

# **Efficient communication of safety information: The use of internal communication by the Gautrain-project**

**WJ GREEFF**

**12808768**

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**Supervisor: Ms. T le Roux**

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## **Keywords**

*Internal communication; safety communication; relationship management; bulletin; newsletter; electronic publication; industrial theatre; stakeholders; employee relations; communication satisfaction; communication efficiency; South African mining industry; South African construction industry.*

## **Abstract**

Safety has become one of the greatest gauging factors for organisational success, within the mining and construction industry of South Africa. This is due to the fact that organisations and their employees are expected to adhere to safety legislation, or risk permanent shutdown. Notwithstanding this importance, methods of **communicating** safety information to employees have not yet been widely researched – especially not within the unique context of the combined mining and construction industry of South Africa.

In the light of the above, this study focused on researching those internal communication methods most suited for the communication of safety information. The systems theory as meta-theory, and the stakeholder relationship theory, the excellence theory and dual-capacity model were used to frame the study. An extensive literature review was firstly conducted, identifying and discussing internal communication methods, their use within the South African mining and construction industry, and specifically their application to safety communication. The concepts of communication satisfaction and communication effectiveness of internal safety communication, as well as employee relations were investigated.

Secondly the application of these internal safety communication methods was then further researched empirically within the Gautrain project – specifically its Precast Yard – which is seated within both the mining, as well as the construction industry, as it has to adhere to safety legislations from both industries. This empirical research was done by means of questionnaires, focus groups, interviews, as well as a discussion of the communication channels employed by the organisation. This accounted for a triangulated approach of using quantitative, as well as qualitative methodologies.

From this empirical research it was seen that the Precast Yard of the Gautrain project

adheres to the guidelines set in the literature in some circumstances, whilst in others it does not. From these shortcomings, seven recommendations were formulated for the improvement of safety communication in this organisation. These include the proposal that safety communications should be strategically managed by integrating all forms of communication, so that external factors that may impact on this communication are factored in. Furthermore, the communication of safety information should strive to reflect the diverse viewpoints of the employees, as it endeavours to foster a **relationship** with them.

Briefly, this study, therefore, focused on identifying and reporting on those methods and techniques suited for the internal communication of safety information, specifically within the South African mining and construction industry, thereby expanding the field.

### **Sleutelwoorde**

*Interne kommunikasie; veiligheid-kommunikasie; verhoudingsbestuur; bulletin; nuusbrieff; elektroniese publikasie; industriële teater; belangegroepe; werknemerverhoudinge; kommunikasiesatisfaksie; kommunikatiewe doeltreffendheid; Suid Afrikaanse mynindustrie; Suid Afrikaanse konstruksie-industrie.*

### **Opsomming**

Veiligheid het een van die belangrikste maatstawwe vir organisatoriese sukses binne die mynbou- en konstruksiebedrywe van Suid-Afrika geword. Dit is toe te skryf aan die feit dat daar van organisasies en hul werknemers verwag word om hulle aan die veiligheidswetgewing te onderwerp en dit toe te pas, of andersins die risiko te loop om permanent gesluit te word. Ondanks die belangrikheid hiervan, is daar nog geen uitgebreide navorsing gedoen oor die metodes wat gebruik word om veiligheidsinligting na werknemers te **kommunikeer** nie – veral nie binne die unieke gekombineerde konteks van die Suid-Afrikaanse mynbou- en konstruksiebedrywe nie.

In die lig van bogenoemde, is hierdie studie daarop toegespits om die mees geskikte interne kommunikasiemetodes vir die oordra van veiligheidsinligting na te vors. Die sisteemteorie, as metateorie, die belangegroep-verhoudingteorie, die uitmuntendheid (*excellence*) teorie en die *dual-capacity* model is gebruik as die raamwerk van hierdie studie. Eerstens is daar 'n omvattende studie van beskikbare literatuur gedoen, waar interne kommunikasiemetodes, die gebruik daarvan in die Suid-Afrikaanse mynbou- en konstruksiebedrywe en spesifiek die toepassing daarvan in veiligheid-kommunikasie, geïdentifiseer en bespreek word. Die begrippe van kommunikasie-satisfaksie en kommunikasie-effektiwiteit in veiligheid-kommunikasie, sowel as werknemer-verhoudinge, is ondersoek.

Die toepassing van hierdie interne kommunikasiemetodes is toe tweedens proefondervindelik nagevors binne die Gautrain-projek – meer spesifiek die Precast Yard – wat aan die veiligheidswetgewing van sowel die mynbou- as die konstruksiebedrywe onderworpe is, aangesien dit binne albei hierdie bedrywe gesetel is. Hierdie proefondervindelike navorsing is gedoen deur middel van vraelyste, fokusgroepe en onderhoude, sowel as 'n bespreking van die kommunikasiekanale wat deur die

organisasie gebruik word. Dit gee rekenskap van die triangulasie benadering van die kwantitatiewe, sowel as die kwalitatiewe metodeke.

Deur hierdie proefondervindelike navorsing het dit duidelik geword dat die Precast Yard van die Gautrain-projek onder sekere omstandighede voldoen aan die riglyne in die literatuur gegee, terwyl dit onder ander omstandighede tekortskiet. Vanuit hierdie tekortkominge is daar sewe aanbevelings gedoen vir die verbetering van veiligheid-kommunikasie in hierdie organisasie. Dit sluit die voorstel in dat veiligheid-kommunikasie strategies bestuur moet word en alle vorme van kommunikasie moet integreer, soos om die eksterne faktore wat 'n uitwerking hierop kan hê, in berekening te bring. Verder moet die kommunikasie van veiligheidsinligting daarna streef om die diverse standpunte van sy werknemers te weerspieël, sodat dit 'n **verhouding** met die werknemers bou.

Kortweg, die studie is daarop gemik om die metodes en tegnieke wat gepas is vir die interne kommunikasie van veiligheidsinligting, spesifiek binne die Suid-Afrikaanse mynbou en konstruksiebedrywe, te identifiseer en daaroor verslag te doen en sodoende hierdie veld uit te brei.

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## **CHAPTER 1**

### **Introduction, problem description and objectives**

#### **1.1 INTRODUCTION**

Employees have become one of the most valuable assets to any organisation in today's business environment. This is due to the fact that all business activities of an organisation are initiated, implemented, managed and ended by employees (Wood, 2006:1; Bates, Botha, Botha, Goodman, Ladzani, de Vries, de Vries, November & Southey, 2005:294; Dolphin, 2005:171; Downs & Adrian, 2004: 71). As Bates, *et al.* (2005:294) states: "Valuable as they are, facilities and operational assets do not make sales figures, attract and retain customers or innovate new products and services. Human beings do that."

This contribution that employees make is greatly affected by their desire to maximise their own potential and contribute all they are capable of, according to Maslow's hierarchy of needs. Excelling their contribution to the organisation can only be done once their lower-order needs are satisfied. The second of these lower-order needs being their need for **safety** (Miller, 2006:29; Jones, 2004:18).

Satisfying employees' need for safety – proposed by Maslow's hierarchy of needs to be vital – can prove to be a daunting task in the mining and construction industry. This is due to the fact that safety has proven to be a notorious problem of this industry (Macharia, 2008; ICEM, 2008; DME, 2008). In South Africa this problem is intensified by obstacles such as the diversity and illiteracy levels of employees, which makes the communication of safety information to employees even more difficult (Creamer, 2002:2).

Chapter one will contextualise and describe the research problem touched upon above. The theoretical arguments and methodology that will direct the researching of this problem will subsequently be discussed.

## **1.2 CONTEXTUALISATION OF THE STUDY**

The systems theory dictates that an organisation is a system, with its employees a subsystem. Both the system and subsystem then function within a supra-system. In this, the supra-system is affected by the activities of the system, which is in turn affected by the subsystem and vice versa. In the above it can be seen that the actions of the employees (a subsystem) affect the organisation (system), as well as the mining and construction industry as a whole (super-system). The industry's actions then in turn affect the organisation, which affects employees and thus completes the cycle (Van der Walt, 2006:119; Kurtyka, 2005:30; Angelopulo, 2002:40; Ledingham & Bruning: 2000:13).

Within the mining and construction industry as a supra-system, various organisations as systems can be seen. Most of these organisations exist under either the mining **or** the construction spheres with their respective influences and regulations. The Gautrain project however, is both a mining and construction project adhering to regulations and influences of both industries. In this, the project has to adhere to the Mine Health and Safety Act 1996 No 29 of 1996 as, well as the Occupational Health and Safety act 85 of 1993, which specifically complicates safety communication (Van Tonder, 2008), while overcoming all the typical problems that these industries face. The Gautrain project\* will, therefore, serve as the specific context of this study.

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\* The Gautrain-project is lead by Bombela Civil Joint Venture, and is aimed at building a rapid rail link in Gauteng, between the OR Tambo International Airport, Pretoria and Johannesburg. Although some phases of this project are to be completed before the 2010 Soccer World Cup – hosted in South Africa – this is an ongoing project that will see the connection of various other train routes in future (Gautrain, 2008).

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For the purposes of this study, the Gautrain project can be seen as the system, the super-system being South Africa and the South African mining and construction industry as supra-system. The importance of understanding the context in which the Gautrain project operates is, therefore, unavoidable, as it has a significant impact on the workings of this system, as well as the subsystems therein.

### **1.2.1 The South African and South African mining and construction context**

According to Sriramesh and Verčič (2003:2) and Grunig (1992:72) environmental variables have a significant impact on the communication of an organisation. The most significant environmental factors that impact the South African business sector can be said to include

- the growing impact of HIV/Aids on organisations;
- low competency and literacy levels of employees;
- resource shortages;
- the impact of crime on organisations;
- the origination and convergence of new technologies;
- increased involvement of government and the resulting dictation of business activities;
- a workforce where the morale and work ethic are low;
- pressure of global markets for better quality and adherence to global standards;
- implementation of Black Economic Empowerment; and
- diverse cultures of employees and organisational stakeholders.

(Money Biz, 2008; Naudé & Le Roux, 2005:3; Huysamen, 2003:2).

In an attempt to link these environmental variables that an organisation faces with the communication efforts of that organisation, Sriramesh and Verčič (2003) identify three interrelated characteristics of an organisation's environment, which have a significant impact on the communication of that organisation. These three

variables are derived from the nine generic principles identified as a result of the *Excellence project* (IABC, 2007; Sriramesh and Verčič, 2003:2).

The three variables identified by Sriramesh and Verčič (2003:2) are a country's infrastructure, media environment and societal culture. Rensburg (2003:145) then furthers this discussion by applying these three variables to the South African context. Subsequently this application will be summarised with an inclusion of the South African mining and construction context.

#### **1.2.1.1 Infrastructure**

Under the heading of infrastructure, communication in an organisation is influenced by a country's political system, its economic development and the level of activism in this country. South Africa has a democratic political system with "one of the most developed economies in Africa" (Rensburg, 2003:154).

The development of the economy is by no means isolated from the mining and construction industry of South Africa; on the contrary, this industry has made up the backbone of the South African economy since the discovery of gold and diamonds at the turn of the 19<sup>th</sup> century (Davenport, 2005). One of the many aspects that have changed, however, is the level of activism in the country.

The level of activism in the South African context ranges from activist groups for environmental affairs to HIV/Aids. Although all of these causes influence all organisations in the mining and construction industry, none emerges more prominent than labour activism. According to Cosatu (2005) employees are no longer afraid to voice their concerns and opinions on matters that influence them directly. In 2000 two of the most active unions in South Africa were the National Union of Mineworkers and the National Union of Metalworkers (GCIS as cited by Rensburg, 2003:158). The mining industry's need for strategic communication from the organisation's side to negate the influence of trade unions can, therefore, not be ignored.

### **1.2.1.2 Media environment**

The media environment of South Africa supports freedom of expression in the highest form. As underwritten by the *Constitution of the Republic of South Africa*, South Africa is rated as one of the top 50 countries which genuinely have press freedom by the Reporters Without Borders' index (RWB, 2008; Wayne, 1999: 22). In this, the press is in no way barred from reporting on any institution or organisation in-, or outside South Africa. Still, the way in which the organisation is portrayed in the media, influences the reputation of the organisation, therefore, affecting its relationship with employees (Spencer, 2005:9; Sriramesh and Verčič, 2003:17; Rensburg, 2003:161).

### **1.2.1.3 Societal culture**

“South Africa is extremely heterogeneous with an abundance of cultures and subcultures in the country” (Rensburg, 2003:159). The heterogeneous or diverse nature of the country is further intensified by the different levels of development therein. This is especially true in the mining and construction industry. According to Creamer (2002:2) diversity and a low level of literacy are the two greatest qualms faced by workers in this industry.

Diversity has an obvious effect, bearing in mind that this industry employs individuals from different countries, from different cultures and who speak different languages (Naudé & Le Roux, 2005:3; Rensburg, 2003:159). This is intensified by the differing levels of development: workers in this industry range from functional illiterate employees to employees with degrees. Communication is especially challenged in this circumstance, as the Leon Commission for Health and Safety reports that 84% of general labourers and machine operators are totally or functionally illiterate and can, therefore, not be reached through communication channels that require them to read or write (Creamer, 2002:2).

The situation described above poses many challenges for communication in the mining and construction industry and is worthy of examination. The specific

problem of safety communication within this context will subsequently be discussed.

### **1.3 THE PROBLEM DESCRIPTION**

In June 2009 an industry-wide strike on safety was undertaken by employees of the mining and construction industry of South Africa. The strike was in protest against the safety standards that saw over a hundred people killed, in the year leading up to it (Macharia, 2008; ICEM, 2009; DME, 2009).

In addition to the tragic loss of life, organisations also suffered a substantial financial loss due to the standing time created by the absence of workers. In response to this, the Department of Minerals and Energy (DME) promised to “shut mines whenever deaths occur” (Macharia, 2008), leading to even greater output loss for the industry.

The above interrelatedness between the employees and the organisation, and between the organisation and the industry as a whole is, seen. This interrelatedness is acknowledged by the stakeholder relationship theory. This theory, which stems partly from the systems theory, dictates that the interdependence between systems inevitably leads to a relationship between these parties as this influences the longevity of the organisation, as well as the reaching of its goals (Fraser & Zarkada-Fraser, 2003:762; Ledingham & Bruning, 2000:75; Steyn & Puth, 2000:210).

The above principles, applied to the Gautrain project, indicate that this organisation will have to build relationships with their employees (as a primary stakeholder group) in order to reach organisational goals, of which one important goal is to obtain a perfect safety record.

According to Dolphin (2005:173), internal communication is the lifeblood of any organisation that desires to build and maintain a relationship with their

employees, in order for the organisation to reach its goals – including safety goals. The role of internal communication, in the success of the Gautrain project, can, therefore, be described as twofold: it builds a relationship with employees, that is pivotal in the realisation of organisational goals (Ledingham & Bruning, 2000:75; Steyn & Puth, 2000:210), and secondly, through the communication and relationship created, safety communication can be communicated more efficiently to the employees (Ryder Marsh, 2008; Lesch, 2005:173).

In this, the traditional idea that giving adequate attention to the health and safety of employees is detrimental to the bottom line, is deposed. Organisations are encouraged to build a culture of safety in their organisations through communication systems and strategies. The failure to efficiently communicate “safety information may result in serious injury or death” (Lesch, 2005:173), leading to great output loss or even possible shut down of the organisation (Ryder Marsh, 2008; Lesch, 2005:173; Estes, 1996:137).

Efficiently communicating safety information at the Gautrain project is thus a matter of survival for the organisation, as without it the organisation may cease to exist. Having said this however, communication of safety information in this industry is no small feat. As mentioned earlier, this industry is plagued by various obstacles to efficient communication of safety information, such as illiteracy and diversity (Naudé & Le Roux, 2005:3; Rensburg, 2003:159; Creamer, 2002:2).

An investigation into how these obstacles to communication are managed at the Gautrain project, to ensure that safety information is communicated efficiently, can thus prove to be very insightful. The general research question stems from this, and can be worded as:

*How can safety information be efficiently communicated to employees at the Gautrain project?*

## **1.4 RESEARCH QUESTIONS**

From the general research question and against the background set out in 1.2, the following specific research questions can be asked:

1. What are the guidelines for the efficient communication of safety information within the mining and construction industry, according to literature?
2. What is the nature of safety communication at the Gautrain project:
  - 2.1. according to those managers responsible for distributing the messages?
  - 2.2. according to employees?
3. To what degree does the safety communication at the Gautrain project correlate with the guidelines set in literature?
4. To what degree does safety communication at the Gautrain project satisfy the safety information needs of employees?

## **1.5 RESEARCH OBJECTIVES**

In order to answer the research questions above, the following objectives were formulated:

1. To determine the guidelines offered by literature for the efficient communication of safety information within the mining and construction industry.
2. To determine the nature of safety communication in the Gautrain project:
  - 2.1. according to the perceptions of those managers responsible for distributing it.
  - 2.2. according to the perception of employees.
3. To determine to what degree the safety communication at the Gautrain project correlates with the guidelines set in literature.
4. To determine to what degree the safety communication at the Gautrain project satisfies the safety information needs of employees.



## **1.6 THEORETICAL ARGUMENTS**

In order to reach the objectives set out above, this study will be guided by four theories. These theories validate and guide the research to be done.

### **1.6.1 The systems theory as meta-theory**

As seen in the contextualisation of the study, as well as the problem description, the systems theory is central to the understanding of this study. In this, the systems theory is seen as the meta-theory.

The systems theory deals with the problems of relationships, structures and the interdependence of unruly objects and aspects as they function in a greater whole. As stated above, this greater whole is seen as a system, and the objects and aspects therein as sub-systems (Van der Walt, 2006:119; Kurtyka, 2005:30; Angelopulo, 2002:40; Ledingham & Bruning, 2000:13). An organisation is, therefore, seen as one of these systems and its employees as a sub-system.

This interdependent nature of systems has been discussed above, but what is important to note now, according to the systems theory, is the relationships that inherently form. Due to the interdependent nature of all systems, a relationship has to be established between a system and its sub-system, as any change in one leads to change in the other. (Van der Walt, 2006:119; Kurtyka, 2005:30; Ledingham & Bruning: 2000:13). Van der Walt (2006:19) then goes further to say that communication is an important component in linking and building relationships between systems and sub-systems. From the system theory it is, therefore, understood that it is imperative for an organisation (system) to build and maintain a relationship with employees (sub-system). This relationship is then facilitated through the use of communication.

When the above principles are applied to the Gautrain project, it is seen that the organisation (as the system) will have to build and maintain relationships with

their employees (as subsystem) in order to reach organisational goals, of which safety is seen as salient. Furthermore, the internal communication used by the Gautrain project can be employed to this end.

### **1.6.2 The stakeholder relationship theory**

Since the publishing of Freeman's ground-breaking book *Strategic management: A stakeholder approach* (1984), many different applications of the stakeholder theory has been seen. One of these applications comes in the form of the stakeholder relationship theory, as pioneered by Ledingham and Bruning (2000).

