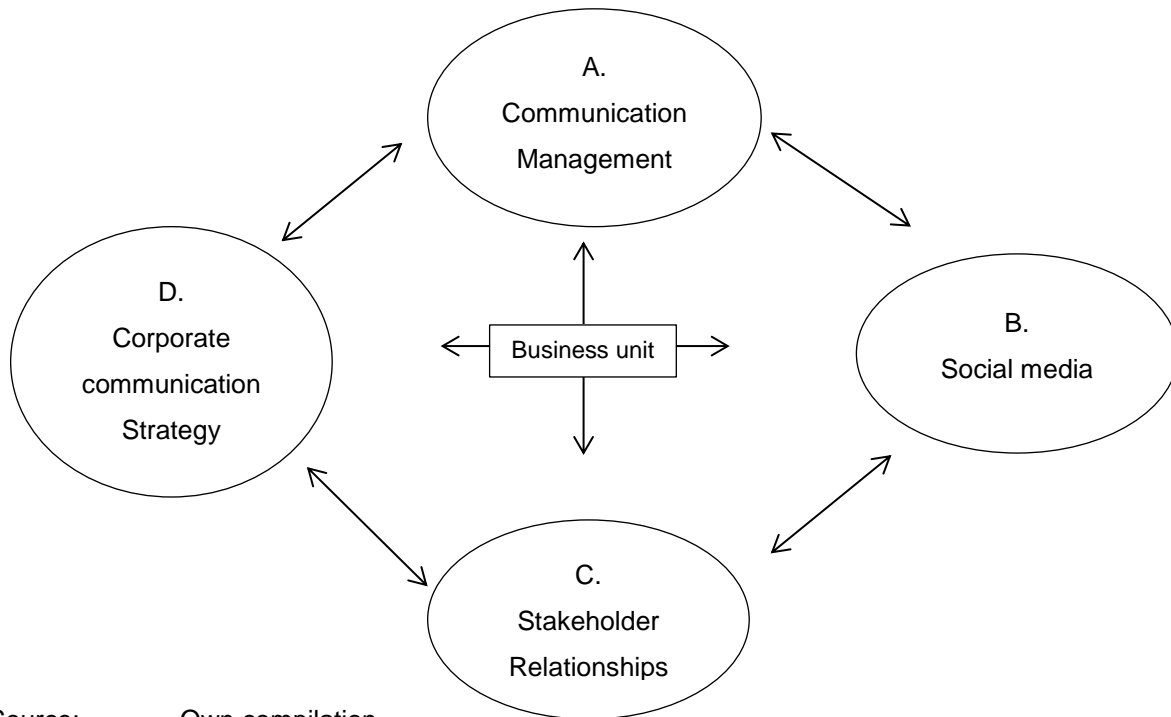
## **6.9 CONCLUDING REMARKS**

This study has set out to contribute to communication theory building. In studying communication theory and identifying concepts, constructs and variables as well as the links between them, it was endeavoured to contribute to an understanding of the underlying principles of communication management in the modern organisation. Since the environment in which communicators in an organisation operate is fast becoming more complex by making use of social media as a communication medium, it is important for the organisation to be more knowledgeable about the theory of communication management. This study can help organisations in particularly the UP CSMC, to understand how to use the communication tools for communicating with stakeholders and to make a contribution to building long-term relationships with its stakeholders through a corporate communication strategy model.



From the literature review it is clear that the variables are linked together as illustrated in the figure below.

**Figure 55: Linkages between variables**



Source: Own compilation.

The construct “communication management” was generated in Chapter 2 as the synthesis of the constructs “communication about science” and “effective stakeholder communication”.

From the literature review based on communication management, it indicates that communication can be a strategic function to the organisation because it identifies and justifies them. When support is given to the organisation from its stakeholders it will guide the organisation to build a long-term relationship with its stakeholders through effective stakeholder communication. Communication in general is a major and essential part of the information sharing process, where the organisation can make use of the communication process to get the information to the stakeholders. Some guidelines for effective communication are to do regular evaluation of the corporate communication strategy that will ensure effectiveness. The communication process should also undergo regular evaluation to prove its worth in terms of managing key stakeholder relationships. It is essential that the communication function be tested periodically to determine its effectiveness and to give direction for improvements.