Ledingham and Bruning (2000:75) state that stakeholder relationships are in practice nothing more than the management of the organisation's relationship with key constituencies, through the use of communication. The aim of internal communication is thus to create a relationship with the organisation's employees.

Furthermore, these key constituencies need to be divided up into primary and secondary stakeholders (Ledingham & Bruning, 2000:75; Mitchell, Agle & Wood, 1997:854). Primary stakeholders represent those individuals or groups whose actions may be beneficial or harmful to the organisation, while secondary stakeholders can only be affected by the actions of the organisation. According to Ledingham and Bruning (2000:75) and Mitchell *et al.* (1997:854) an organisation will cease to exist if it does not relate with primary stakeholders, like employees, and manage this relationship strategically. The strategic management of this relationship is further discussed in section 2.3.

According to Grunig and Hon (1999:19) the relationship, created by strategic internal communication between an organisation and its stakeholders, consists of six elements. These elements include 1) control mutuality; 2) trust; 3) satisfaction; 4) commitment; 5) exchange relationship; and 6) communal relationship. The measuring of the relationships between the organisation and its

employees can, therefore, be done through the evaluation of these six elements, by means of Grunig and Hon's (1999:19) relationship questionnaire.

### **1.6.3 The excellence theory**

As recognised by the two foregoing theories discussed, relationships between an organisation and its constituencies are established and maintained through the use of strategic communication. As argued earlier, this communication has to be efficient– something that has proven to be quite a challenge in the mining and construction industry of South Africa, due to the various obstacles to communication that plagues this industry.

In order to help organisations communicate more efficiently with their key constituencies (for example employees), communication scholars, including James E. Grunig, Larissa A. Grunig and David M. Dozier, identified various communication tools to be used in the widely accepted excellence theory (Downs, DeWine & Greenbaum, 2004:57; Grunig, 1997:286; Dozier, Grunig & Grunig, 1995:vii).

According to the excellence theory, excellent communication is communication that is strategically managed, reaches set objectives and balances the needs of the organisation with those of its stakeholders. This excellence is reached through the use of both two-way asymmetrical and symmetrical communication (Wood, 2006:22; Di Norcia & Tigner, 2000:1).

Therefore, to reach communication excellence of safety information at the Gautrain project, internal communication has to be two-way (asymmetrical, as well as symmetrical) and has to balance the safety needs of the organisation with that of its employees.

#### 1.6.4 Medium theory

The excellence theory above makes provision for how communication within an organisation should be managed. Linking to these standards, but paying more attention to how the message is received, medium theory seeks to examine the variables that are required by a receiver of information to attend to the medium and its message (most often being seen as one and the same). In this, medium theory focuses on those characteristics of each individual medium that influences its use, resonance, dissemination, as well as the encoding and decoding thereof (Leverette, 2007:336; Oosterhoff, 2001:5).

As a medium theory, the dual-capacity model can be explored.

##### 1.6.4.1 The dual-capacity model

The dual-capacity model of media choice in organisations posits that all internal communication channels have the ability to carry two kinds of messages. Firstly the channel has a **data-carrying capacity** that relates to the use of the channel to convey task-relevant data efficiently. Secondly channels also have a **symbol-carrying capacity** (Miller, 2006:294; Stikin, Sutcliffe & Barrios-Choplin, 1992:563).

The symbol-carrying capacity of the communication channel mainly manifests in two ways (Miller, 2006:294): Firstly, the channel is able to convey the “core values and assumptions that constitute the organisation’s culture” and secondly the channel can attain the status of a symbol away from the actual message that is being transmitted (Miller, 2006:294; Stikin *et al.*, 1992:563).

It is seen that the choice of internal communication used at the Gautrain project should be dictated by that channel’s capacity to, not only convey task-relevant information, but also to convey the core safety values of the organisation that make up the safety culture therein.

## **1.7 METHODOLOGY**

So as to do research about the efficient communication of safety information at the Gautrain-project, the existing internal communication and –channels were researched, along with the perceptions of employees about the communication, as well as the relationship they enjoy with the organisation.

The research design combines both qualitative and quantitative research methods. The purpose hereof is to strengthen the validity and reliability of the research by the use of methodological triangulation. Methodological triangulation can be seen as using more than one method to answer the research question (Brewer & Hunter, 2006:107; Le Roux, 2005:2; Olsen, 2004:3; Du Plooy, 2002:81) and is, according to Olsen (2004:3) an intensive form of triangulation.

Having said this, the use of different triangulation and data gathering methods does not only increase the validity and reliability of the research, but also crosses certain barriers of communication research in the South African mining industry. These barriers include challenges pertaining to language, culture, literacy, origin and union influences (as internal forces) as well as external forces including measurements enforced by the South African government, *et cetera* (Le Roux, 2005:2).

### **1.7.1 Literature review**

The literature review focused on the manner in which relationships can be built with employees in order to create a culture of safety in an organisation. Sources dealing with the management of stakeholders, the use of internal communication and the excellence theory's place therein were consulted. Further research about the nature of communication in the South African mining and construction industry was done to ultimately determine how safety information should be communicated to employees in order to be considered to be efficient.

The following databases were consulted to ensure the availability of material for this study:

- Ferdinand Postma Catalogue (North-West University)
- Unisa Library Catalogue
- NRF: NEXUS
- Emerald OnLine
- Repertory of South African Journal articles
- EBSCO (Academic Search Premier, Communication & Mass Media Complete, Business Source Premier)

As far as could be established, this specific study at this specific organisation has never before been undertaken. Research was done into the efficiency of internal communication to selected employees in the Platinum mining industry of South Africa. In this study specific attention was paid to the role of electronic internal communication by middle-management at Lonmin Platinum mine (Theunissen, 2007). Although Theunissen's (2007) study does have some focus areas in common with this study, this study engrosses the element of safety communication at the Gautrain project – as a project under both the mining, as well as construction spheres of the industry. This study, therefore, includes more than just electronic communication media and rather focuses on those channels used for the communication of **safety** information.

Another study, researching aspects of safety information within the South African context, has also been found. However, this study looks at communication (both internal, as well as external) as an element in the establishing of a safety climate conducive to safe work behaviour (Mohamed, 2002). Although Mohamed's (2002) study does include elements of communication and safety, it is disparate from this current study in the fact that it does not look at **how** safety should be communicated, and does not relate it to anything else but the climate within the organisation.

Likewise, a study by Pollari (2008) focuses on identifying the “three best practices for improving the effectiveness of safety communications to employees”. This study does, however, not focus on the communication efforts behind safety communications, but rather on what the three most important messages in safety communications are. As in the study mentioned above, Pollari (2008), therefore, looks at **what** is pertinent in safety communications, not **how** this should be communicated (as this study does).

### **1.7.2 Empirical research**

For the purpose of this study (as set out above) four methods of data gathering were used, namely semi-structured interviews, questionnaires, focus groups and a description of the communication channels.

The first component to this study is qualitative in nature and includes semi-structured interviews with management responsible for safety communication, as well as a description of internal communication and focus groups with employees. The second component is quantitative and includes the distribution of questionnaires to employees. Each one of these methods will subsequently be discussed.

#### **1.7.2.1 Method 1 – Semi-structured interviews**

Firstly interviews were held with managers responsible for safety communication activities at the Gautrain project. Information was gathered about the way in which safety communication is managed at this organisation. In view of the fact that only a few managers are responsible for communication at this organisation, it was possible to interview all managers.

Interviews are appropriate in this circumstance, as it allows for in-depth discussions, immediate feedback, as well as the chance for follow-up questions by the researcher (David & Sutton, 2004:87; Du Plooy, 2002:176).

Due to the fact that this study, as an exploratory communication study, does not have a hypothesis to serve as a starting point to developing the interview schedule, the main themes of safety communication, as identified in the literature review, were used as the subject matter for the questions asked (as suggested by David and Sutton (2004:87)).

#### **1.7.2.2 Method 2 – Description of the channels of safety communication**

Subsequent to the interviews, an account of safety communication channel choice, through the use of the dual-capacity model with its posits to good media choice, will be conducted.

It is important to make a distinction between the method employed here, and the more conventional method of content analysis. Content analysis aims to research themes in communication **content** (as the name implies) (Keyton, 2006:233). As the content of the communication messages of this study will be Safety related, it is of no interest to this study. Rather, the **way in which** this content is communicated is important, which points to the description of the choice of channel, and the appropriateness thereof.

The factors of the dual-capacity model – identified in the literature review – will be made use of in the description of the choice of communication channels.

#### **1.7.2.3 Method 3 – Questionnaires**

The use of questionnaires in this study serves a binary objective. Firstly, the questionnaire was aimed at discovering the perceptions of employees regarding the management of safety communications. Secondly, the questionnaire aimed at determining and describing the relationship that employees have with the organisation.

The questionnaires took the form of interview-questionnaires, where provision was made to illiterate and semi-literate respondents. Interviewers, who were



fluent in Sotho, Tswana and Zulu, and who were trained in interviewing techniques, were employed for this task.

The validity and reliability of the quantitative method discussed above were ensured by means of a review by a panel of experts, as well as, a pilot study. As suggested by Berg (1995:56) the pilot study was undertaken on ten employees to discount any possible problems.

Another way to ensure the validity and reliability of this method (discussed in greater detail in Chapter 4), was to make use of four existing questionnaires, identified in the literature review. The items from this questionnaire that coincided with those identified in the literature review of **safety** communication, were used to form a new amalgamated questionnaire that was administered. The four existing questionnaires are: The International Communication Association's (ICA's) Communication satisfaction questionnaire (as in Downs *et al.*, 2004:114); Grunig and Hon's (1999) relationship questionnaire; Francis and Woodcock's (1994) Audit of communication effectiveness questionnaire; as well as Le Roux, Naudé, Fourie and Van Heerden's (2004) Lonmin employee questionnaire.

#### **1.7.2.4 Method 4 – Focus groups**

Simultaneous with the questionnaires, data was gathered by means of three focus groups. To the employees who took part in the focus groups, questions were posed on the same concepts as found in the questionnaires. That is to say, the questions, that make provision for qualitative questioning, originated from the same sources as that of the questionnaire.

Where qualitative questions were not available to supplement the quantitative questionnaire, the main themes of the theory were put into questions in order to answer the overall aspect of that communication variable – as identified in the literature review.

The questions in the focus groups allowed for more elaboration, and allowed for greater understanding of the findings of the questionnaires.

It is in this light that the focus group data can be compared to that of the questionnaires in order to increase the validity by means of the equivalent form approach. If the answers given by participants correlate to that given by respondents, the measurement is valid (Van der Walt & Breet-Van Niekerk, 2006:343).

## **1.8 DEFINITIONS**

For the purposes of this study, various concepts need to be defined and clarified:

- **Safety:** The term *safety*, as it is used in the context of this study, refers to the concept of Occupational Health and Safety. This is seen as the cross-functional discipline that is concerned with all activities that seek to eliminate or minimize conditions that can cause injury, illness or property damage from the hazards of the organisational setting. As a secondary effect, it may also protect family members or communities that are affected by the organisation's activities (Frank, 2000: 340; Akpom & King, 1999:428).
- **Safety communication:** safety communication exists to help receivers achieve safety-related goals, to perform work activities safely, to solve work-related problems safely and to achieve organisational safety goals. All this is reached through efficient internal communication, which alludes to both quantity and quality of safety information exchange (Mathis, 2008:43; Madaus, 1997:262).
- **Internal communication:** Internal communication is described by Van Riel (1995:13) as the cross-functional communication transactions between individuals and/or groups on different levels in an organisation. The main

focus of internal communication is employee communication that is strategically managed. It makes room for upward, downward, as well as horizontal communication flows (Holtz, 2004:7; Van Staden, Marx, Erasmus-Kritzinger, 2002:15; Argenti, 1998:167; Van Riel, 1995:13).

- **Internal communication channels:** Internal communication channels are defined as the media that is generated and used internally in an organisation. These channels are specifically designed with employees as target group in mind. These channels are designed for communication to and from employees. Internal communication channels include print media, audiovisual communication, the intranet, interpersonal communication, privately generated media and oramedia (Rensburg, 2002:142; Steyn & Puth, 2000:91)
- **Symmetrical and asymmetrical communication:** Symmetrical communication is described as communication that strives to create a balance between the organisation and its stakeholders. Symmetrical communication from an organisation allows for feedback from receivers (stakeholders) and in this way practises **two-way communication** – with reference to the flow of communication. It is only when the reciprocation of stakeholders is acted upon that the communication becomes **symmetrical** in nature, and balance is ensured between the organisation and its stakeholders. Contradictory to this, **asymmetrical** communication in an organisation does not take the views of its stakeholders into account. Many times, the views of the stakeholders are not even known to the organisation, as the message flow is **one-way**. In this instance the communication between the organisation and its stakeholders becomes **one-way asymmetrical** (Mishra & Li, 2008:33; Grunig & White, 1992:31).
- **Efficient communication:** Efficient communication, as in the context of this study, encompasses elements of excellent and effective communication. As

such, efficient communication is defined as communication that is managed strategically, balances the needs of employees with that of the organisation with two-way symmetrical, as well as asymmetrical communication without wasting time, or effort, or expense (Princeton, 2009; Dozier *et al.*, 1995:48; Lindenberg, 1994:5).

- **Stakeholders:** The concept *stakeholder* is used to refer to a person or group who has a stake, interest, claim, right or ownership in an organisation. Stakeholders influence an organisation and are influenced by the organisation. Therefore, stakeholders also help or hinder the organisation to reach its goals, including safety goals (Steyn & Puth, 2000:5; Ledingham & Bruning, 2000:75; Freeman, 1984:46).
- **Dominant coalition:** This term is used to refer to those, usually the top executives of an organisation, who are in control of the management of this organisation. This coalition is inherently involved in the strategic planning and implementation phases of the management of every sector of their organisation (Chen, 2008: 170).
- **The organisational environment:** The environment of an organisation is defined as anything outside the organisation that can generate change pressures on that organisation. The factors in the environment that generate these change pressures, as well as their influence, differ from company to company (Wood, 2006:11; Cutlip, Center, Broom & Du Plessis, 2002: 17).
- **Safety culture:** “The safety culture of an organisation is the product of individual and group values, attitudes, perceptions, competencies, and patterns of behaviour that determine the commitment to, and the style and proficiency of an organisation’s health and safety management” (Cox & Flin, 1998:191).

- **Safety hazard and safety risk:** A safety hazard refers to a circumstance that increases the conditions that could lead to injury, illness or property damage; whilst a safety risk refers to the **likelihood** of the occurrence of a safety hazard. Safety communication is used to minimize or eliminate the possibility of both these occurrences (Mathis, 2008:43; Saunders, 1992: 208).
- **Lost-time injury:** Lost-time injuries (referred to in the industry as LTIs) refer to injuries “which incapacitates the injured person from performing his/her normal or similar occupation for a period totalling one calendar day or more but less than 14 days, or which causes the injured to suffer the loss of a joint, or sustain a permanent disability”. It is required, by law, that this type of injury be reported to the DME (in terms of the Mine Health and Safety Act, 29/1996: Chapter 23).
- **PPE:** PPE stands for Personal Protective Equipment. This is specialised equipment and clothing used by individuals for their protection against safety hazards. PPE is designed to protect many parts of the body, for example the ears, hands, head, eyes, *et cetera* of the individual wearing it. In the context of the mining and construction industry this would typically include hard-hats, goggles and gloves (Logsdon, 2009:12; OSHA, 2008).

## 1.9 DELIMITATION OF STUDY

Limitations of this research firstly originate as from the organisation chosen. The Gautrain project was chosen from a theoretical sampling method (David & Sutton, 2004:152) in this, the appropriateness of the organisation with regard to the study was the main factor in its choosing. This said, this organisation is primarily seated within the construction industry (although it adheres to safety regulations from the mining industry as well). The limitations here are thus the fact that this study was done at **one** organisation only, and then **not** done at a (predominant) mining organisation as well.

Within the Gautrain project, one operation – namely that of the Gautrain project's Precast Yard – was chosen for the context of the research (for more see Chapter 4, *4.7 The research sample*). This signifies that the findings of the research will not be generalisable to the entire Gautrain project as such. The study also included only the researching of employees and management of this operation and did not include any other constituencies or stakeholder groups (due to the focus of the study).

The literacy levels of the employees also owed to some restrictions in the research, for example in the questionnaires. In this, the scale used to measure items and constructs were kept to four points, with no provision for a “neutral” reading (as a result of previous research in this industry, as well as the pilot study at the operation). Still, this was overcome as far as possible through the use of trained facilitators, as well as triangulation of data collection methods (see Chapter 4, sections 4.2 and 4.3).

Lastly, with regard to the communication channels, only those channels used for the communication of safety information were analysed. This was done to measure the appropriateness of the chosen channel. The limitation is that not all communication methods and channels used by the operation were researched as to give account of the place of safety communication therein. Linking to this, due to the fact that only those channels specifically employed for safety communication were researched, the informal communication channels (for example the *grapevine*) were not tested.

## **1.10 STRUCTURE OF THE STUDY**

This study is structured in the following manner:

- *Chapter 1: Introduction, problem description and objectives*

This chapter states the research problem of the study along with the research questions and objectives that will guide the investigation. It further

contextualises the problem, and discusses its position within the South African and South African mining and construction industry. This chapter concisely introduces the theories and theoretical arguments central to this study, before the research methodologies to be used are briefly discussed. The chapter is ended off by offering operational definitions for the study before the delimitation thereof is discussed.

- *Chapter 2: Theoretical framework for the communication of safety information*  
As the name implies, this chapter treats those theoretical arguments and theories that are central to the researching of safety communication, through a literature review. The chapter contextualises the use of the systems theory, the excellence theory, the stakeholder relationship theory, as well as the medium theory – under which; the dual-capacity model.
- *Chapter 3: The context and nature of communicating safety information*  
This chapter, serving as the second part of the literature review chapter, focuses on understanding the context in which safety is communicated by looking at the South African mining and construction industry. This completes the first part of this chapter. In the second part of this chapter, the manner in which safety should be communicated, bearing the context discussed previously in mind, is explored.
- *Chapter 4: Research methodology*  
This chapter focuses on the challenges of the research, as well as the manner in which they were overcome by means of the research design and the data-gathering methods. In the discussion of these methods, mention is made of the manner in which the units of analysis of each method were selected (by means of sampling), as well as the validity and reliability implications of each respective method.

- *Chapter 5: Research findings: Choice of safety communication channels*

This chapter, being the first of the two findings chapters, discusses the choice of safety communication channels made by the Precast Yard of the Gautrain Project according to the guidelines as set forth in literature, specifically pertaining to the dual-capacity model.

- *Chapter 6: Research findings: Effects of safety communication*

This chapter furthers the discussion started in chapter 5, by stating what the effects, or communication outcomes of the safety communication channels discussed, are. This chapter employs data from the questionnaires, focus groups, as well as interviews to discuss the effects of the safety communication in terms of the three predominant themes that emerged from literature. These are namely, *communication effectiveness*, *communication satisfaction* and *relationships*.

- *Chapter 7: Conclusions and recommendations*

This final chapter systematically answers the four research questions posed in the first chapter in a concluding manner, before recommendations are made for the improvement of safety communication in the Gautrain Project's Precast Yard. Finally, a general conclusion for this study is made.

## **1.11 CONCLUSION**

In this chapter, the background of the South African mining and construction industry is given, outlining the problems faced by communication practitioners in this context. It was in this light that the need for this study was discussed, and subsequently the research question was formulated. The specific research questions and objectives, that will guide the answering of the general research question, were also stated. In the next chapter the main theoretical viewpoints of the study will be discussed, in conjunction with the literature review that serves as the foundation for the study.



## **CHAPTER 2**

### **Theoretical framework for the communication of safety information**

#### **2.1 INTRODUCTION**

The purpose of a literature review is to examine how other researchers have thought about, and gone about, researching a specific topic and/or field. It is from this examination that a strong theoretical foundation is laid, whereupon the study is built (David & Sutton, 2004:7; Berg, 1995:17). For the purposes of this study, the literature of two fields will be examined: that of Communication, specifically internal communication, as well as Health and Safety, in order to gain insight into the topic of internal safety communication.

So as to truly understand the dynamics of safety communication in the South African context, insight into this context will also have to be gained. It is from this understanding that a point of reference can be established, illustrating the manner in which safety information can be, or should be, communicated to employees in order for it to be considered efficient, according to the literature.

In this light, the literature review will be divided into two chapters: the first focusing on the theories that guided the study; the second focusing on the context of the South African mining and construction industry, as well as the communication of safety information therein. As such, this first chapter of the literature review will focus on the systems theory, the excellence theory, the stakeholder relationship theory, as well as the medium theory, all within the internal communication domain, in order to build the basis of literature review.

The following table summarises the theoretical base of the study.

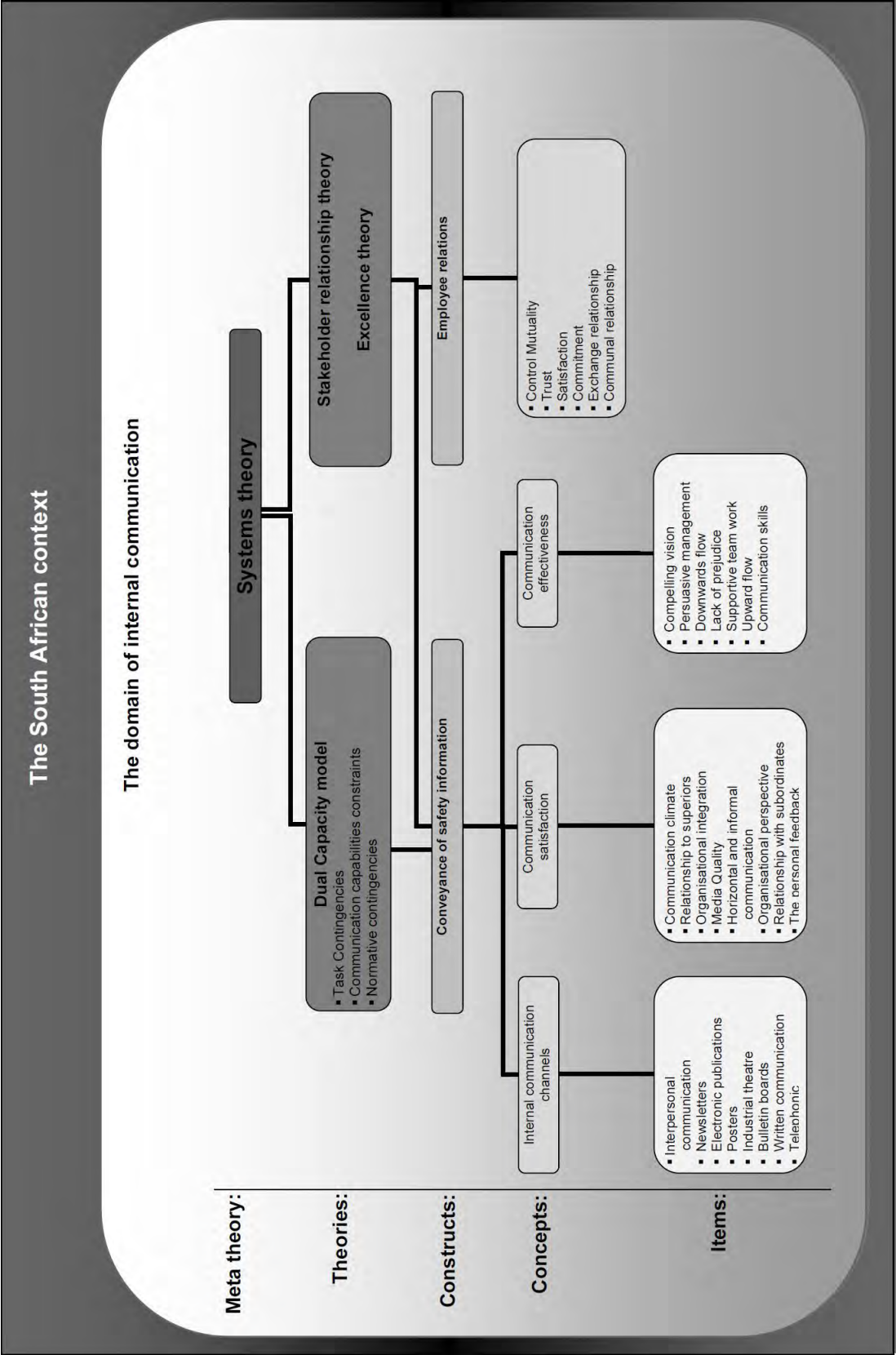


Table 2.1 Contextualisation of the study

## **2.2 THE SYSTEMS THEORY AS META THEORY**

The general systems theory was pioneered in the late 1940's by Von Bertalanffy who applied the basic supposition of mutually dependent relationships to the field of Biology. Since then, these basic principles have grown to influence several fields including that of internal communication theory (Herting & Stein, 2007:3; Wood, 2004:162).

In view of this fact, the systems theory is seen as "one of the main intellectual movements of the 20<sup>th</sup> century" (Kurtyka, 2005:30), as it attempts to examine individual entities in their greater and connected, context. This context, along with its connected entities, is identified as a system, where the whole is always greater than the sum of its parts (Kurtyka, 2005:30; Littlejohn & Foss, 2005:40).

For the purposes of this study, the notion of interacting systems can be applied on two levels: firstly, on the level of the organisation; and secondly, on the level of communication within that organisation. Starting with the former, these applications will be further explored.

### **2.2.1 Organisations as a system**

In the most concise manner, a system is defined as a set of entities or objects that interrelate with each other to form a whole. These entities or objects are subsystems and the whole that they form, the system (Angelopulo, 2002:41). From the perspective of an organisation as a system, and for the purposes of this study, the Gautrain project can be seen as the system with various subsystems functioning therein. These subsystems include all the constituencies that this organisation interacts with, that have an influence on this organisation as well as its activities, and vice versa. These subsystems would include employees, customers, clients, shareholders, suppliers, *et cetera* (Van der Walt, 2006:119; Kurtyka, 2005:30; Ledingham & Bruning: 2000:13).

Due to the interdependent nature of all systems, the systems theory supposes that a relationship has to exist between a system and its subsystems. This is also due to the fact that the activities of a subsystem influence the entire system as a whole (interrelatedness). In order for the system to maintain equilibrium, it has to relate to all its subsystems in order to note any changes that might disrupt this balance in the system. If a system cannot maintain equilibrium, it is in danger of entering a state of entropy, or severe conflict, that may hinder its chances of further existence (Van der Walt, 2006:119; Wood, 2004:166; Kurtyka, 2005:30; Ledingham & Bruning: 2000:13). Linked back to this study, the systems theory dictates that the Gautrain project has to maintain a relationship with all subsystems (such as employees) in order to maintain equilibrium in the system. If this is not done, the organisation's existence may be in jeopardy.

This stability and interrelatedness of systems as discussed above, are only two propositions of the systems theory. Subsequently the other propositions can be identified and discussed under the application of the Gautrain project as system, with employees as subsystem.

#### ***2.2.1.1 Propositions of the systems theory***

As from Wood (2004:163); Angelopulo (2002:42) and Van der Walt (2006:119), the following constitutes propositions of the systems theory.

- **Interrelatedness:** As alluded to above, the subsystems or elements found in a system are interrelated. It is seen that when change is brought on in one part of the system, the entire system is changed – for better or worse. Employees as a subsystem of the Gautrain project thus have the power to influence the organisation, and bring forth change in the organisation merely through a change in their own behaviour and/or attitudes.

The flip side of the coin is also true in this instance: If change is required in the organisation, a change in the attitudes and/or behaviour of the employees is inevitably needed.

- **Organised wholeness:** Tying in with the above, a system as a whole is greater than the sum of its parts. The reason for this being the interrelatedness spoken of above, as well as the inevitable relationships that forms between these parts of a system. The relationships between the parts of a system create manifestations that contribute or deduct from the functioning of the greater system. When systems are seen or studied, it must, therefore, be done in its totality.

Consequently, the Gautrain project should be studied as a whole – making provision for the relationships that form between the parts of the systems, as they contribute or deduct from the functioning of this organisation.

- **Hierarchy:** Every system forms part of a hierarchy. “Systems are all seen as subsystems of greater systems, and in turn as systems which comprise of subsystems” (Angelopulo, 2002:42).

This is true for the Gautrain project as system: although it has subsystems, such as employees and stakeholders, it also forms part of a greater hierarchy. It is seen that the Gautrain project is in its turn a subsystem of the mining and construction industry of South Africa – its supra-system. Due to this placement in the hierarchy, the Gautrain project is required to adhere to the guidelines and influences of its supra-system. It is for this reason that the South African context is discussed at length in the next chapter of this literature review.

- **Stability:** Stemming from their hierarchic nature, systems possess two tendencies: an integrative tendency and a self-assertive tendency. In its

tendency to be integrative, the system will function as part of a whole, while in its self-assertive tendency the system will preserve its individual independence. Both these tendencies are needed in a system for it to be stable.

As such, the employees of the Gautrain project (as a subsystem of the project) have integrative tendencies, where they want to form part of the organisation. The regulations of the organisation will be adhered to, for example safety regulations or production regulations. The employees will, however, also have self-assertive tendencies, where they will try to preserve their own goodwill even if this conflicts with the regulations of the organisation. Having said this, both tendencies, in the end, work toward stability – even through change.

- **Self regulation:** Somewhat linked to a system's self-assertive tendencies, it also displays self-regulation. This self-regulation gauges the activities of a system towards the goals of that system.

The Gautrain project's goals include goals of a perfect safety record. In order to reach those goals however, according to the systems theory, the Gautrain project will have to acknowledge its interrelatedness and adapt to changes in the system.

- **Adaptability:** Systems are seen as dynamic in nature. It is due to their interrelatedness that systems (need to) change as their environment and their subsystems change. As said earlier, if the system does not adapt this may lead to entropy.

One example of adaptability in the Gautrain project as a system is the organisation's need to adapt to the changing safety needs of employees. If the organisation declines to act on these changing needs, the employees may

refuse to work, and bring the entire functioning of the system down. Adaptability is, therefore, essential in the maintenance of equilibrium.

- **Equilibrium and Openness:** A paradoxal truth about the systems theory is that, although all living systems strive for equilibrium, they never reach it. This is due to the fact that change is continuous and inevitable. In order for the system to avoid entropy, it has to remain open to its environment in order to change with it.

The Gautrain project has; therefore, to permit the exchange of information, material or energy with its environment in order to be considered an open system. Communication is seen as important here, as it is this exchange of information that wards off entropy, communication begets the knowledge of change that overthrows equilibrium.

In this light, further inspection can be made of communication in the Gautrain project as a system.

### **2.2.2 Communication as a system**

Taking the basic principles of the systems theory into account, and applying them to internal communication, it can be concisely defined as a group of interacting and interrelated parts, functioning as a whole (Wood, 2004:163).

Once communication is seen as a system, various interrelated subsystems can be identified. These subsystems are seen as the various types of communication that exist within the organisation. As for the purposes of this study, the subsystem of safety communication will be focused on. Still, given the interrelated nature of subsystems, the other types of communication in the organisation cannot be discarded.

Along with interrelatedness, the other propositions of the systems theory can now be applied to internal communication as a system, as from Van der Walt (2006:119); Wood (2004:163) and Angelopulo, (2002:42).

The **interrelatedness** of the subsystems of communication does not only imply that all forms of communication influence one another, but also implies that they need to function as a whole in order to be considered efficient. This aspect touches on both the proposition of **organised wholeness**, as well as **self-regulation**. Under the proposition of organised wholeness it is seen that communication as a whole is greater than the sum of its parts. All communication efforts, all the different forms of communication, therefore, have to work together towards one common goal. Production communication can, for example, not contradict safety communication in its messages, as this will overthrow the entire communication system. Linking to this, the self-regulation of the system needs to gauge the activities of all its embedded systems towards the goals of that system. If a perfect safety record is a goal of communication as a system, then all subsystems need to align their activities accordingly.

Having said this, each subsystem of communication will struggle with its opposing integrative and self-assertive tendencies under the proposition of **stability**. Under self-assertiveness each form of communication will strive to communicate its own message (safety versus production, *et cetera*), whilst under its integrative tendency it will strive to function as part of the whole. This struggle will ensure that the system is never static, but always dynamic and ever changing. This links back to the proposition of **adaptability**, which supposes that systems need to adapt to the changes within (as well as outside) the system in order to reach a state of **equilibrium**.

The above propositions of the systems theory, guide the manner in which the different forms of communication should work interactively with one another in order for communication as a whole at the Gautrain project to be considered



efficient (with a focus on safety communication). From this theory, the following theoretical statement can be derived.

<b>Theoretical statement 1</b>
All forms of communication in an organisation have an influence on each other. Due to this fact, all communication forms need to work as a whole in order to be seen as efficient. The communication activities of all forms of internal communication need to be geared towards reaching the communal communication goals. This can only be done once internal communication practices adapt to the changes of the environment.

With the above in mind, and under the excellence theory, closer attention can now be paid to the manner in which safety communication specifically, can be implemented efficiently.

### **2.3 THE EXCELLENCE THEORY**

In the early 1980's communication scholars, including James E. Grunig, Larissa A. Grunig and David M. Dozier, examined the contribution of Public Relations to organisational effectiveness. As a result of this study, which was funded by the International Association of Business Communicators (IABC), various communication tools were identified to help organisations communicate more effectively with their key constituencies (Downs, *et al.*, 2004:57; Grunig, 1997:286; Dozier *et al.*, 1995:vii).

In this study, three spheres of communication excellence were identified, which represent "the essence of the excellence factor" (Dozier *et al.*, 1995:10). This is graphically represented in the following manner:



*Figure 2.3.1: The three spheres of communication excellence*

At the centre of the sphere sits the knowledge base of the communication department; in the middle, a set of shared expectations about communication between the dominant coalition and communicators; and at the outer level the participative organisational culture. Subsequently each one of these spheres will be discussed, allowing for the application to safety communication.

### **2.3.1 The spheres of communication excellence**

#### **2.3.1.1 The knowledge core**

At the knowledge core of the sphere of communication excellence it is seen that excellent communication requires strategic management. Less-than-excellent communication only makes provision for technical communication skills, which inherently implies one-way communication. Rather, excellent communication allows for two-way communication programmes with both a symmetrical and asymmetrical sides (see 1.8 Definitions) (Theunissen, 2007:23; Dozier *et al.*, 1995:12).

It is seen that safety communication at the Gautrain project needs to be strategically managed, and to provide for two-way communication (both symmetrical as well as asymmetrical) that allows employees to express their views on the safety in the organisation.

#### **2.3.1.2 Shared expectations**

Under the sphere of shared expectations, the excellence theory posits that, in order to build excellent communication programmes, communicators must endeavour partnerships with the organisation's dominant coalition (see 1.8 for definition). The communicators must enjoy a set of shared understandings or expectations with the dominant coalition about communication's role in the organisation, as well as the manner in which it is executed (Dozier *et al.*, 1995:12).

This signifies that safety communication at the Gautrain project has to enjoy the buy-in of management: management has to share the understanding that safety communication is important as it contributes greatly to the reaching of safety goals (see 2.2.1 Organisations as systems). In this, the communication of safety information should be seen as just as important as the communication of any other information in the organisation (for example communication of production and other information).

#### **2.3.1.3 Participative culture**

In the excellence study, two basic forms of organisational culture were identified: participative and authoritarian. Authoritarian cultures are closed to outside ideas and are predominantly engrossed in one-way communication that is asymmetrical and places little value on excellent communication. Participative cultures, on the other hand, are found to be more accepting of excellent communication as it infuses employees with shared values, has them working in a team towards a common goal and is open to outside ideas and innovation. As such, this kind of culture enjoys greater success during times of change, as it is

open and flexible to outside influence, innovation and ideas (Eisenberg & Riley, 2001:291; Dozier *et al.*, 1995:17).

It is concluded that the organisational culture of the Gautrain project (which includes the safety culture of the organisation) should be more participative. Therein, employees should be encouraged to work in teams to reach set safety goals which are embedded within their shared values of safety in the organisation. The Gautrain project should also be open to outside ideas of how to maintain safety in the organisation and be willing to implement these ideas into their safety communication programmes.

### **2.3.2 Characteristics of excellence**

The three spheres of communication excellence provide a broad understanding of how communication within an organisation should subsist in order to be considered excellent. The basic suppositions of these spheres can be broken up into 10 characteristics, according to the excellence theory, that will enable organisations' communication to be effective. As from Grunig (1997:290), Downs *et al.* (2004:57) and Lindeborg (1994:5) these characteristics can now be listed, and attention paid to those characteristics that influence the communication of safety information:

- **Strategic management:** As mentioned earlier, communication within the organisation should be strategically managed. This implies that the safety communication at the Gautrain project should form part of the long-term strategic choices that the organisation has set out for itself.
- **Separation from Marketing:** All communication in the organisation should not culminate in a marketing focus. In this communication (and sub-fields such as safety communication) should have its own voice, whether it is complementary or contradictory to marketing communications.

- **Direct reporting relationship to senior management:** Communication must be fundamental to the management of the overall organisation. In order for communication to be considered excellent, the perspectives of the organisation's stakeholders must be factored into the decisions made by the dominant coalition.

It is seen that the perspectives of employees regarding safety, should be taken into consideration when decisions about safety are made by the managers of the Gautrain project.

- **Single, integrated department:** Communication in "less-than-excellent organisations often is splintered into discrete functions that support other departments" (Grunig, 1997:291). If fragmented, the communication function cannot respond to change from stakeholders as readily and as efficiently as it should.

Safety communication at the Gautrain project should, therefore, not be splintered into various functions in the organisation, but should be administered from one single, integrated department.

- **Equal opportunities:** Excellent communication reflects the multicultural and diverse points of views of its recipients. At the Gautrain project this implies that safety communication has to provide for all different diversities and differing levels of literacy of employees within the organisation, in order to be considered excellent.
- **Activism:** Activism has been found to push organisations toward excellence. The reason for this unexpected driving force is the fact that activist groups put pressure on organisations that create turbulent and complex environments. It is due to the fact that communication has to cope with these turbulent

environments that they are excelled towards making use of strategic and sophisticated two-way communications.