The second part of Chapter 2 focussed on the construct “social media” which was divided into the constructs “traditional media” and “social media”. Based on the literature, communication is becoming more interactive, moving from one-way to two-way communication through interactive media (Mangold & Faulds, 2009). Traditional media include all the “old” media which is used to communicate a message to stakeholders without using the Internet technologies (Erasmus, 2012:2). Therefore, traditional and social media can be used by the organisation as communication tools for more effective communication with its stakeholders. A step is then included in the communication process, feedback. By means of this more effective stakeholder communication about science can take place through the use of social media as a communication tool.

In Chapter 3 the constructs “stakeholder relationships” and “corporate communication strategy” were discussed.

The relationship between the organisation and its stakeholders are built on mutual understanding and effective stakeholder relationships. “Stakeholders are seen as those individuals or groups that influence the firm’s strategy” (Sachs & Rühli, 2011:38). Strategic communication entails the identification of strategic stakeholders and incorporating their needs into organisational goals in order to build mutually beneficial relationships with these stakeholders (Steyn, 2007:139). Symmetrical communication is an element of strategic communication and forms part of the communication strategy employed in organisational relationships in order to make it more successful (Grunig & Huang, 2000). Organisational relationships where effective communication is employed are relationships where trust, commitment, and mutual understanding are present (Grunig & Huang, 2000:34).

Steyn and Puth (2000:3) describe corporate communication somewhat more extensively as the ‘management function that establishes and maintains mutually beneficial relationships between an organisation and stakeholders on whom its success or failure depends’ or ‘corporate communication is communication on behalf of an organisation’. It is communication managed with the aim of increasing organisational effectiveness by creating and maintaining relationships with stakeholders.’ Corporate communication can thus be seen as a management function, which manages the relationships that the organisation enters into (Steyn & Puth, 2000:3). Corporate communication strategy makes the communication function relevant in the strategic management process through its

focus on communication with strategic stakeholders, aligning communication goals to the operational mission (Steyn, 2002:21).

The purpose and direction of an organisation is affected by the relationships that it has with key stakeholders within its environment. Communication is the strategic management function that assists in the management of these relationships with key stakeholders that affect its mission, goals and objectives (Dozier in Ledingham, 2003:183). Grunig's (2006:160) conclusion on the function of public relations and communication within the organisation is that "public relations must be organised in a way that makes it possible to identify strategic publics as part of the strategic management process to build quality long-term relationships with them through symmetrical communication programmes." Communication should therefore act as a strategic management function with the primary goal of building sustainable relationships with key stakeholders through effective communication.

The research reflected interest and support for the use of multiple communication channels and social media platforms. The use of traditional and social media facilitates a broad international perspective and cross-fertilisation of ideas. Analysis shows that by using social media for ideation, the speed and quality of ideas and communication developed, significantly improved.

In Mount and Martinez's (2014:134) study, it was found that users' utilised technology for interaction, and that there was no restriction on generating new or improved ideas. It was found that social media could be implemented more openly by layering multiple platforms to enlarge crowd interactions and facilitate novel combination and recombination of knowledge from a diverse network of users. Against the background of the above, organisations may consider increasing its investment in technology / social media.

In Chapter 4 the research design and methodology of the empirical component of the study were discussed. It was explained how the sample was selected, how the items on "communication management", "social media", stakeholder relationships" and "corporate communication strategy" were developed and included in the measurement instrument; and how the propositions were formulated as hypotheses. The reliability and validity of the measurement were also discussed, as well as the statistical methods that made it possible to obtain data from the samples and to analyse it.

In Chapter 5 the results of the reliability and validity analysis were reported. The descriptive statistics and the Cronbach Alpha values for Section A, B and C of the measurement instrument was discussed as well as the results of the hypothesis testing was reported.

A good indication of validity was made possible by a factor analysis of the measurement instrument. Through factor analysis it could be established whether the constructs or factors, as identified, measured what it was supposed to measure (Mouton & Marais, 1989:69). To establish the construct validity for this measurement instrument, the instrument was related to the theoretical framework as discussed in the literature study to ensure that the measurement logically linked with other concepts in the framework.

The standard corporate communication model presented by Steyn and Puth (2000) was analysed, evaluated and tailored to fit the organisation's requirements. The proposed model developed in this study includes critical components as highlighted in the managerial implications section which if incorporated into the corporate communication strategy will result in a sustainable relationship with stakeholders. The corporate communication strategy model can be adopted by any organisation with similar communication challenges as covered in this study.