As mentioned before, the mining and construction industry of South Africa is somewhat laden with activist groups, especially when it comes to Health and Safety in the organisation (Macharia, 2008; Rensburg, 2003:154). This can prove to be beneficial to the safety communications of the Gautrain project – if it is reacted to properly (with strategic and sophisticated two-way communications).

- **Top management support:** As commented on earlier, communicators must enjoy a set of shared understandings or expectations with the dominant coalition about communication's role in the organisation, as well as the manner in which it is executed. For the communication of safety information at the Gautrain project this implies that the buy-in of management is important: management has to share the understanding that safety communication is vital to the reaching of safety goals (see 2.2.1 Organisations as systems).
- **Supportive organisational context:** Organisational context in this sense is made up of four elements: the structure of the organisation, the culture, the internal communications, as well as the treatment of women in the organisation.

The culture within the organisation has been touched upon in 2.3.1.3: *Participative culture*, where it is seen that excellent communication at the Gautrain project should be more participative in nature. Employees should be encouraged to work in teams to reach set safety goals which are embedded within their shared values of safety in the organisation.

In conjunction with this, “excellent organisations have symmetrical internal systems of communication and decentralised, organic management structures that offer autonomy to their employees” (Grunig, 1997:296). The Gautrain project should also “provide an hospitable environment for its increasingly multicultural and female workforce in all departments” (Grunig, 1997:296).

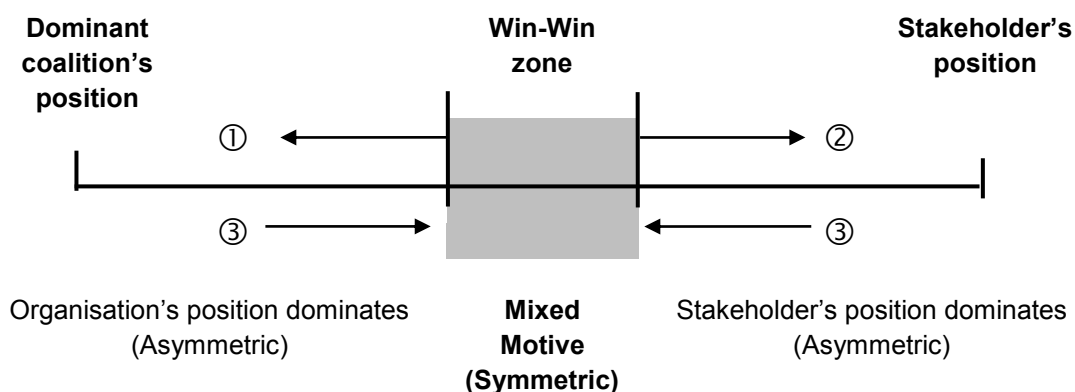
- **Senior practitioner’s managerial role:** As mentioned before, less-than-excellent safety communication only makes provision for technical communication skills, which inherently implies one-way communication. In order for the safety communication at the Gautrain project to be considered excellent, the senior practitioner’s role should be that of strategic management. Implied in the strategic role, safety communication will then make use of two-way communication, both symmetrical, as well as asymmetrical.
- **Two-way symmetrical model:** As above, the schema for excellent communication within an organisation stresses two-way interaction with strategic publics. Under the two-way symmetrical view of excellent communication, it is understood that the organisation has to adapt its practices to take the needs of stakeholders into consideration. In this, communication will make use of communication strategies, rather than persuasion strategies to reach these stakeholders.

This view of communication is, however, seen as ideological according to some critics of the model (Wood, 2006:21). It is seen that it is not always in the best interest of the organisation to apply two-way symmetrical communication, as organisations and its stakeholders sometimes hold separate and conflicting interests. When this happens, a common ground must be found between these two groups. This common ground is seen as

the “win-win zone”. It is represented graphically in figure 2.3.2. *The mixed motive model.*

In the mixed motive model it is seen that unstable and unsatisfactory relationships exist on either side of the win-win zone, where one party is taking advantage of the other. To the left of the win-win zone, the organisation is taking advantage of its stakeholders and to the right the stakeholders are taking advantage of the organisation.

In order to avoid the above, the communicator experiences a feeling of mixed motives: therein the communicator seeks to satisfy the needs of both the organisation, as well as its stakeholders. The mixed motive position of the communicator is only satisfied once communication enters the win-win zone where both parties’ positions and needs are honoured.



<u>Type of practice</u>	<u>Explanation:</u>
① <b>Pure Asymmetry model</b>	Communication is used to dominate stakeholder to accept the dominant coalition's position
② <b>Pure Cooperation model</b>	Communication is used to convince the dominant coalition to cave in to stakeholder's position
③ <b>Two-way model</b>	Communication is used to move stakeholders, the dominant coalition or both to the acceptable win-win zone

Figure 2.3.2: *The mixed motive model* (adapted from Dozier *et al.*, 1995:48)



All of the above characteristics of excellence are concisely summarised by Lindenberg (1994:5) when it is stated that

*“excellent communication is communication that is **managed strategically**, and **balances the needs of the organisation** and the needs of **key publics** with **two-way symmetrical communication**”.*

Applied to the current study, it can be said that excellent safety communication at the Gautrain project is communication that is managed strategically, and balances the safety needs of the Gautrain project with the safety needs of the employees by means of two-way symmetrical communication. From this, the next theoretical statement can be worded.

<b>Theoretical statement 2</b>
Excellent communication is strategically managed, and is seen as fundamental to the overall management of the organisation. It exercises two-way symmetrical, as well as two way asymmetrical communication as it takes the needs of the organisation, as well as the needs of employees into consideration. Lastly, excellent communication should reflect the multicultural and diverse points of views of employees, as they are encouraged to work in teams.

In the above it is seen how the excellence theory incorporates the needs of the organisation's stakeholders (in this case employees) in all communication efforts. Therein, the excellence theory tries to suggest ways in which to communicate with these stakeholders to “build beneficial relationships” (Dozier *et al.*, 1995:vii), such as two-way communication. Although the importance of stakeholders is alluded to in the excellence theory, it can only truly be explored once the stakeholder relationship theory is studied.

## 2.4 THE STAKEHOLDER RELATIONSHIP THEORY

The importance of the stakeholder in any given organisation was, for the first time, pushed to the forefront of communication management theory by Freeman (1984) in his book *Strategic management: A stakeholder approach*. In this book, Freeman (1984) developed the stakeholder theory which stems from the systems theory.

The stakeholder theory supports the notion of interrelatedness, as from systems theory which delineates that organisations as systems should be aware of, and in constant contact with, their stakeholders; if the system is to survive (Ledingham & Bruning, 2000:75; Mitchell *et al.*, 1997:854; Freeman, 1984). Ledingham and Bruning (2000:75) builds onto this realisation by stating that in practice, the systems theory comprises nothing more than the managing of relationships between an organisation and its stakeholders – by means of communication. From this the stakeholder relationship theory was born.

The difference between the stakeholder theory and the stakeholder relationship theory stems from their two different views of systems: The first view (such as that of the stakeholder theory) is concerned with the elements and subsystems within the systems. The second view (such as that of the stakeholder relationship theory) is also concerned with the relationship that exists between these elements and subsystems that bind these together in, and to, the system (Broom, Casey & Ritchey, 2000:13).

Herein, the stakeholder relationship theory in addition explains that two different types of stakeholders are found in organisations – primary and secondary stakeholders. Primary stakeholders represent those individuals or groups whose actions may be beneficial or detrimental to the organisation, whereas secondary stakeholders are only influenced by the actions of the organisation. According to Ledingham and Bruning (2000:75) and Mitchell *et al.* (1997:854) an organisation

cannot exist without the continual interaction of its primary stakeholders – employees being counted as one of them.

The crux of the stakeholder relationship theory is thus that an organisation must enjoy relationships with primary stakeholders. Without this relationship the organisation may cease to exist. The manner in which these relationships are facilitated is through the proper use of communication, as it is the most considerable aspect accounting for the entirety of the organisation's behaviour (Broom *et al.*, 2000:13). This is due to the fact that communication is seen as the “central means through which people both pursue and service relevant relationship functions” (Burleson, 1995:576).

It is from this realisation that Grunig and Huang (2000:34) identify the stages and forms of organisational-stakeholder relationships, as well as the communication strategies for its maintenance. This is graphically presented in the following manner:

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Situational antecedents: Behavioural consequences on each other.	Maintenance strategies	Relationship outcomes
Organisation affects stakeholder	Symmetry Disclosure (openness)	Control mutuality (Joint acceptance of degrees of symmetry)
Stakeholder affects organisation	Assurances of legitimacy Participation in mutual networks	Commitment (Interdependence, loss of some autonomy)
Organisation-stakeholder coalition affects another stakeholder	Integrative negotiation Cooperation/collaboration	Trust Goal attainment (Complementary behaviour)
Organisation-stakeholder coalition affects another organisation	Shared tasks (helping solve problems if interest to the other party)	Satisfaction/liking

---

*Figure 2.4 Stages and forms of relationships* (adapted from Grunig and Huang (2000:34)).

The three stages of this model can now be discussed, as from Grunig and Huang (2000:34), allowing for application to the relationships between the Gautrain project and its employees.

## **2.4.1 Stages and forms of relationships**

### **2.4.1.1 Situational antecedents**

The first stage of the above model shows the change pressures and its influence on relationships within an organisation. In this, the idea that organisation-stakeholder relationships are merely influenced by that organisation and that stakeholder, is deposed. Rather, the notion that change in the relationship between the organisation and its stakeholders can bring change in another organisation, or another stakeholder, is sustained.

In the Gautrain project, all four of the shown antecedent effects can be seen. The example used earlier in Chapter one, is merely one of these: When the Department of Minerals and Energy (DME) enforced stricter safety measures on all organisations within the industry, the Gautrain project was forced to absorb these changes into their safety systems. Subsequently, the relationship between the organisation and its employees was altered. It is seen how change was brought on in the relationship between the organisation and its employees, due to the change in another organisation (DME). Inevitably this leads to change in the relationship with other stakeholders, as they form part of the system that is the Gautrain project.

### **2.4.1.2 Maintenance strategies**

Under maintenance strategies, the effect that communication has on the development, maintenance and dissolution of relationships is seen.

- **Symmetry** and **disclosure** refer to the degree in which the organisation is open in its communication with stakeholders. It is maintained that, although it

is necessary to keep some secrets, the withholding of information should always be in the best interest of those in less power in the organisation.

Therefore, openness in the communication of safety information should be the rule of thumb – undisclosed information should only be kept as such if it is in the best interest of employees.

- In all communication between the organisation and its stakeholders, **assurances of legitimacy** should be present. The organisation should acknowledge the legitimacy of its constituencies, as well as their contribution. Systems within the organisation should truly be altered by the inputs of stakeholders for them to feel a legitimate part of the process.

For the Gautrain project this means that the safety processes should be altered according to the input and changes in employees as a stakeholder group. Likewise, organisations should build **networks** with the same groups as their publics, to further assure legitimacy. These networks may include activist groups, environmentalists, *et cetera*.

- **Integrative negotiation** refers to the solving of common or complementary problems both parties are faced with, in order to reach the goals of both these parties. In the Gautrain project, safety problems (of employees and organisation) influence the other stakeholders in the organisation, and as such the safety goals of the organisation and employees become a priority to other stakeholders. Put frankly, if the safety problems of the organisation are not solved, it could lead to a *shut down* of the entire organisation (see 1.3 *Problem description*), which will be detrimental to all stakeholders. Solving these problems with cooperation and collaborative practices is thus beneficial to both parties.

- Linking to the above, the **sharing of tasks** is in the best interests of either organisation, or stakeholder, or both. Safety communication concerns should, therefore, not only be placed in the hands of, for example, safety representatives and safety officers of the Gautrain project, but should be taken up by all departments and individuals in the organisation.

#### **2.4.1.3 Relationship outcomes**

Although relationships between an organisation and its stakeholders are typically defined by the six elements (control mutuality, trust, satisfaction, commitment, exchange relationship and communal relationship) (Grunig & Hon, 1999:3), this model focuses on only four of these elements, namely control mutuality, trust, satisfaction and commitment. The reason for this is that the model measures successful relationships between an organisation and its stakeholders by “the degree that the organization and publics **trust** one another, agree on who has **rightful power to influence**, experience **satisfaction** with each other, and **commit** oneself to one another” (Grunig & Huang, 2000:34).

The four elements evident in this determination can thus be further explored (for a full discussion on all six elements within the South African context, refer to Chapter 3).

- **Control mutuality:** This refers to the degree to which the parties in a relationship agree on the **right of power and influence** in this relationship. Stable relationships require that the organisation and the stakeholder each must have some degree of control over the other. In this, the parties concede that one or both may well influence the other. Herein, the parties agree about “which of them should decide the relational goals and behavioural routines” (Grunig & Huang, 2000:43).

Taken to the Gautrain project this element recognises the fact that one of the two parties in the relationship (either the organisation or its employees) must

exert some degree of control over the other, if the relationship is to be successful. In the relationship that the Gautrain project has with its employees the source of the control will, for the most part, be the organisation. In this, the organisation should decide the relational goals (such as a perfect safety record), as well as the behavioural routines to reach these goals (such as safety communication practices).

- **Trust:** It is maintained that without trust in a relationship between an organisation and its stakeholders, this organisation will not be able to exist. Trust is then seen as the belief by each party that the one will not exploit the other's goodwill. Each party has to trust in the other's integrity, dependability and competence.

In this it is seen that employees at the Gautrain project should be able to trust the organisation's integrity, dependability and competence in dealing with their safety concerns. Likewise, the organisation should be able to trust in the employees' integrity, dependability and competence in the executing of its safety procedures, if the relationship is to be successful.

- **Satisfaction:** Satisfaction in a relationship between an organisation and its stakeholders encompasses affection and emotion in the relationship. It is defined as the "extent to which each party feels favourably toward the other because positive expectations about the relationship are reinforced" (Grunig & Hon, 1999:3).

Simply put, neither party in the relationship should create an expectation in the other that they are unable to fulfil. Employees, as well as the Gautrain project as organisation should not create an expectation of its safety relationship with the other that it is not able to reinforce with appropriate behaviour.

- **Commitment:** Commitment in the relationship between an organisation and its stakeholders refers to the degree in which each party believes that the relationship it enjoys is worth spending energy on to maintain. Commitment within this kind of relationship has to have the following characteristics in order to be successful:
  - *An acceptance and belief of organisational goals and values.*
  - *A willingness to exercise effort on behalf of the organisation.*
  - *A desire to maintain membership in the organisation.*

In this it is seen that the safety goals of the organisation should be shared by the employees of the Gautrain project and employees should be willing to exert safety efforts on behalf of the organisation and should desire to be a part of this organisation. Having said this, these characteristics should be instilled in the relationship between the organisation and its employees. According to this model for relationships between the organisation and its stakeholders this can be done by means of communication. For successful relationships however, successful communication is needed.

Theoretical statement 3
In order to reach organisational goals, the organisation must create and maintain a relationship with employees, as primary stakeholder group. This relationship is facilitated through the proper use of internal communication. The characteristics of the relationship are control mutuality, trust, satisfaction, commitment, exchange relationship and communal relationship (for a discussion on all six elements refer to page 89).

With the above statement in mind, the manner in which communication is presented to employees of the Gautrain project should be explored. This will be done by making use of the dual-capacity model as a medium theory of communication.



## 2.5 MEDIUM THEORY

Medium theory seeks to examine the variables that are required by a receiver of information, to attend to the medium and its message (most often being seen as one and the same). Medium theory focuses on those characteristics of each individual medium that influences its use, resonance, dissemination, as well as the encoding and decoding thereof (Leverette, 2007:336; Oosterhoff, 2001:5).

As a medium theory, the dual-capacity model is explored.

### 2.5.1 The dual-capacity model

Previous research concerned with managerial choice of communication media or communication channels in organisations has focused on the factors that affect which communication channels are chosen in organisations, and how effective these choices are likely to be. In this, the factors studied predominantly focused on either the channel's capability of conveying task relevant data, or its capability of relaying symbolic meaning (Miller, 2006:294; Barker, 2006:98; Sitkin *et al.*, 1992:563).

However, the dual-capacity model of media choice in organisations posits “that the communication of information necessarily involves both data and meaning” conveyance (Sitkin *et al.*, 1992:564). The position is taken that all internal communication channels inherently possess the ability to carry two kinds of messages. Firstly the channel has a **data-carrying capacity** that relates to the use of the channel to convey task-relevant data efficiently. Secondly, channels also have a **symbol-carrying capacity** (Miller, 2006:294; Stikin *et al.*, 1992:563). The symbol-carrying capacity of the communication channel mainly manifests in two ways (Miller, 2006:294): Firstly, the channel is able to convey the “core values and assumptions that constitute the organization’s culture” and secondly, the channel can attain the status of a symbol away from the actual message that is being transmitted (Miller, 2006:294; Stikin *et al.*, 1992:563).

The above, along with the determinants of media choice, is graphically represented in figure 2.5.1, as adapted from Stikin *et al.* (1992:576).

As mentioned above, this model reflects that all communication channels possess the capability to carry both data, as well as meaning. What is also seen is the choice of a communication channel as a function of normative and task contingencies; the capabilities of the communicator; that of the organisation, as well as the recipient of the communication. Lastly it depicts the indirect and direct role of communication capability constraints on the choice of channel to be used (Stikin *et al.*, 1992:576).

Apart from the symbol and data carrying capacities of communication channels (which is explained above) the elements seen in the model will subsequently be discussed with reference to Miller (2006:294) and Stikin *et al.* (1992:576).

#### **2.5.1.1 Task contingency factors**

Task contingency factors are one of the better researched areas of communication channel choice. It can be divided into two groups: task characteristics and message characteristics.

- **Task characteristics:** Three elements play a role in the choice of communication channel under task characteristics: task uncertainty, analysability, as well as urgency. Where task uncertainty and analysability are present, an effective and efficient choice of communication channel would be a richer media. With reference to Daft and Lengel's media richness model (in Staw & Cummings, 1994), rich media implies a communication channel with firstly, a capability of instant feedback which secondly, makes use of multiple cues; thirdly makes use of natural language and lastly, has a personal focus (for example face-to-face communication). When a communication channel has none or few of the above it is seen as lean (for example a flyer or poster).

When urgency comes into play in task-related communication, the “most readily accessible, easily used, and rapid means for conveying” information should be used (Stikin *et al.*, 1992:578). In safety communication, urgency could be a matter of life and death. The appropriate choice of communication channel by the Gautrain project could, therefore, save the lives of employees.

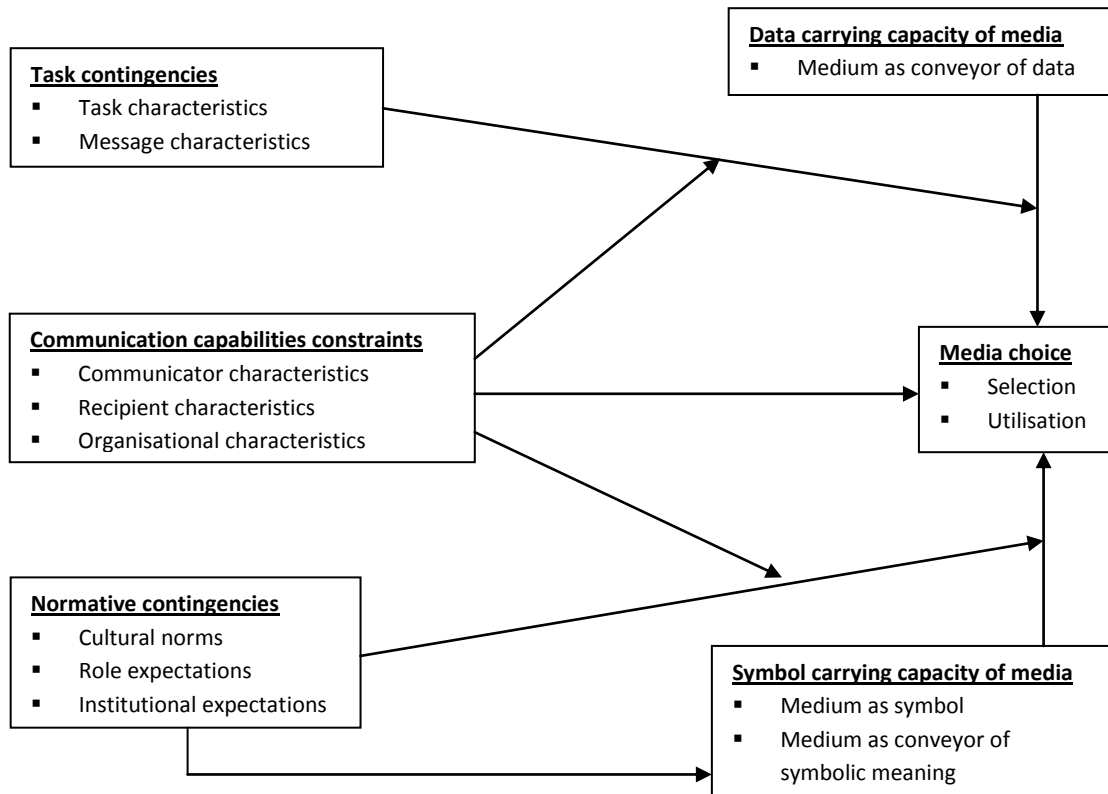


Figure 2.5.1 Determinants of media choice as adapted from Stikin *et al.* (1992:576).

- **Message characteristics:** Five elements have been identified under message characteristics: complexity, clarity, volume, valence and relevance. Under complexity, it is suggested that the communication channel should equal the requirements of the message being conveyed. For more complex safety tasks, channels allowing for more complete and lengthier messages should be chosen by the Gautrain project.

For message clarity it is noted that lean media is sufficient for concrete or specific details but richer media should be used for more intricate messages. The communication channel used by the Gautrain project in this instance should, therefore, allow for the conveyance of conflicting data and/or diverse meanings, as is constantly found in safety communication messages.

The volume of data that can be transmitted through a communication channel should also be kept in mind when the choice of communication channel is made. As with complexity, the communication channel should equal the requirements of the message being conveyed. For vast amounts of textual and numerical data, for example, making use of just oral communication will not be sufficient.

Subsequent to this, valence of the message being conveyed refers to whether the message is bad news or good news. Research suggests that bad news is perceived more clearly by the recipient than good news. It is suggested that the Gautrain project should choose channels which allow for message clarity when communicating good news, but opt for the “soft recess of less clear communication” when communicating bad news (Stikin *et al.*, 1992:579).

Lastly, the message relevance to the recipient has an influence on the choice of media within the organisation. It is suggested that the more relevant a message is to a recipient, the more this recipient’s attitude will be influenced by the facts communicated to him/her. As the capacity to relay facts is a feature of a channel’s data carrying capacity, it is suggested that the data-carrying capacity of the media choice should be strengthened. At the Gautrain project for example, a safety message regarding machine safety regulations would be very relevant to machine operators. The communication channel used to communicate this message to the machine operators should, therefore, be chosen as a result of its greater data-carrying capacity.

### **2.5.1.2 Communication capability constraints**

“There are a number of quite significant constraints imposed by characteristics of the communicator, the recipient, and the organization that limit the media selector’s range of practical options” of communication channels (Stikin *et al.*, 1992:578). This is even more salient in the South African context, as constraints of diversity, illiteracy, *et cetera* should be taken into consideration when this decision is made (Naudé & Le Roux, 2005:3; Rensburg, 2003:159) (refer to section 3.7 in chapter 3). These constraints include the following:

- **Communicator characteristics:** The characteristics that influence media choice as a result of the communicator include the communicator’s flexibility, competence, access, comfort and familiarity of communication channels. Put simply, communicators will opt to more frequently use those communication channels which they have easy access to, which they are comfortable using, are familiar with and which they are competent in.

Communicators who are more flexible in their media choice are perceived as more effective, as the choice of channel does not only rest on their own confidence to manage it, but rather on the effectiveness of the channel to convey the message.

- **Recipient characteristics:** The knowledge and skills levels of the recipients are critically important in determining whether the communication message is received and understood. As the utilisation of different media requires different basic recipient characteristics, it is important that these characteristics be kept in mind when the decision is made of which communication channel to use to communicate to recipients. The factors that make up recipient characteristics include educational level, physical capabilities, familiarity with the communication channel, interaction history with the communicator, as well as knowledge of the communication context.

In this it is seen that Gautrain project cannot choose a communication channel that requires intense reading when communicating to illiterate employees as recipients (as under the factor of educational level). Still, the characteristics of the recipients can be used to the advantage of message conveyance. For example, when the interaction history with the communicator as a factor is used, it can be seen how safety messages from the construction manager, as opposed to a supervisor, can add substance and weight to the issue being communicated.

- **Organisational characteristics:** As above, the characteristics of the organisation also play a significant role in the choice of communication channel. Mostly, the experience, structure, resources, time availability and current needs of the organisation play a key role as factors in organisational characteristics.

At the Gautrain project, as in any production-driven organisation, time constraints can prove to be an influential factor in choice of communication channel. The time spent on safety communication as opposed to other forms of communication, such as production information communication, will influence the channel used for this communication. Likewise, the current needs of the organisation might not always hold safety communication as most important when production deadlines are looming. This can be intensified by the physical structure of the organisation, which might not be accommodating to many forms of communication as it is, for the most part, a construction site where very few employees have access to communication channel facilities such as telephones and computers.

In much the same way as in above, normative contingency factors influence the choice of the communication channel used at the Gautrain project. This will now be discussed.

### 2.5.1.3 Normative contingency factors

Normative contingency factors affect the choice of communication channel, as they influence the channel's symbol carrying capacity. This is due to the fact that a channel, as a carrier of meaning, relies on normative definitions of what is meaningful. The normative factors influencing this choice are cultural norms, role expectations and institutional expectations.

- **Cultural norms:** The setting of the organisation decides the manner in which communication channels as symbols are interpreted – how meaning is assigned to them. In addition to this, the manner in which a channel is *interpreted* from one organisational setting to the next, may differ greatly.

It is seen how the organisational culture influences the choice of communication channel. If it is routine for subordinates to be contacted through one kind of communication channel, the use of another channel would assign meaning to the message. For example, if subordinates never meet with management face-to-face, this kind of meeting request might assign the meaning of importance to the message – just through the use of the channel.

- **Role expectations:** Role expectations within an organisation influence the choice of communication channel owing to the view of what is appropriate in the organisation, in specific roles. For example “leaders can convey compassion by using more personalized media, whereas the same approach might be viewed as presumptuous on the part of a subordinate communicating with a high-level organizational executive” (Stikin *et al.*, 1992:586). At the Gautrain project this factor can greatly influence the efficiency of feedback on safety communication and information – communication in the organisation that takes place from the bottom up.

- **Institutional expectations:** Organisations develop a standardised manner and way of communicating by harmonising the expectations and requirements of various external constituencies. “By adopting communication methods that are acceptable to key external groups, the organization can maintain an institutional image of legitimacy that could be essential for continued success” (Stikin *et al.*, 1992:586). This factor is very significant for any organisation in the mining and construction industry of South Africa, as legislation regarding Health and Safety is enforced callously (Macharia, 2008). According to the dual-capacity model, this influences the manner in which the Gautrain project – as an organisation accountable to South African Health and Safety legislation – will communicate with their employees.

Theoretical statement 4
Internal communication channels possess the ability to carry messages in two capacities: Firstly, data and secondly, symbolic meaning. Each channel’s respective ability to focus on these two capacities should direct its choosing. Specifically this choice is influenced by task and normative contingencies, as well as communication capabilities.

External institutional expectations, as mentioned in the above statement, include the influence that the South African mining and construction industry has on the Gautrain project, as the context of this organisation. The influence that this context has on the communication of safety information should, therefore, be comprehensively explored. The second chapter of this literature review will, therefore, now focus on the South African context and how this affects the manner in which the Gautrain project communicates safety information to its employees.



## **2.6 CONCLUSION**

In this chapter, attention was given to the systems theory, the excellence theory, the stakeholder relationship theory, as well as medium theory. This was discussed along with an understanding of how these theories influence the communication of safety information at the Gautrain project. In this, the theoretical foundation for this study was laid.

This theoretical foundation can now be further expanded in the next chapter where attention will be given to the context of the South African mining and construction industry, as well as the communication of safety information therein.

## CHAPTER 3

### The context and nature of communicating safety information

#### 3.1 INTRODUCTION

“Our organisations are living systems existing in a turbulent environment that constantly tests their abilities to survive.” This statement made by Carol K. Goman (as cited by Cutlip *et al.*, 2002:1) shows how important the environment that an organisation finds itself in, is to that organisation’s survival. This survival depends greatly on the organisation’s abilities to adapt its practices to its environment – one adaption being the way in which the organisation communicates (Cutlip *et al.*, 2002:21; Steyn & Puth, 2000:19).

Having said this, in order for an organisation to adapt to its environment, it should firstly know what this environment looks like. This chapter will focus on those aspects in the South African context that impact on the Gautrain project, as its direct environment. Specifically, the impact on safety communication will be focused on. This will be done by dividing the chapter into two parts: the first focusing on the South African context and the second focusing on the nature of safety communication within this context.

## **Part I**

### **The South African context**

In chapter one, attention was given to the three environmental variables, with reference to Sriramesh and Verčič (2003), that impact on communication within an organisation (see 1.2.1 *The South African and South African mining and construction context*). These variables can be further explained, along with those other variables that impact on the communication of safety information in the South African mining and construction industry in general, but specifically then in the Gautrain project.

### **3.2 INFRASTRUCTURE**

The infrastructure of the environment in which an organisation subsists, is made up of that environment's economic development, its political system, as well as the level of activism found therein (Rensburg, 2003:154). Although all three variables impact on the way in which the organisation is run, the latter two concepts specifically have a great impact on the communication of safety information.

Firstly, the political system has an influence on the manner in which safety is communicated at the Gautrain project, as it is made a matter of Government involvement due to the oversight role of the Department of Minerals and Energy (DME). So great is this impact that the DME can shut down operations, whenever the safety of an organisation is less than satisfactory (Macharia, 2008). This influence is a motivation for safety communications at the Gautrain project to strive for excellence, as the organisation's survival is directly dependant thereupon (see section 2.3). Rhodes and Baker (2002:289) reverberates this sentiment by noting the fact that the political environment thus impacts greatly on the long and short term goals of the organisation. This in turn then affects all strategies in the organisation, including the communication strategy.

Secondly, the level of activism of employees at the Gautrain project impacts on the communication of safety information. According to Cosatu (2005) employees are no longer afraid to voice their concerns and opinions on matters that influence them directly – it can be said that very few matters influence employees more directly than their own safety. This ties up with the fact that unions have become the self-proclaimed protectors of employees' interests in South Africa (Le Roux, 2005:5).

In this, the characteristics of the excellence theory are echoed, as it stipulates that activism can push an organisation towards excellence. This is due to the fact that activist groups (including unions) put pressure on organisations that create turbulent and complex environments. As communication has to cope with these turbulent environments, it is excelled towards making use of strategic and sophisticated two-way communications. Safety communication at the Gautrain project is, therefore, excelled by the level of activism in its environment to become strategic and two-way (Downs *et al.*, 2004:57; Grunig, 1997:290; Lindeborg, 1994:5).

### **3.3 CIVIL RIGHTS AND THE EMPOWERMENT OF INDIVIDUALS**

Almost synonymous to the aspect of activism, Cutlip *et al.* (2002:13) highlights the impact of civil rights and the empowerment of individuals on the communication efforts of any organisation in South Africa. In this, it is seen that the Post-Apartheid regime of South Africa makes the equal treatment and the recognition of the rights of all citizens a matter of public policy.

Safety in the workplace is just one such a right in South Africa. The communication of safety information is, therefore, indirectly enforced by this policy, and, as in the case of activism, can impel the organisation towards making use of two-way symmetrical communication.

### **3.4 CORPORATE SOCIAL RESPONSIBILITY**

Related very closely to the empowerment of individuals and the rights of workers in the South African context, is the pressure on organisations to be more responsible corporate citizens. According to Rensburg and Cant (2009:236) and Le Roux (2005:6), organisations in South Africa are pressured by various external forces to become transparent and open in their communications with stakeholders, by initiating and sustaining purposeful dialogues with them.

For organisations within the South African mining and construction industry, this is intensified by the publication of the King III Report, the Mining Charter (that is the *Scorecard for Broad Based Socio-Economic Empowerment Charter for the South African Mining Sector*), as well as the Development Act (*Mineral and Petroleum Resources Development Act*) which calls for, amongst other aspects, greater emphasis on the reporting of sustainable development initiatives (Le Roux, 2005:6). Yet again, as is the case for the two aspects above, if this aspect is kept in mind, the communication at the Gautrain project can be impelled towards two-way symmetrical communication that is open and transparent, in which a purposeful dialogue with employees is encouraged (Rensburg & Cant, 2009:236; Downs *et al.*, 2004:57; Grunig, 1997:290; Lindeborg, 1994:5).

### **3.5 MEDIA ENVIRONMENT**

With reference to the transparent nature of the reporting required, the media in South Africa enjoy freedom of expression to a large extent. The aspects mentioned above can compel and impel an organisation to strategically practise two-way communication, (Downs *et al.*, 2004:57; Grunig, 1997:290; Lindeborg, 1994:5). This is demanded the fact that the organisation's reputation is influenced by the way in which an organisation, like the Gautrain project, is portrayed in the media. The reputation of the organisation does not only affect the organisation's image and identity, but subsequently also its relationship with

employees. (Spencer, 2005:9; Sriramesh & Verčič, 2003:17; Rensburg, 2003:161). All publicity that the Gautrain project receives as a result of its safety endeavours (positive or negative), therefore, impacts on the relationship that it shares with employees. As this relationship is altered, the safety communication of the Gautrain project will have to change along with it.

### **3.5.1 Globalisation**

The influence that the media has on communication within an organisation is intensified by the fact that the organisation exists within a global environment, under the eyes of many observers. This is just as true for the Gautrain Project. This project forms part of preparations for the 2010 FIFA World Cup, set to take place in South Africa. This focuses the attention of the world on, not only South Africa as host nation, but also on the organisations contracted to make this event possible, such as the Gautrain project (Venter, 2008). The manner in which this organisation communicates, and is communicated to, is influenced by the existence of global communication, along with the new communication technologies that it employs (Barker, 2006:101; Cutlip *et al.*, 2002:11).

In this instance, the reverse side of this issue also holds true: Although so many new communication technologies can be used to communicate in this era, many workers in the mining and construction industry do not have access to the most basic of communication technologies – for example the internet. Many channels of communication (especially those that make use of new technologies) are, therefore, redundant forms of communication, as not all workers will have access to them.

## **3.6 THREATS TO THE NATURAL ENVIROMENT**

Following Rhodes and Baker (2002:289), it is seen how the “concern for the environment and for the impact of business on it, [is] affecting management behaviour”. Although this highlights this aspect’s impact on management

behaviour, environmental matters influence safety communication specifically and significantly.

The reason for this impact stems from the fact that environmental management and safety management are so closely related. Usually, and in the case of the Gautrain project, safety messages and environmental messages originate from the same source. This is due to the fact that the safety department is also responsible for all impacts that the organisation has on its natural environment. It is in this vein that this department is known as the Safety, Health and Environmental department (Schultz, 2009).

The third aspect, namely health, accordingly influences safety communication as well. According to Cutlip *et al.* (2002:3) the most prominent influence under this aspect in the South African context, is AIDS.

### **3.6.1 Aids**

“AIDS is accelerating more quickly in Southern Africa than anywhere else in the world. The region is confronting human and economic devastation on an unprecedented scale, because 10% of its workforce is already infected by the virus” (Cutlip *et al.*, 2002:11). This aspect is much more intense in the mining and construction industry of South Africa, as the infection “rate among South African miners is now nearly double that of the general working population” (Stablum, 2009). Such an immense environmental aspect has an inescapable impact on organisations within this industry, as well as its communications. Safety communication is greatly affected by this aspect, as any injury is intensified in terms of danger to mortality, not only to the person infected, but also to those around him/her.

According to Stablum (2009) workers in this industry feel that they risk their lives every day to earn money; unprotected sex, therefore, seems a minor hazard. The swift spread of the virus in this industry can be attributed to the fact that sex

workers are attracted to this industry (Ntimbane, as cited by Stablum, 2009). This is due to the fact that so many of these workers are migrants – workers who work far away from their homes and families, sometimes only going home on the weekend they are paid, if at all.

Referring to this aspect, Cutlip *et al.* (2002:13) comments on the impact that family-life can have on an organisation and its communications.

### **3.6.2 Realignment of family and work**

As said above, the family lives of those in the mining and construction industry are in many instances not that of the archetypal family unit. Many of the workers in this industry work far away from where they live. According to Cutlip *et al.* (2002:13) these types of variations in the family lives, impacts greatly on employee satisfaction and, in turn, the reaching of organisational goals. The organisation, therefore, has to realign its practices to the needs of the employees, in terms of their family situation. Owing to this fact, the safety communications of any organisation in this industry will have to be aligned to this end. Safety communications at the Gautrain project will, therefore, have to be adjusted to take the family lives of the employees into account. This will, for example, entail structuring a message that shows the impact of the worker's safety practices on their dependent family.

Naturally, the situation as described above does not apply to all the workers in the mining and construction industry. This points to the diversity factor that impacts so greatly on communications in this industry.

## **3.7 DIVERSITY**

According to Rhodes and Baker (2002:291), communicating effectively within the South African context asks for an understanding of the “different cultures and approaches that the polyglot of Southern African peoples” bring to the



communication process. This diversity holds the challenge of communicating the same message to an audience that understands most things differently, and in a different way. According to Naudé and Le Roux (2005:6), “to truly manage diversity, transformation is needed in the attitudes and behaviours of company leaders, in order to embrace the knowledge and experience brought to the company by various diverse employees”. In order to accomplish this, these leaders will have to create a vision for the organisation, which is communicated to employees in a compelling way (Dinsbach, Feij & De Vries, 2007: 728; Naudé & Le Roux, 2005:6).