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## APPENDIX A

- Informed consent form -



## APPENDIX B

- Measurement Instrument -



**Division of Communication Management  
Dept. of Business Management**

***Stakeholder perceptions of science communication at the University of Pretoria Centre for Sustainable Malaria Control***

Research conducted by:

Ms. A. van der Walt (29032271)  
Cell: 082 492 0545

Dear Participant

You are invited to participate in an academic research study conducted by Angelique van der Walt, a Masters' student from the Department of Business Management at the University of Pretoria.

The purpose of the study is to develop a conceptual framework for a corporate communication strategy to guide science communication between the University of Pretoria Centre for Sustainable Malaria Control and its stakeholders.

Please note the following:

- This is an anonymous survey as your name will not appear on the questionnaire. Your answers are strictly confidential and you cannot be identified based on your answers.
- Your participation in this study is very important to me. You may, however, choose not to participate and you may also stop participating at any time without any negative consequences.
- Please answer the questions in the attached questionnaire as completely and honestly as possible. This should not take more than 15 minutes of your time.
- The results of the study will be used for academic purposes only and may be published in an academic journal. I will provide you with a summary of my findings on request.
- Please contact my study leader, Dr E. de Beer (estelle.debeer@up.ac.za) if you have any questions or comments regarding the study.

Please sign below **or** indicate in the text box if you give your consent on the following:

- You have read and understand the information provided above, and
- You give your consent to participate in the study on a voluntary basis.

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

\_\_\_\_\_  
Participant's signature

For office use only:

Resp.

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**Stakeholder perceptions of science communication at the University of  
Pretoria Centre for Sustainable Malaria Control**

Dear Sir / Madam

Thank you for your willingness to complete this survey on communication about science between the University of Pretoria Centre for Sustainable Malaria Control and its stakeholders. In this study communication about science refers to the conveying of messages about science-related issues to the general population.

Please answer all the questions by marking the number of your choice in the appropriate block.



## SECTION A COMMUNICATION MANAGEMENT

This section refers to communication between the management of the University of Pretoria Centre for Sustainable Malaria Control (UP CSMC) and its stakeholders.

In each of the statements in the section below, please use the scale 1 = strongly disagree to 5 = strongly agree, to indicate your answer.

### 1.

	Strongly disagree	Disagree	Neutral (neither agree/nor disagree)	Agree	Strongly agree
1. I enjoy reading scientific articles	1	2	3	4	5
2. I understand the content of communication about science	1	2	3	4	5
3. I like to read opinions about science related articles	1	2	3	4	5
4. Training about malaria related issues should be a key component of science education at the UP CSMC	1	2	3	4	5
5. I am interested in voluntary involvement with communication about science	1	2	3	4	5
6. The UP CSMC communicates with me about malaria related issues	1	2	3	4	5
7. I communicate with other stakeholders about malaria related issues	1	2	3	4	5
8. The UP CSMC communicates with stakeholders on a regular basis	1	2	3	4	5
9. Regular feedback helps to build long-term relationships with stakeholders	1	2	3	4	5
10. The UP CSMC provides feedback to stakeholders about their malaria related queries	1	2	3	4	5
11. I am interested in receiving information about opportunities to become involved in malaria research	1	2	3	4	5
12. Receiving information about funding opportunities for malaria research will encourage me to donate money to the UP CSMC	1	2	3	4	5
13. Communication from the UP CSMC helps me to change my <i>perception</i> about malaria related issues	1	2	3	4	5
14. The UP CSMC would consider changing some of their actions about malaria related issues if I communicate an idea to them	1	2	3	4	5
15. Communication from the UP CSMC helps me to change my <i>actions</i> towards malaria related issues	1	2	3	4	5
16. Before starting a communication programme, surveys or informal research should be conducted by the UP CSMC to determine how much its management and its stakeholders understand each other	1	2	3	4	5



	Strongly disagree	Disagree	Neutral (neither agree/nor disagree)	Agree	Strongly agree
17. The UP CSMC should do regular stakeholder research to determine public attitudes towards the <i>UP CSMC</i> and how these attitudes might be changed	1	2	3	4	5
18. Before starting a communication programme, the UP CSMC should conduct surveys to make sure that the organisation and its policies are described in ways that its stakeholders would likely understand	1	2	3	4	5
19. The UP CSMC should do regular stakeholder research to determine public attitudes towards <i>malaria</i> , and how these attitudes might be changed	1	2	3	4	5
20. After implementing a communication programme, the UP CSMC should do research to determine how effective this programme has been in changing people's attitudes towards malaria related issues	1	2	3	4	5