The first aspect of the diverse nature of South Africans, that will be explored, is the aspect of culture.

### **3.7.1 Culture**

“South Africa is extremely heterogeneous with an abundance of cultures and subcultures in the country” (Rensburg, 2003:159). This is intensified in the mining and construction industry by the migration of workers, not only from the various provinces within the country, but also from neighbouring countries and the rest of the world (Le Roux, 2005:3).

Messages that are sent to employees can, as a result of this, be interpreted in various ways (Lustig & Koester, 2003:12). One such an example, from Rhodes and Baker (2002:291), is that “many of our cultures are strongly rooted in a democratic tradition of consensus decision making”. Messages with contents that seem final and absolute might not reach all employees. In many cases, safety communications might seem to be just this kind of message, due to the ‘zero-tolerance’ nature of compromising on these systems and rules. Communicators will, therefore, have to be mindful of culture discrepancies such as these that influence the way in which the message is received.

Another relevant aspect is the different languages that inherently come with the different cultures.

### **3.7.2 Language**

The obstacle that the speaking of different languages brings to communication is considerable. According to Naudé and Le Roux (2005:6) “some of the African cultures use vivid descriptions and examples in their communication to explain words and concepts”. Direct language, as is many times used in safety communication to avoid ambiguities, can thus be seen as abrupt and rude. Safety communicators at the Gautrain project will have to bear this difference in mind, so as to not only avoid being seen as rude (which is an obstacle to communication in itself), but also to use it to their advantage. Examples and vivid descriptions can be used in an attempt to, to some extent, bridge the element of diversity in language (Bates, 2009:15; Naudé & Le Roux, 2005:6).

Another aspect relating to language is the fact that many workers do not understand English, which is the lingua franca of the business world. According to Bates (2009:15), as well as Naudé and Le Roux, (2005:6) this leads to the fact that many blue collar workers seem to be illiterate, while they are actually not, but only not fluent in English.

This aspect touches on another aspect of diversity, which is literacy.

### **3.7.3 Literacy**

According to Creamer (2002:2) a low level of literacy is one of the greatest qualms faced by workers in the mining and construction industry. Safety communication is especially challenged in this circumstance, as the Leon Commission for Health and Safety reports that 84% of general labourers and machine operators are totally or functionally illiterate and can, therefore, not be reached through communication channels that require them to read or write (Creamer, 2002:2). Many channels that can traditionally be used to

communicate safety information are, therefore, rendered useless by this fact, as the message will not reach illiterate employees.

Safety communication clearly has to adapt to differing levels of literacy, to make sure that the same message reaches all groups of employees in the organisation.

<b>Theoretical statement 5</b>
The communication practices of the organisation should adapt to the context that the organisation finds itself in. The most notable influences of safety communications on organisations within the mining and construction industry of South Africa are: The infrastructure of the country; corporate social responsibility; the media environment; threats to the natural environment; as well as the diversity of employees (specifically with regard to culture, language and literacy differences).

Bearing this and all the above aspects in mind the question that can now be asked is; *how should safety be communicated to employees at the Gautrain project and in this context?* Part II of this chapter focuses on answering this question.

## **Part II**

### **Safety Communication**

According to Mathis (2008:44), “effective communication is a trademark of safety success”. Minter (2003:44) echoes this statement by stating that without effective communication, an organisation will never be able to involve employees at all levels in safety, or get them to value it and vest their personal interest in it. Communication is seen as the vehicle used to change employees’ “knowledge, beliefs, attitudes and values so that they will act in a safe manner”.

In the above, the importance of communication in safety is seen. Still, Williams (2008:236) states that safety might not be addressed sufficiently in South Africa. Thus, bearing the previous section in mind, focus can now be given to the manner in which safety communication, in particular, should be communicated to employees, in order to be seen as effective.

### **3.8 CULTURE**

According to Barker (2006:87), organisational culture can be defined as “the shared beliefs, values, norms or common perceptions held by members of an organisation, that are apparent in behaviour and that connect a group of people”. Expanding on the definition of organisational culture, safety culture can be seen as the set of beliefs, norms, attitudes, roles and social and technical practices through which an individual worker, or groups of workers, understand the hazards of their surroundings (Cox & Flin, 1998:191).

This organisational safety culture can, according to the Parker and Hudson model, be categorised into five types, ascending in effectiveness (Ryder-Marsh, 2008; Marsh, s.a.):

- **Pathological:** this describes the culture of an organisation which sees safety as something that is costly to the organisation.

- **Reactive:** this organisation responds to safety issues only when they have led to poor safety performances.
- **Calculative:** this organisation manages safety by making use of concrete indicators and systems to assess performance. Safety is a key concern to all in the organisation.
- **Proactive:** in this organisation, safety is once again a concern to all, but the organisation now actively involves all levels of the workforce in the management of safety.
- **Generative:** safety in this organisation has escalated from being a concern, to being a value held high by all involved. Employees of this organisation hold a healthy regard for safety in the workplace.

The type of safety culture that the organisation can be categorised under, influences safety communication and vice versa (Williams, 2008:236; Barker, 2006:85; Cox & Flin, 1998:191). For the study of the manner in which safety is communicated to employees at the Gautrain-project, the distinction of the type of communication culture that the organisation can be categorised under, would prove to be insightful. Having said this however, it must be noted that research into the culture of an organisation is concerned with the “evolution of social systems over time” (Barker, 2006:86). This inherently implies longitudinal research, which this study is not. The testing of the aspect of safety culture was, therefore, not included in the empirical research of this study (as it is cross-sectional in nature); although it is cognisant of the influence thereof on safety communication (see also section 4.2 for more).

Divergent from this, safety **climate** is less concerned with the evolutionary aspects, as above, and more intrigued by the impact that organisational systems have on groups and individuals. Put differently; although safety culture looks at the progression of communication systems over time, communication climate is more concerned with the impact of these communication systems on groups and individuals in the organisation, at single intervals in time (Barker, 2006:85;

Eisenberg & Riley, 2001:307; Cox & Flin, 1998:191). As this study seeks to understand safety communication (as an organisational system) of the Gautrain project and employees' perceptions thereof (talking to the impact on groups and individuals), this aspect was indeed included in the empirical research. More attention will, therefore, now be given to this aspect.

### 3.9 CLIMATE

The terms *culture* and *climate* have been used interchangeably and synonymously, especially in the past decade, in organisational research (Barker, 2006:85; Eisenberg & Riley, 2001:307; Cox & Flin, 1998:191). Although these aspects do possess certain, albeit strong, resemblances, distinction will nonetheless be made in this study. Therefore, organisational climate can, independently, be defined as a set of organisational attributes which are enduring and have persisted over time despite of changes that might have come in individual members (Barker, 2006:85; Eisenberg & Riley, 2001:307). Barker (2006:85) then encapsulates this definition by stating that it is a *feeling* that employees share about the atmosphere of their organisation.

Lin, Tang, Miao, Wang and Wang (2008:1038) share this sentiment when safety climate is defined as a temporal state, which is subject to the perception commonalities shared by individuals in the organisation. Lin *et al.*, (2008:1039) also goes further to explain that safety climate “emphasizes how employees perceive the importance of safety in their organisations”.

In light of the above, Mohamed (2002:376) constructed a model, showing those factors that impact on an effective safety climate in the construction industry. These factors can now be explored, as they relate to the safety climate at the Gautrain project.

- **Commitment**

Management's commitment to the element of safety at the Gautrain project is imperative, according to Mohamed's (2002:376) model. It is said that the more management is committed to safety, the more positive the safety climate is which then, in turn, influences the commitment of the employees, for the better.

In other words, the managers of the Gautrain project have to be committed to safety in order for the safety climate to be positive.

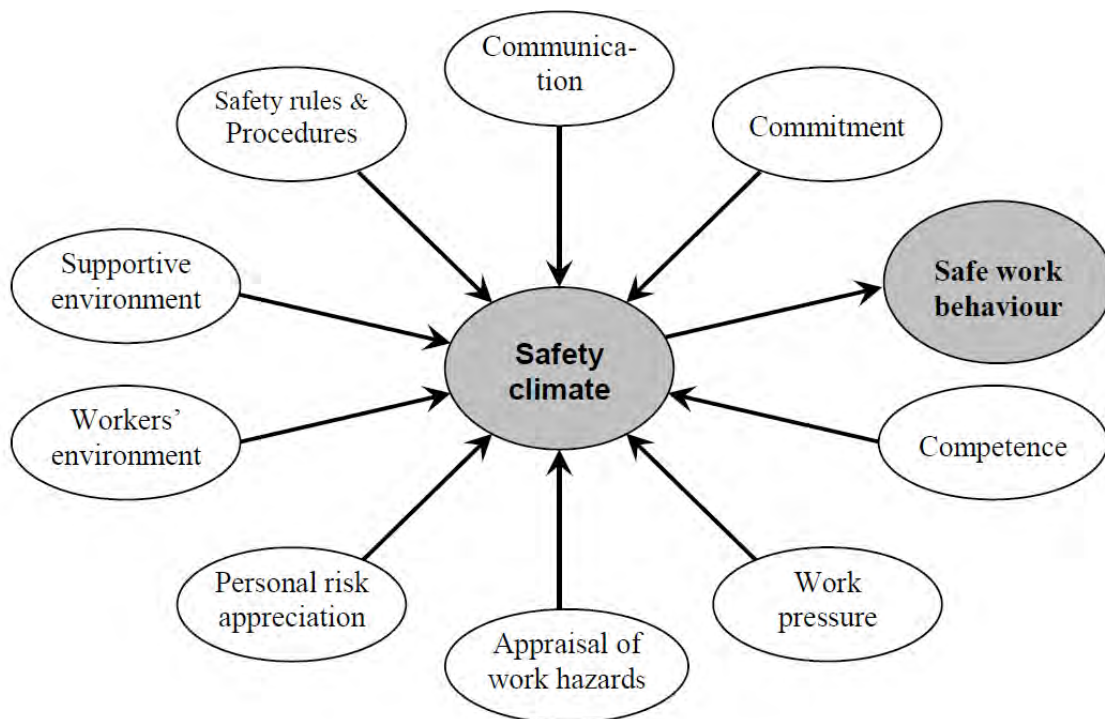


Figure 3.12 Factors influencing safety climate (adapted from Mohamed, 2002:376)

- **Safety rules and procedures**

A great factor influencing the safety climate of the organisation is the extent to which employees feel that the safety rules and procedures are implemented and promoted by the organisation. It is seen that safety rules and procedures

must be implemented as set, at the Gautrain project, if the safety climate at this organisation is to be successful. The reciprocal truth is thus that if the Gautrain project sets safety rules and procedures, but does not follow it through into actions, it impacts negatively on the safety climate of the organisation.

- **Supervisory environment**

Closely related to the above is the aspect of supervisory environment. This aspect builds on the premise that safety management is both a managerial, as well as line function. As management is responsible for developing and implementing a safety programme, just so are supervisory personnel responsible to “ensure that the program is carried out during daily operations” (Mohamed, 2002:376).

This thus points to the fact that the supervisors employed at the Gautrain project have to make sure that the programmes set in place by management are reflected in the everyday workings of their subordinates.

- **Workers' involvement**

Minding the aspect above, it should also be said that safety is not only the responsibility of management and supervisors, but of the worker him/herself as well. The Mine Health and Safety Act of South Africa clearly states that the first duty of an employee, with regard to health and safety, is to “take reasonable care to protect his/her **own** health and safety” (29/1996).

Managers should also be cognisant of this fact, and involve employees in the process of decision-making. If employees are to truly feel, and live out, their safety responsibility to themselves and to those around them, they should be (or feel) part of the process that governs their safety behaviour. This means that the employees of the Gautrain project should be involved in the



development of safety programmes and procedures as to ensure that they are not simply passive recipients, but active members in decision-making.

Once employees are involved in this way, the safety climate of the organisation can flourish.

- **Supportive environment**

The factor of supportive environment points to the relationship of trust and support that employees have with the organisation, the confidence that employees have in their working relationship with co-workers, as well as the general morale of this group. It is seen that the relationship that employees have with the organisation, impacts on the safety climate of that organisation. This aspect will be dealt with in depth in 3.14.

- **Personal risk appreciation**

In the communication of safety information at the Gautrain project, it should always be remembered that employees are individuals. This individuality of employees is seen (along with many other factors) in their perception of risk, as well as their willingness to take risks. If some or many employees have a low sensitivity level to taking risks, this can impact greatly on the safety climate of the organisation. It is thus imperative that employees be sensitised to risk and risk management in order to sustain a healthy safety climate.

- **Appraisal of work environment and work hazards**

The safety climate of the organisation is impacted on by the layout, planning and facilities of the working environment. If the layout is conducive to safety practices, the safety climate will be enhanced.

Although this aspect is an important one, with regard to the climate of the organisation, no direct communication methods are used therein and as such not much closer attention is given to this aspect (the layout on a construction

site being, as it is, geared towards functionality and productivity, and not communication and communication flow).

- **Work pressure**

In the mining and construction industry, one of the greatest qualms to performing work safely is the pressures of production. It is seen how the safety of work runs parallel opposite to the expedience thereof. The pressure to work faster (sometimes encouraged through bonuses), can severely cripple the safety climate of the organisation. More attention will be given to this aspect under section 3.11.

- **Competence**

The competence of employees impacts on the safety culture of an organisation through the perceptions of these employees: Employees need to feel confident in their own safety competence, as well as the competence of those around them.

This means that the employees at the Gautrain project need to feel that they are competent and skilled with regard to safety, if the organisation's climate is to thrive.

- **Communication**

It is expected of management in organisations, for example the Gautrain project, to use a variety of formal and informal modes of communication to relay their safety messages. If the communication is stimulating or motivating, and encourages employee identification, then a good safety climate can be established and maintained (Downs *et al.*, 2004: 114).

All the aspects of safety climate as mentioned above speaks to the perspective of the organisation, as it tries to make the set of organisational attributes concrete (see definition as by Barker (2006:85) and Eisenberg & Riley,

(2001:307)). Subsequently, the organisational perspective and its impact on the communication of safety information can be described.

<b>Theoretical statement 6</b>
The safety climate of the organisation is a contributory factor to the efficient communication of safety information. In order for the safety climate to be conducive to efficient communication, management have to be committed to the element of safety, as the safety rules of the organisation have to be implemented and enforced. It is seen that supervisory personnel are responsible for ensuring that the programmes set in place by management are implemented in the daily operations of the organisation – though workers are still accountable for their own safety practices.

### **3.10 ORGANISATIONAL PERSPECTIVE**

Organisational perspective is defined by Downs *et al.* (2004:115) as the “information given out concerning the corporation and its goals and performance. It also encompasses knowledge about external events such as new government policies, which impact on the organisation”. It is seen that the organisation has to communicate its goals to employees, in order to allow them to align themselves to these goals, and their attainment. This communication message must well not be in contrast to messages aligned towards the reaching of other goals: As mentioned previously, one of the greatest qualms of reaching safety goals is the pressures of production (Mohamed, 2002:377). Mathis (2008:46) adds to this statement by stating that when production communication outweighs safety communication (in quantity, as well as quality) employees of the organisation can then perceive safety as a lesser goal than productivity.

At the Gautrain project this means that safety communications and production communication must receive an equal amount of attention and time, if they are to be seen as equal goals. The more the one is favoured above the other, the

greater the perception will be that the one is more important than the other. It is seen that the communication of the goals of the organisation needs to be clear.

Alongside this, the external factors that impact on the Gautrain project need to be communicated to employees, for example the conditions of the Mine Health and Safety Act 1996 No 29 of 1996, as well as the Occupational Health and Safety act 85 of 1993, which the Gautrain project has to adhere to (Van Tonder, 2008; Downs *et al.*, 2004:115).

<b>Theoretical statement 7</b>
In order for the communication of safety information to be efficient, the organisation needs to ensure that the safety <b>goals</b> of the organisation are communicated to employees. Alongside this, all external factors that impact on the practice of safety at the organisation need to be explained to employees, whilst no opposing goals in the organisation should be presented as being more important than that of safety.

### **3.11 ORGANISATIONAL INTEGRATION**

Organisational integration works on two levels. Firstly, on a departmental level where it is said that all departments or groups within an organisation must work together, in order to reach organisational goals. Secondly, on an individual level where employees should feel integrated into all organisational operations (Angelopulo, 2006:40; Downs & Adrian, 2004:115; Francis & Woodcock, 1994:4).

Starting with the latter, Downs and Adrian (2004:115) are of the opinion that employees should receive communication revolving around their work, and all that go along with it, like policies and benefits, together with personal news about their colleagues and what the other departments, as well as the organisation are up to. This done, employees feel more integrated into the organisation. Very important here is the fact that vertical internal communication, specifically from

management to employees, has to be clear and consistent, as it is management that sees the “big picture” of the organisation’s operations, as well as how each employee’s work fits into this “big picture”. Management is expected to communicate to employees how their work contributes to the organisation, in order to have these employees integrated in it (Francis & Woodcock, 1994:6). This allows for the **effective integration of effort**.

This aspect is quite significant to the current study. Not only does this ensure that the efforts of the workforce are aligned to the goals of the organisation, but also allows employees to align themselves, in their everyday workings, to reaching these goals better and faster. Alongside the fact that employees have to be made aware of their place in the organisation, this element also pertinently states that employees should receive information about safety policies and processes, not only for their own benefit and for that of the organisation, but also because this promotes the feeling of integration of employees with the organisation.

On the departmental level, integration is needed in order to reach organisational goals. All the departments, groups and specialisations at the Gautrain project should, therefore, work together to reach safety goals, even if these departments are not directly responsible for safety in the organisation. In order to facilitate this, communication mechanisms should be put in place in order to aid this integration. For example, at the Gautrain project the production and safety specialisations should work together to reach the safety goals of the organisation. This can, however, only be done if these two parties continuously engage in two-way symmetrical communication with one another (Angelopulo, 2006:40; Grunig, 1997:290; Francis & Woodcock, 1994:4).

Mathis (2008:46) echoes this sentiment of integration when it is stated that truly successful safety efforts are those that are part and parcel of all activities that the organisation undertakes. Mathis (2008:46) is of the opinion that “the more apart safety efforts are from day-to-day functions [of an organisation], the less

successful they are". Integration is, therefore, the key to ensuring the success of safety at the Gautrain project, but this can only be done by means of communication (Angelopulo, 2006:40; Francis & Woodcock, 1994:4).

Having said this, the communication flow should not only be limited to that between the two specialisations, but should also flow downwards in the organisation, as to assure that this integration is implemented at ground level. This must be done to communicate the "big picture" of integration to employees in the lower levels of the organisation, if not to aid integration of efforts, then to integrate employees into the organisation, as described earlier (Francis & Woodcock, 1994:4).

Closely related to this aspect is the next to be discussed, namely, the sharing of a compelling vision.