**2. When misunderstandings happen regarding the messages received from the UP CSMC, in your experience, why did these misunderstandings occur? You can choose more than one option.**

- Communication was not complete
- Perceived tone of the communication was wrong
- Cultural differences
- Received too much information
- Received too little information
- Inappropriate medium use
- Language usage
- Other (specify) \_\_\_\_\_

\* Continue to Section B  
(next page)

## SECTION B

### TRADITIONAL AND SOCIAL MEDIA

This section refers to the use of *traditional media* and *social media* as potential communication tools at the University of Pretoria Centre for Sustainable Malaria Control (UP CSMC).

In each of the statements in the section below, please use the scale 1 = strongly disagree to 5 = strongly agree, to indicate your answer.

- 1. Traditional media** - Traditional media include all the forms of “old” media used to communicate a message to stakeholders without using Internet technologies. Examples include: television, radio, newspapers, magazines and outdoor media like billboards

	Strongly disagree	Disagree	Neutral (neither agree/nor disagree)	Agree	Strongly agree
<b>In my opinion the use of traditional media ...</b>					
1. ... benefits the UP CSMC	1	2	3	4	5
2. ... satisfies stakeholder needs	1	2	3	4	5
3. ... creates effective communication with stakeholders	1	2	3	4	5
4. ... can enable the establishment of long-term stakeholder relationships	1	2	3	4	5
5. ... provides more relevant information about malaria related issues	1	2	3	4	5
6. ... develops awareness amongst stakeholders	1	2	3	4	5
7. ... empowers the UP CSMC to connect with its stakeholders	1	2	3	4	5
8. ... creates an opportunity for open dialogue	1	2	3	4	5

2. **Social media** - A set of online tools open for stakeholder membership that support idea sharing, creating and editing content, building relationships through interaction and collaboration. Examples of social media platforms are Facebook, Twitter and YouTube.

	Strongly disagree	Disagree	Neutral (neither agree/nor disagree)	Agree	Strongly agree
<b>In my opinion the use of social media ...</b>					
9. ... may benefit the UP CSMC	1	2	3	4	5
10. ... may satisfy stakeholder needs	1	2	3	4	5
11. ... will lead to effective communication with stakeholders	1	2	3	4	5
12. ... can enable the establishment of long-term stakeholder relationships	1	2	3	4	5
13. ... can provide me with more relevant information about malaria related issues	1	2	3	4	5
14. ... develops awareness amongst stakeholders	1	2	3	4	5
15. ... will empower the UP CSMC to connect with its stakeholders	1	2	3	4	5
16. ... creates an opportunity for open dialogue	1	2	3	4	5

**2.2 The University of Pretoria Centre for Sustainable Malaria Control (UP CSMC) uses the following channels to transmit information to stakeholders.**

<p><b>Tick the block that best indicates the channel through which you <u>currently</u> receive information. More than one block can be ticked.</b></p> <table border="1"> <tr><td><input type="checkbox"/></td><td>Telephone / cell phone</td></tr> <tr><td><input type="checkbox"/></td><td>E-mail</td></tr> <tr><td><input type="checkbox"/></td><td>Publications</td></tr> <tr><td><input type="checkbox"/></td><td>Social media platforms (Facebook, Twitter, LinkedIn, ResearchGate)</td></tr> <tr><td><input type="checkbox"/></td><td>Website</td></tr> </table>	<input type="checkbox"/>	Telephone / cell phone	<input type="checkbox"/>	E-mail	<input type="checkbox"/>	Publications	<input type="checkbox"/>	Social media platforms (Facebook, Twitter, LinkedIn, ResearchGate)	<input type="checkbox"/>	Website	<p><b>Tick the block that best indicates the channel through which you <u>prefer</u> to receive information? More than one block can be ticked.</b></p> <table border="1"> <tr><td><input type="checkbox"/></td><td>Telephone / cell phone</td></tr> <tr><td><input type="checkbox"/></td><td>E-mail</td></tr> <tr><td><input type="checkbox"/></td><td>Publications</td></tr> <tr><td><input type="checkbox"/></td><td>Social media platforms (Facebook, Twitter, LinkedIn, ResearchGate)</td></tr> <tr><td><input type="checkbox"/></td><td>Website</td></tr> </table>	<input type="checkbox"/>	Telephone / cell phone	<input type="checkbox"/>	E-mail	<input type="checkbox"/>	Publications	<input type="checkbox"/>	Social media platforms (Facebook, Twitter, LinkedIn, ResearchGate)	<input type="checkbox"/>	Website
<input type="checkbox"/>	Telephone / cell phone																				
<input type="checkbox"/>	E-mail																				
<input type="checkbox"/>	Publications																				
<input type="checkbox"/>	Social media platforms (Facebook, Twitter, LinkedIn, ResearchGate)																				
<input type="checkbox"/>	Website																				
<input type="checkbox"/>	Telephone / cell phone																				
<input type="checkbox"/>	E-mail																				
<input type="checkbox"/>	Publications																				
<input type="checkbox"/>	Social media platforms (Facebook, Twitter, LinkedIn, ResearchGate)																				
<input type="checkbox"/>	Website																				

**2.3 Are you a member of a social media networking site? (example: Facebook)**

- Yes (go to question 2.5)  
 No (go to question 2.4)

**2.4 If your answer to the above question is No, then choose the reason(s) why. (You can choose more than one.)**

- I don't know what a social network is
- I am not interested in joining social networking
- I joined once, but I didn't enjoy it
- No privacy

List any other reasons:

--

**If your answer to question 2.3 is Yes, then answer the questions that follow.**

**2.5 Which of the following social media sites do you use? Choose all that apply.**

- Facebook
- Twitter
- LinkedIn
- ResearchGate
- Other (specify) \_\_\_\_\_
- Not applicable (*go to Section C*)

**2.6 Select the social media platform you would use to read about the UP CSMC. (You can choose more than one.)**

- Facebook
- Twitter
- LinkedIn
- ResearchGate
- Other (Specify) \_\_\_\_\_
- Not applicable

**2.7 Indicate the reason(s) why you would use an online social network to interact with the UP CSMC (You can choose more than one)**

<input type="checkbox"/>	To find information
<input type="checkbox"/>	To make professional and business contacts
<input type="checkbox"/>	To get opinions
<input type="checkbox"/>	To share your experience

**2.8 Indicate the relevance of the social media platforms Facebook, Twitter, LinkedIn and ResearchGate in the table below by marking your preference in the block.**

	Facebook	Twitter	LinkedIn	ResearchGate	Other	Not applicable
17. The content made available on this platform is more sufficient						
18. This platform is more accessible to stakeholders						
19. This platform offers the means to collaborate more with stakeholders						
20. This platform provides opportunity for open dialogue to express opinions						
21. This platform provides an opportunity for participation						
22. The platform offers the means to collaborate with a larger number of stakeholders						

*\* Continue to Section C  
(next page)*

## SECTION C STAKEHOLDER RELATIONSHIPS

This section refers to the stakeholders involved with the University of Pretoria Centre for Sustainable Malaria Control (UP CSMC).

In each of the statements in the section below, please use the scale 1 = strongly disagree to 5 = strongly agree, to indicate your answer.

	Strongly disagree	Disagree	Neutral (neither agree/nor disagree)	Agree	Strongly agree
1. I have a relationship with the UP CSMC	1	2	3	4	5
2. The UP CSMC is very dynamic in maintaining good long-term relationships with its stakeholders	1	2	3	4	5
3. Long-term stakeholder relationships help forge a deep emotional bond that can lead to enhanced perceptions	1	2	3	4	5
4. Long-term relationships are built on mutual understanding	1	2	3	4	5
5. The UP CSMC can be relied on to keep its promises	1	2	3	4	5
6. Sound principles seem to guide behaviour at the UP CSMC	1	2	3	4	5
7. The UP CSMC listens to me when I communicate with them	1	2	3	4	5
8. I have an understanding of malaria related issues	1	2	3	4	5
9. I make an effort to understand the UP CSMC when communicating about malaria related issues	1	2	3	4	5
10. I gain a better understanding of the information provided when I listen actively	1	2	3	4	5
11. The use of social media platforms will increase shared understanding between stakeholders about malaria related issues	1	2	3	4	5

\* Continue to Section D  
(next page)

## SECTION D CORPORATE COMMUNICATION STRATEGY

This section refers to the communication strategy of the University of Pretoria Centre for Sustainable Malaria Control (UP CSMC).