### **3.12 SHARING THE COMPELLING VISION**

The point above speaks to the fact that information about the organisation (procedures, policies and the like) needs to be communicated to employees in order for them to feel part of the organisation and vested in the reaching of organisational goals (Downs & Adrian, 2004:115). As true as this may be, integration is simply not enough to motivate employees to reach organisational goals. Employees need to share the compelling vision of the organisation as well (Francis & Woodcock, 1994:5).

In sharing the compelling vision of the organisation with employees, "management must communicate the identity of the organisation and define where it is heading. This needs to be expressed as a „vision of the future' that is seen to be important, coherent and sustainable" (Francis & Woodcock, 1994:5). In this, managers should also have the communication capabilities to motivate and encourage employees in transforming this vision and goals into reality.

What this means for the Gautrain project is that the safety vision and goals of the organisation need to be communicated to employees by managers that possess the necessary communication skills to motivate employees to play their part in turning their safety vision into reality.

Of course this message from managers has to, in larger organisations such as the Gautrain project, filter through various levels in the organisation before it reaches everyone therein. This points to the next aspect to be discussed, namely, the aspect of media quality in an organisation. Before this is done however, the above two sections (Organisational integration and sharing the compelling vision) will be worded in theoretical statement 8.

Theoretical statement 8
The management of an organisation needs to <b>communicate the organisation's vision compellingly</b> to all employees, whilst employees are made aware of their contribution to the attainment of these goals – thereby integrating them into the organisation. The goal and vision of the organisation do not only need to be communicated, but management needs to motivate employees in transforming it into reality. In conjunction with this, all departments in the organisation need to put forward <b>integrative</b> (as opposed to conflicting) <b>messages</b> to employees about safety.

### 3.13 MEDIA QUALITY

Media quality focuses on communication messages, as they travel through several channels of internal communication, to reach employees at every level of the organisation. What is especially important to note here is how employees **perceive** these communication channels, in terms of their helpfulness, clarity, quality and quantity (Downs & Adrian, 2004:115).

Before attention can be given to how these communication channels should be utilised, in order for employees to perceive these as efficient, attention should be paid to the different kinds of communication channels that can be used by an organisation to communicate with employees. This is especially important as Mohamed (2002:376) and Downs *et al.* (2004:114) state that a variety of formal and informal communication channels need to be utilised to communicate safety messages to employees.

### **3.13.1 Internal communication channels**

As discussed in chapter 2 (section 2.5.1 *The dual-capacity model*) the choice of communication channels is not a decision to be made lightly. This is due to the fact that communication transmitted through one channel, very rarely produces the same effects as the communication transmitted through another, as the recipients of this communication associate different values with the different channels of communication that are used (Cutlip *et al.*, 2002:194; Barker & Gaut, 2002:11). To be sure to cater for all the needs in an organisation, different channels are usually used simultaneously, in order to get the same message across to all employees (Rensburg, 2002:144). In order to make the choice of which channel(s) to use, an organisation needs to be aware of the different communication channels that are available to them and the values attached to these channels.

The different internal communication channels can be divided in many different ways. The division, most suited for the purposes of this study, is that suggested by Rensburg (2002:144) and Steyn and Puth (2002:91). According to these authors, internal communication channels are divided into five separate categories, namely print communication channels; intranet; audio-visual communication channels; interpersonal communication channels; private created channels; and oramedia. Subsequently these are discussed concisely.



### **3.13.1.1 Print communication channels**

Print communication channels, as the name implies, are those channels that make use of printed text in order to communicate. As such, these channels require literacy from its reader, along with competency in the language that they are presented in. Nonetheless, these channels are preferred in many organisations, as they are flexible, and lend themselves to whatever purpose the organisation calls for (Rensburg, 2002:144; Scholes, 1999:41).

According to Rensburg (2002:144), Steyn and Puth (2002:91) and Scholes (1999:39), print communication channels include the following:

- **Bulletins and posters:** These print communication channels are mostly used to convey a sense of urgency. In this, the communication message is short and makes use of images or other visual material to supplement the message. Rensburg (2002:146) highlights these channels as specifically suited to themes that include Safety, Health and Security.
- **Newsletters:** Newsletters are a very popular choice of printed communication channel in organisations. The purpose of it is to communicate organisational information that impacts currently or in future. Many times, newsletters in organisations are used in the same manner as newspapers and magazines.
- **Newspapers and magazines:** Even though organisational newspapers and magazines are sometimes used interchangeably with newsletters, the main difference between these three communication channels is the format it is printed in (based on the standard format lent from their mass-media counterparts). Subsequent to this, newspapers and magazines usually cover a broader spectrum of information, as they include employee interest stories and features like feature articles, cartoons, illustrations, activities and more.
- **Annual reports:** Contrary to the above, in many ways, the annual report of an organisation mostly focuses on the yearly financial statement of that

organisation. Three kinds of annual reports can be differentiated: Firstly, the *annual report for stockholders* which is basically a report on the organisation's financial position aimed at informing the public interested in buying stock from the organisation. Secondly, *the employee annual report* which provides employees with the vital financial information about the organisation's financial success and which publically recognises the employees' contribution to the financial success of the organisation, and thirdly, the *summary annual report*, which, as the name implies, summarises the financial information given in the *annual report for stockholders*.

- **Speciality publications:** These communication channels are used to serve a special need that is not addressed by one of the other channels. As this channel is only designed when the need arises, it takes on any form thinkable, depending on the urgency, topic, audience, *et cetera*.
- **Underground publications:** Very similar to the above, underground publications are also designed to meet a need that is not adequately addressed by other communication channels – the difference is that this channel is designed and maintained by employees themselves. As the organisation has no control over this channel, it is not advisable to let employees resort to making use of underground publications.
- **Labour union publications:** These channels, as the name implies are designed and utilised by the labour unions at the organisation. As discussed in part I of this chapter (section 3.3 *Civil rights and the empowerment of individuals*), the mining and construction industry has a very active labour union culture.
- **Outside publications that can be used internally:** Much of the information that is communicated to external stakeholders is of some kind of significance to internal stakeholders as well, and vice versa. For this reason, many communication channels initially aimed at external audiences are used

internally in the organisation, for example newsletters, which are made available to both the internal and external stakeholders.

- **Electronic publications:** Electronic publications are gaining in popularity, as they allow organisations to communicate information timeously and inexpensively to employees. Any of the print communication channels, as mentioned above, can be (and mostly are) published electronically as well, on the intranet, or internet site of the organisation.

#### **3.13.1.2 Intranet**

Making use of an intranet in an organisation is growing rapidly in popularity. The intranet can take on many different forms, and make use of many different programmes with, mostly, the same purpose. The intranet of an organisation, which includes e-mail, is focused on information control. The intranet is mostly used as a database and archive for organisational documentation, including policies, procedures and many more. Apart from this, e-mail is used internally and externally as a communication tool, lending itself to a multitude of functions.

In order to utilise this channel however, the organisation must be sure that all employees are computer literate and are able to navigate the programming involved. At the Gautrain project this is however not the case, as stated under section 3.5.1 *Globalisation*.

#### **3.13.1.3 Audiovisual communication channels**

There are many advantages to making use of audiovisual communication channels. These channels draw on emotions and stimulate more human senses than most channels that can be utilised by an organisation. The following channels are counted as audiovisual in nature: Flip charts, large overheads (including PowerPoint and other computerised presentations); 35mm slides and film or videotape. Although all these different channels have their own advantages and disadvantages, it must be noted that they all are relatively expensive to produce and require specialised tools and expertise.

However, the stimulatory nature thereof makes it very suited to the communication of safety information, despite the challenges of the manufacturing and distribution of the channel.

#### **3.13.1.4 Interpersonal communication channels**

Interpersonal communication channels are still the most preferred method of communication in the organisation. The reason for this being the fact that people respond better to other people than to any other form of communication channel. As mentioned previously, this is even more true at the Gautrain project, as interpersonal communication is still the predominant method used in the mining and construction industry of South Africa (Naudé & Le Roux: 2005:5). Francis and Woodcock (1994:7) stress the fact that this communication channel is only effective when the communicators are well informed and possess the necessary communication skills to adequately express themselves to the receiver(s) of the information.

This communication channel can take on the following forms: interviews, small group meetings, briefings, presentations, speeches or chance conversations.

#### **3.13.1.5 Private created channels**

Private created media, as the name implies, is manufactured solely for internal use, and is usually created by the organisation itself. The purpose of these channels is to educate the employee about the organisation itself, as well as the employee's place therein. It includes documentary films, private and mobile exhibitions, videotapes, educational literature, seminars and conferences.

#### **3.13.1.6 Oramedia**

This communication channel is based on the indigenous cultures of the employees of an organisation. It can, under the right circumstances facilitate two-way communication, and a deep-rooted identification with the organisation by employees of indigenous cultures, that might not be possible by other

communication channels. This communication channel includes puppet shows, village theatre, poetry and music, alongside many more. In the South African mining and construction industry, this channel most commonly used in the form of industrial theatre. Industrial theatre much resembles the traditional notion of theatre, with actors, a stage, a script, as well as a message projected at the end of the play – but, as mentioned above, it is structured to link to the indigenous cultures of employees (Edmond & Tilley, 2003). Besides the fact that it is being used with much acclaim and success, this communication channel is, according to Steyn and Puth (2002:91), “not yet utilised to its full potential” in South Africa.

Not all of the above internal communication channels are necessarily suited for the communication of safety information to the employees of the Precast Yard. Mohamed (2002:376) and Downs *et al.* (2004:114) are of the opinion that a variety of these channels should be used in conjunction in order to get the same message across to receivers. Francis and Woodcock (1994:5) amplify this sentiment by stating that these channels should not only be used to communicate safety information to employees, but should also allow employees to give their input to those in power. These communication channels should focus on “efficiently collecting, structuring and transmitting relevant information to those with power” (Francis & Woodcock, 1994:6), and in so doing facilitate **intelligent decision making**.

Theoretical statement 9
A <b>variety</b> of formal and informal communication channels need to be utilised to communicate safety messages to employees, in order for it to be seen as efficient. These channels should allow for <b>downward</b> , as well as <b>upward communication</b> .

The above discussion on the different kinds of communication channels that can be utilised by the Gautrain project treated the inputs, outputs and outcomes of the various communication channels. According to Grunig and Hon (1999:7), if

one is to truly research the efficiency of internal communication, this is, however, not enough, as this only focuses on short-term effects. In order to truly understand the long-term effect of organisational communication on employees, the relationship between employees and the organisation should be researched. This relationship is not only influenced by the communication channel used, but in turn also influences the acceptance of the communication message sent. This acceptance of the safety message sent by the Gautrain project to employees can, literally, be a matter of life and death (Lesch, 2005:173).

According to Grunig and Hon (1999:3), this relationship can be measured by focusing on the six aspects that constitute a relationship between the organisation and its employees (see theoretical statement 3). These aspects will subsequently be discussed.

### **3.14 ELEMENTS OF RELATIONSHIPS**

#### **3.14.1 Control mutuality**

This points to the degree to which the two parties in the relationship (the organisation and employees) agree on who has the “rightful power to influence one another”. Stable relationships oblige that both parties should have some control over the situation, although some imbalance is inevitable.

In the context of safety communication, this implies that both the organisation, as well as employees, should feel that they have some control over the practice of safety in the workplace. This aspect ties in with that mentioned by Downs *et al.* (2004:115), namely the relationship between subordinates and supervisors. It is seen that both parties should have equal opportunity to send safety information, as well as receive it. This done, the communication can be acted upon, and the parties take share in the safety practice.

Having said this, the scale of control will always swing in the direction of the organisation, as this party is responsible for implementing safety legislation and procedures as set out by Government.

### 3.14.2 Trust

Very closely related to the above, the element of trust in a relationship points to the level of confidence that each party has in opening up to the other party. Three dimensions of trust can be distinguished: integrity, dependability and competence. Integrity points to the belief that an organisation is just and fair in its practices. Translated to the current study this implies that the Gautrain project should be fair and just in its safety practices. Integrity also implies that employees need to feel that they can rely on each other, as well as the organisation, as it is fair. In this, there needs to be a lack of prejudice in the organisation, and between employees. This is referred to as **sustaining a healthy community** (Francis & Woodcock, 1994:6). According to Francis and Woodcock (1994:6) prejudice can be the most destructive aspect to any organisation, as it increases the distance between social groups and individuals and in so doing, hampers any chance of trust being built into the relationships between these groups, individuals and the organisation.

Dependability implies that the Gautrain project will do what it says it will do. This for example, could include the issuing of equipment that is needed to work safely and lastly, to be competent and able to do this.

Theoretical statement 10
Internal communication channels should provide the dominant coalition with valuable information, in order to facilitate <b>intelligent decision making</b> . Furthermore, internal communication should be free of prejudice and create trust, in order to <b>sustain a healthy community</b> .

### **3.14.3 Satisfaction**

Relating to this aspect of competence, satisfaction points to the extent to which each party in the relationship feels positive or favourably towards the other, as positive expectations are reinforced in the relationship. If the benefits of the relationship outweigh the costs thereof, the relationship is satisfying.

In the context of the Gautrain project, the relationship that employees have with the organisation will be satisfying, only if the benefits of the relationship are greater than the cost thereof. If employees are asked to sacrifice their safety in order for the organisation to gain, this might (and should) prove too great a cost for any benefit (albeit a production bonus incentive, for example).

### **3.14.4 Commitment**

Commitment refers to the extent to which the parties in the relationship believe that the relationship is worth the energy they are spending to promote and maintain. Both parties, therefore, have to have equal vested interest in the promotion and attainment of goals.

At the Gautrain project, employees' commitment to attaining safety goals is certainly worth the effort, as the alternative is injury or death. Commitment to the safety relationship is, therefore, not something that the organisation wants, employees to spend energy on to promote, but is also a personal goal of employees themselves.

### **3.14.5 Exchange relationship**

Exchange relationship implies that one of the parties in the relationship offers benefit to the other, only because the other has given benefits in the past, and/or is expected to do so in future. In this, it is seen that in an exchange relationship an organisation, for example, will only offer benefits to employees because the organisation, in return, expects benefits from employees that are of comparable value.



This kind of safety relationship can easily be formed in the presence of safety bonus incentives. The organisation will only provide bonuses to the employees if the employees maintain a clean safety record – which is beneficial to the organisation.

#### **3.14.6 Communal relationship**

Opposite to the above, in a communal relationship both parties provide benefit to the other, as they are concerned for the other's welfare. For the sake of establishing and maintaining a safety relationship in an organisation, this would be the ideal scenario, where the organisation is concerned about the employees' welfare and on that basis provide safety benefits to them.

The difference between the communal- and exchange relationship highlights the fact that the kind of relationship that an organisation enjoys with employees, will greatly influence the safety of that organisation, and vice versa. Communication is seen as the cornerstone to establishing and maintaining these relationships and as such the direct influence of communication on the safety practices of an organisation is yet again seen.

#### **3.15 CONCLUSION**

In this chapter, focus was given to the context and nature of safety communication. Two aspects were differentiated, in order to clarify this: Firstly the South African context was discussed, which gave greater insight into the manner in which communication should be approached in the context of South Africa, and more specifically in the context of the South African mining and construction industry. Secondly, the specific factors influencing the internal communication of **safety information** within the South African mining and construction context, were explored.

In the next chapter, the research methodology will be discussed, which will gauge the empirical research component of this study.

## **CHAPTER 4**

### **Research Methodology**

#### **4.1 INTRODUCTION**

Conceptualising the research methodology comprises setting out the plan which is to be followed in answering the research question. This would entail understanding what the design will be, what the units of analysis will be, what the methods of data-collection will be, and what challenges must be overcome (Mouton, 2006:35; Du Plooy, 2002:344).

Chapter 4 will focus on the qualitative and quantitative nature of the research design, the methods of data-collection with the respective units of analysis for each; as well as the challenges of reliability and validity in the research. Attention will also be given to the manner in which this methodology links to the aims of the research.

To start off, an overview will be given of the research design.

#### **4.2 THE RESEARCH DESIGN**

According to De Vaus (2002:170), cross-sectional research has two distinctive features: Firstly, it has no time dimension and secondly, it relies on “existing differences rather than change following intervention”.

In this, it is seen that the research conducted in this study focuses on data collected at one point in time, only measuring differences in opinions and attitudes towards safety communication, rather than change within (in this case) the organisation. Per definition, therefore, and according to De Vaus (2002:170),

the research can be seen as cross-sectional in nature, opposite to a longitudinal design.

This cross-sectional research project was designed to be conducted in two phases. In the first phase a literature review was done where communication theory was firstly reviewed and applied to the context of **safety** communication specifically. Thereafter, literature explaining the unique nature of the South African context was reviewed, along with its impacts on the communication of safety information. In light of the communication theories and the context of South Africa, literature pertaining to the communication of safety communication was reviewed and reported on. From this literature review theoretical statements were derived, that had to be tested empirically.

This empirical part of the study made up the second phase of the research. In the empirical phase of the research, the theoretical expressions of literature were researched. This was done by means of four methods: Firstly, by means of questionnaires, secondly, by means of focus groups, thirdly, by means of interviews and lastly by means of a channel description, based on the dual-capacity model (as found in the literature review, see section 2.5.1).

The fact that these different methods were made use of to research the same problem, accounted for the use of methodological triangulation (Keyton, 2006:65; Olsen, 2004; Decrop, 1999:157). Although triangulation will be dealt with in greater depth under *4.4 Challenges to the research*, it can be said that methodological triangulation does not only account for the use of different methods, but also for the use of different research designs – specifically the use of both qualitative, as well as quantitative research (Brewer & Hunter, 2006:xi).

### 4.3 USAGE OF THE METHODOLOGY IN TERMS OF THE OBJECTIVES OF THE STUDY

As said above, the use of both qualitative and quantitative research methods serves to improve the reliability and validity of the research by means of triangulation. But this was not the only reason why they were employed. Each method contributed to the realisation of the objectives of the study. To review, these objectives (as in Chapter 1) are:

1. To determine the guidelines offered by literature for the efficient communication of safety information, within the mining and construction industry.
2. To determine the nature of safety communication in the Gautrain project:
  - 2.1 according to the perceptions of those managers responsible for distributing it, and
  - 2.2 according to the perception of employees.
3. To determine to what degree the safety communication at the Gautrain project correlates with the guidelines set in literature.

The first objective is obviously not fulfilled through the use of empirical data-collection methods, but rather through the use of a literature review – as done in Chapters two and three. The second objective, on the other hand, does make use of empirical methods. In the first instance the nature of safety communication, as perceived by **managers**, was tested by means of the method listed above as method three, namely interviews. Interviews were applicable in this case, as there were only three managers responsible for safety communication. These managers, who were included in the qualitative interviews were also included in the sample framework, and as such stood an equal chance of taking part in the quantitative questionnaires.

In the second instance of objective two, the nature of safety communication as perceived by employees was tested. To meet this objective, the quantitative questionnaires were once again employed, as all employees had an equal chance of being included. In order to gather qualitative research to meet this objective, the method listed as number two was employed, namely focus groups.