In each of the statements in the section below, please use the scale 1 = strongly disagree to 5 = strongly agree, to indicate your answer.

	Strongly disagree	Disagree	Neutral (neither agree/nor disagree)	Agree	Strongly agree
1. I would like to read about malaria related issues in the media	1	2	3	4	5
2. I would like to receive information about malaria related issues from the UP CSMC	1	2	3	4	5
3. I would take part in awareness campaigns about malaria related issues arranged by the UP CSMC	1	2	3	4	5
4. I would like to receive information about the corporate strategy of the UP CSMC (vision, mission, policies, values)	1	2	3	4	5
5. I would like to become more involved with the UP CSMC decision making	1	2	3	4	5
6. I would like to assist the UP CSMC with identifying key strategic issues relating to malaria	1	2	3	4	5
7. I would like to know the hierarchical orientation of the UP CSMC to understand who I can communicate with	1	2	3	4	5
8. When the UP CSMC engages with me about malaria related issues, I would like to receive feedback regarding the status of my input	1	2	3	4	5
9. I would like to read in the media about the activities of the UP CSMC	1	2	3	4	5

	Strongly disagree	Disagree	Neutral (neither agree/nor disagree)	Agree	Strongly agree
<b>Stakeholder perceptions about the UP CSMC...</b>					
10. ... are formed through stakeholder expectations of the Centre	1	2	3	4	5
11. ... are influenced by the interest of stakeholders in the activities of the Centre	1	2	3	4	5
12. ... can be changed based on the information stakeholders receive	1	2	3	4	5
13. ... as a malaria-related knowledge sharing centre is good	1	2	3	4	5





	Strongly disagree	Disagree	Neutral (neither agree/nor disagree)	Agree	Strongly agree
<b>The UP CSMC image...</b>					
14. ... provides a connection with its stakeholders	1	2	3	4	5
15. ... portrays its credibility towards stakeholders	1	2	3	4	5
16. ...manifests trust	1	2	3	4	5
17. ... creates a positive impression of the UP CSMC as a malaria-related research centre	1	2	3	4	5
18. ... changed my attitude towards malaria-related issues	1	2	3	4	5
19. ... changed my behaviour towards malaria-related issues	1	2	3	4	5

*\* Continue to Section E  
(next page)*

## SECTION E

### DEMOGRAPHIC INFORMATION

This section refers to you as the stakeholder of the University of Pretoria Centre for Sustainable Malaria Control (UP CSMC).

1. Choose the stakeholder group you primarily form part of.

1. UP CSMC Advisory board		8. UP Academic staff: Faculty of Education	
2. UP CSMC Management Committee		9. UP Academic staff: Strategic Health Innovation Partnerships	
3. UP Academic staff: Faculty of Health Sciences		10. UP CSMC	
4. UP Academic staff: Faculty of Engineering, Built environment & IT		11. Student at UP	
5. UP Academic staff: Faculty of Natural & Agricultural Sciences		12. NGO	
6. UP Academic staff: Faculty of Economic and Management Sciences		13. Government, Industry	
7. UP Academic staff: Faculty of Veterinary Sciences		14. Other: (specify) _____	

2. Number of years involved with the University of Pretoria Centre for Sustainable Malaria Control (UP CSMC)?

0-1 years		1-2 years		3-4 years		5-10 years		11-20 years		20+ years	
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3. Do you want to receive information about malaria related issues from the University of Pretoria Centre for Sustainable Malaria Control (UP CSMC)?

Yes (go to question 4)  
 No (go to question 5)

4. If your answer to the above question is **Yes**, how often would you like to receive updates from the UP CSMC?

As often as major decisions are being considered		Monthly		Every 3 Months		Every 6 months		Annually	
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5. Would you share information about the UP CSMC through online communication?

Yes (go to question 6)  
 No (all questions have been answered)

6. If Yes, please choose your preferred platform.

<input type="checkbox"/>	Facebook
<input type="checkbox"/>	Twitter
<input type="checkbox"/>	LinkedIn
<input type="checkbox"/>	ResearchGate
<input type="checkbox"/>	Other (specify) _____

THANK YOU FOR PARTICIPATING IN THE RESEARCH

\* End of questionnaire \*