The third and last objective encompassed all four methods of data-gathering and as such served as the reasoning for all to be included. This objective sought to determine to what degree the safety communication of the Precast Yard correlated with the guidelines set in the literature. The questionnaires, focus groups and interviews enveloped a binary purpose: As said above, they first of all tested the perceptions of managers and employees; but alongside this, the theoretical framework from whence they came was also tested. This is, however, not the only methods that were employed to this end. Lastly, the method listed as number four was also used here. That is the account of the channels of safety information used.

As all four of these methods were used together, the phenomenon of safety communication was researched from all dimensions: Firstly it was tested as from the side of the senders – the managers responsible for safety communication. Secondly it was tested as from this side of the receivers – the employees who receive the safety communication messages and then lastly, the actual channel or method used to communicate the safety message was looked at.

The way in which the above relates to the constructs and concepts of the study (see table 2.1) is summarised below:

Construct:	Concept:	Data gathering method:	
Conveyance of safety information	Communication satisfaction	Quantitative: Questionnaire	Adapted ICA Communication Satisfaction questionnaire
		Qualitative: Focus groups	Questions adapted from ICA questionnaire for qualitative discussion
		Qualitative: Interviews	Questions adapted from ICA questionnaire for qualitative discussion
	Communication effectiveness	Quantitative: Questionnaire	Adapted Francis and Woodcock's (1994) Audit of communication effectiveness questionnaire
		Qualitative: Focus groups	Questions adapted from Francis and Woodcock's questionnaire for qualitative discussion
		Qualitative: Interviews	Questions adapted from Francis and Woodcock's questionnaire for qualitative discussion
	Internal communication channels	Quantitative: Questionnaire	Adapted Le Roux <i>et al.</i> (2004)'s Lonmin employee questionnaire.
		Qualitative: Focus groups	Questions adapted from Le Roux <i>et al.</i> (2004)'s questionnaire for qualitative discussion
		Qualitative: Interviews	Questions adapted from Le Roux <i>et al.</i> (2004)'s questionnaire for qualitative discussion
		Qualitative: Description of channels	Adapted concepts from the Dual-capacity model for media choice (see section 2.5.1)

Construct:	Concept:	Data gathering method:	
Employee relations	Control mutuality; Trust; Satisfaction; Commitment; Exchange relationship; Communal relationship.	Quantitative: Questionnaire	Adapted Grunig and Hon's (1999) Relationship questionnaire
		Qualitative: Focus groups	Questions adapted from Grunig and Hon's (1999) Relationship questionnaire for qualitative discussion
		Qualitative: Interviews	Questions adapted from Grunig and Hon's (1999) Relationship questionnaire for qualitative discussion

Table 4.3 Relationship between constructs, concepts and data gathering methods



#### **4.4 CHALLENGES TO THE RESEARCH**

According to Le Roux (2005:5), communication research within the South African mining industry is plagued by change forces, which could possibly influence the reliability of the research findings. Internal forces in this regard include the respondents' or participants' origin, language, literacy, gender, and/or union interference. Although these aspects were discussed at length in Chapter 3, Part II, Le Roux (2005:5) proposes the use of methodological triangulation in order to limit the influence thereof on the reliability of the research.

This offer stems from the fact that methodological triangulation is used to gain better insight into research findings, thus deepening the understanding and description of the phenomenon being researched (Le Roux, 2005:7; Decrop, 1999:157). In this light, research from different methods is triangulated to not only ensure that the correct meaning is ascertained but also to add to the completeness of this meaning. Put differently, the combination of methods (qualitative and quantitative in this case) can ensure that the researcher understands and describes the „bigger picture' of the phenomenon being researched, rather than just elements that are related to it.

The use of methodological triangulation thus ensures that the findings of the research are understood in the manner that they are intended. However, the context of the research does present challenges to the gathering of the data, which could be, if not managed, be damaging to the reliability and validity of the findings. In the current study, this was experienced mostly in the respondents' and participants' language and literacy levels.

The literacy level, as well as the language of the respondents was an obvious obstacle in the answering of the English questionnaires. In order to overcome this obstacle, use was made of literate facilitators, trained in the methods of interview-questionnaire facilitation, who were fluent in the languages spoken by

respondents. These facilitators were employees of the Precast Yard themselves and thus, as they possibly could have influenced the study, as an added measure, two extra facilitators from the University of South Africa (Unisa) were used to ensure that the respondents were not deliberately influenced by the questionnaire interviewers. These facilitators also aided in the training of the facilitators from the Precast Yard, not only in the techniques of interview-questionnaire facilitation, but also in translation of terminology to ensure consistency between the facilitators in this regard.

The focus groups were made up of participants who were proficient in English, as well as participants who were not. In order to ensure that the latter were accommodated, an English proficient facilitator was present during each focus group. However, this facilitator was not always needed, as the other members of the focus groups acted as impromptu translators in most cases.

In the above challenges, reference is made to the various methods employed to gather data for this project. Subsequently, these methods will be discussed, as it was completed in two phases.

#### **4.5 PHASE 1: LITERATURE STUDY**

According to David and Sutton (2004:7), as well as Berg (1995:17), the literature review in a study is designed to build a theoretical basis, whereupon the empirical research for the study can be built. In doing so, related research is reviewed in order to understand the points of departure that these other researchers used.

In this, the literature study for this researched focused on two fields, namely that of communication and safety. This done, insight into the field of internal safety communication was gained. This was then further contextualised within the South African context in general, and then specifically the South African mining

and construction industry. In order to do this, the following databases and sources of information were used:

- Ferdinand Postma Catalogue (North-West University);
- Unisa Library Catalogue;
- NRF: NEXUS;
- Emerald OnLine;
- Repertory of South African Journal articles; and
- EBSCO (Academic Search Premier, Communication & Mass Media Complete, Business Source Premier).

From these databases and sources of information, it was gathered that the current study at this specific organisation as context has never before been undertaken. Although some research projects were identified that overlapped with this current research in some respects (see section 1.7.1), the specific focus, reach and context of this study remains unique.

From this literature study, constructs – each with its respective concepts – were identified (see table 2.1). Literature also offered existing and tested methods for researching these constructs and concepts, including questionnaires and models. These were then used in the second phase of research, namely the empirical phase.

#### **4.6 PHASE 2: QUALITATIVE AND QUANTITATIVE EMPIRICAL RESEARCH**

Making use of both qualitative and quantitative research methods stems from the principle that these should be seen as complimentary, rather than conflicting – especially in social research. The use of both of these methods to explore the same set of research questions allows the one method to account for the other's shortcomings or weaknesses (Srnlka & Koeszegi, 2007:30; Decrop, 1999:157; Jick, 1979: 30).

Quantitative research refers to the accounting and measuring of phenomena in a scientific and rigid manner. This takes place through, for example, experimental- and social surveys. Contrary to this, qualitative research takes on an interpretive approach, as it studies phenomena within their own context. The importance that individuals place on their surroundings takes credence in this design (De Vaus, 2001:10; Berg, 1995:3; David & Sutton, 2004:56).

As implied above, each one of these research designs inherently have their own strengths and weaknesses. These will now be further explored, with specific reference to their relation to the current research undertaken.

#### **4.6.1 Characteristics of quantitative research**

The objectives of quantitative research designs are to describe and predict quantities, degrees and relationships between the phenomena that are being researched. In this, numerical data is collected, and generalisations are made from a sample to the population (Keyton, 2006:53; Du Plooy, 2002:82; Berg, 1995:2).

In the current research undertaken, quantitative research will be done by means of questionnaires, as it aimed at exploring quantities, degrees and relationships between aspects related to safety communication. This was done by generalising the findings related to this exploration to the research population.

The generalisability of the findings of quantitative research points to the first advantage of this kind of design. Quantitative research, as the name suggests, quantifies communication phenomena in research. This quantification makes it possible to make comparisons between large groups of participants, which share the same characteristics. The advantage is thus that it is not necessary to include the entire population in the research in order to account for their feelings or

beliefs, as it can be done by means of generalisation (Keyton, 2006:53; Brewer & Hunter, 2006:175; David & Sutton, 2004:57).

The second advantage of quantitative research closely relates to the first. Due to the fact that quantitative research relies on the use of numbers and statistics, the comparisons that can be made, can be very precise and exact (Keyton, 2006:53; David & Sutton, 2004:57).

The quantification of communication phenomena also allows for the isolation of abstract aspects of communication, into separate variables. Due to this fact, these variables will **not** go unnoticed; no matter how small a component to the communication it might be (Keyton, 2006:53; David & Sutton, 2004:57). In the current research, this aspect was distinguished, as many abstract elements to safety communication identified in the literature could be made concrete in the questionnaire. Abstract terms, such as trust in a relationship, were, therefore, made to be quantifiable, and generalisable to the research population. This was done by the administration of a questionnaire and subsequent construct determination by means of factor analyses (Downs *et al.*, 2004; Grunig & Hon, 1999; Francis & Woodcock, 1994).

Still, as is often the case, the source of the abovementioned advantage also gives rise to the predominant disadvantage of quantitative research. Due to the fact that quantitative research allows a focus on small components to the communication process, it generally does not lend itself to understanding the complexity and depth of the communication phenomena in its entirety (Keyton, 2006:53).

This is precisely the reason why this research makes use of both quantitative and qualitative research designs. Where the quantitative research cannot account for the depth of the communication process in its entirety, qualitative research can (Keyton, 2006:53; Brewer & Hunter, 2006:175).

#### 4.6.2 Characteristics of qualitative research

The objectives of quantitative research designs are to examine the properties, needs or characteristics that distinguish settings, individuals, groups or messages within their appropriate context (Keyton, 2006:53; Du Plooy, 2002:82; Berg, 1995:2).

The major advantage of qualitative research is that it supplements information that is gathered through quantitative methods when it is understood within the context that it was gathered (Keyton, 2006:53; Brewer & Hunter, 2006:175; Berg, 1995:2). This was found to be true in this research as well, where the answers to questions in the questionnaire presented to employees were only fully understood once contextualised by respondents taking part in the qualitative research methods. With this done, the safety communication process could be understood in its entirety, instead of in the form of smaller, interdependent variables.

The second advantage that qualitative research methods hold is the fact that these methods allow the researcher to document aspects in the communication process, which those individuals partaking in the interaction might not notice (Keyton, 2006:53; Brewer & Hunter, 2006:175). In the current research this translated into reality, with the research of the communication channels that were used to convey safety information. The research into the communication channels allowed an external viewpoint for the **manner** in which safety is communicated, rather than **what** it is communicating, as was the focus of the individuals partaking therein.

Yet again, these advantages also give rise to disadvantages to these research methods and designs. The fact that the researcher, as an external force, is able to perceive aspects in the communication process that those that partake in it might not be able to, also results in the representativeness of the research to be

called into question. Just as the partakers of the research filter what they perceive in the communication process through their own experiences, expectations and the like, so does the researcher (Keyton, 2006:53; Brewer & Hunter, 2006:175; Du Plooy, 2002:82; Berg, 1995:2). This aspect could never be done away with entirely though, as no researcher is ever completely objective in his/her observations. However, by using methodological triangulation the researcher's influence is kept to a minimum (Keyton, 2006:53; Berg, 1995:2).

Another threat to the representativeness of the research, in qualitative designs, is the fact that participants to research might not always conduct themselves in the same manner when they know they are being researched, as when they are not (Keyton, 2006:53; Brewer & Hunter, 2006:175). In the case of the current study, questions arise as to how representative the depiction of safety communication was during the data-gathering of the research, as opposed (or similarly) to the realities of the every-day functioning of the organisation.

This is why the triangulation of data methods is so important; to rule out these threats to representativeness, among others (for more see section 4.4 *Challenges to the research*).

In the above discussion of the quantitative and qualitative research methods employed in the current study, frequent mention was made of the generalisability of the research, the sample of the population, as well as the context of the study. Subsequently, and in order to define more clearly these aspects in terms of the current study, clarity will now be given of the sampling of the research undertaken.

#### **4.7 THE RESEARCH SAMPLE**

In this research, as in most research, it was impractical and impossible (when the costs to the company and impact on production are taken into consideration) to

have the entire population of the research (all employees of the organisation) take part therein. It is for this reason that this research made use of sampling (Keyton, 2006:119).

Starting with the broader sense, the first level of this research wherein use was made of sampling, is in the selection of the organisation and operation to serve as the context of the research. As stated, this research takes place within the context of the Gautrain project. The selection of this organisation can be said to have been made as a result of **theoretical sampling**. In theoretical sampling, the units to be researched are selected according to the researcher's own knowledge and opinion about their appropriateness (David & Sutton, 2004:152). As stated before, the Gautrain project functions under both construction-, as well as mining safety legislation. Research into safety communication in the mining and construction industry can thus appropriately be done at the Gautrain project.

It was, however, still impractical and impossible to research all operations within the Gautrain project as a whole, with the specifications and wishes of the management of this organisation in mind. Therefore, within this project the Precast Yard as an operation was specifically selected. This selection was based on the principles of the **convenience sampling** method. According to David and Sutton (2004:151), as well as Keyton (2006:126), convenience sampling takes place due to the ease of access to units of analysis.

At the Gautrain project, there are many different operations, or sites, that run on a temporary basis. These sites have only a few employees at a time, and mostly no full hierarchical structures in itself. The Precast Yard, however, is a less temporary establishment, that has a hierarchical structure ranging from managers, down to general labourers. This site is responsible for the manufacturing of the precast cement segments, which make up the bridges on which the Gautrain is to run. As such, this operation functions mostly as a self-governing operation with, as said before, its own structures (including a safety



department, industrial relations department and more). Due to this, as well as the fact that this operation has 807 employees working on one site, the Precast Yard amounts to a convenient selection. Needless to say, this selection of operation within the Gautrain project hampers representativeness of, and to, the project as a whole. All findings made are therefore not generalisable to the Gautrain project, but only just to the Precast Yard as operation (Keaton, 2006:126; Gravetter & Forzano, 2006:117; David & Sutton, 2004:151).

Still, in order to make the findings of the research generalisable to the Precast Yard as operation, the selection of the units of analysis has to fall into the category of probability sampling (Gravetter & Forzano, 2006:117; Du Plooy, 2002:106). As each one of the methods used for data-gathering employed a different method of sampling, each one will have to be independently discussed. The next point of discussion is, therefore, the methods used for data-gathering, as well as all coupling aspects, including sampling methods.

#### **4.8 DATA-GATHERING METHODS**

As mentioned previously, the empirical research part of this study will focus on both qualitative, as well as quantitative research methods. In this, four data-gathering methods can be distinguished. Firstly, quantitative research came into play with questionnaires to employees that work at the Precast Yard. This was followed by qualitative data-gathering methods, which consisted of three focus groups with employees, semi-structured interviews with managers dealing with safety communications at the Precast Yard and lastly a description of the communication channels used at the Precast Yard. These four methods will subsequently be discussed, starting with the quantitative research method.

#### 4.8.1 Method 1 – Questionnaires

(See Appendix A for the questionnaire)

Researchers make use of questionnaires in order to describe and explain respondents' current attitudes, opinions, thoughts and even behaviour with regard to a specific issue or event (Rubin, Rubin & Piele, 2000:201; Du Plooy, 2002:170; Brewer & Hunter, 2006:60). This explains the intentions of the questionnaires used at the Precast Yard of the Gautrain project, as these were aimed at describing and exploring employees' **current** (with reference to the cross-sectional nature) attitudes, opinions and perceptions, as it pertains to safety communication.

In order to do this, the questionnaire compiled is an amalgamation of four existing questionnaires, identified in the literature review. This amalgamated questionnaire includes extracts of applicable questions, from these four questionnaires. The items and questions used from these four questionnaires seek to explore different areas of communication efficiency within an organisation, and as such were adapted for the specific pursuit of understanding **safety** communication at the Precast Yard of the Gautrain project.

These four questionnaires are:

- The International Communication Association's (ICA's) Communication satisfaction questionnaire (as in Downs *et al.*, 2004:114);
- Grunig and Hon's (1999) Relationship questionnaire;
- Francis and Woodcock's (1994) Audit of communication effectiveness questionnaire; as well as
- Le Roux *et al.*'s (2004) Lonmin employee questionnaire.

Selections, or extracts from these questionnaires were compiled in the following manner, in order to answer to each construct and concept of the study:

Construct:	Concept:	Question in questionnaire	From questionnaire:
Conveyance of safety information	Internal communication channels	Question 13	Questionnaire 1
	Communication satisfaction	Questions 12; 14; 15; 16; 19.	Questionnaire 2
		Question 17	Questionnaire 1
	Communication effectiveness	Question 20 (items A to V)	Questionnaire 3
		Question 11	Questionnaire 1
Employee relations	Control mutuality; Trust; Satisfaction; Commitment; Exchange relationship; Communal relationship	Question 21 (items A to Z)	Questionnaire 4
		Question 22	Questionnaire 1

*Table 4.8.1 Construct, concept, question and questionnaire relationship.*

Key to table above:	
Questionnaire 1	Le Roux <i>et al.</i> (2004) Lonmin employee questionnaire.
Questionnaire 2	ICA's Communication satisfaction questionnaire.
Questionnaire 3	Francis and Woodcock's (1994) Communication effectiveness questionnaire.
Questionnaire 4	Grunig and Hon's (1999) Relationship questionnaire.

The amalgamated questionnaire was tested in the population it was designed for, prior to the data-gathering by means of a **pilot study**. This pilot study was done on two levels, namely by means of a **conventional pretesting pilot study**, as well as through the use of an **expert panel**. According to Keyton (2006:175), the latter involves including experts in research methodology or in the survey's content to read through the questionnaire. "Because they are experts, this type of

pretesting can point out semantic problems in how the questions are worded and interviewer administration techniques, as well as potential problems with analysing the data after the survey is complete” (Keyton, 2006:175).

For the pilot study of this questionnaire, both experts in research methodology, as well as in the survey contents were used. The experts included an academic from the North-West University, one from the University of South Africa (knowledgeable in the fields of research methodology), as well as an expert from the Gautrain project (knowledgeable of the contents of the survey).

After this first phase of pilot testing (having experts examine the survey), the questionnaire was administered to ten employees (who did not form part of the final sample) of the Gautrain project, in order to complete the conventional pre-testing as mentioned above. This kind of pilot test, according to Keyton (2006:175) includes the selection of individuals who are part of the research population, who then complete the survey, just as it will be done during the data-gathering. This is exactly what was done, as participants who form part of the research population of the study were selected by means of a willingness sample and were asked to complete the questionnaire, in the same way that respondents would during data-gathering.

During this phase three minor adjustments were made to the questionnaire, all semantic and contextual in nature. For example references to specific occupations not held at the Precast Yard of the Gautrain project were removed. One major aspect that did impact on the entire questionnaire, and which was changed due to the outcome of the pilot test, was the scales used in the questionnaire.

In the scales of the administered questionnaire, no option appears for a “neutral” or indecisive option, as is usually the case with all four basic questionnaires (in the middle of the scale). The main reason for this is the aspect of translation. In

some languages used during the administering of the questionnaire, there is no such a word or concept as *neutral*. In terms of the questionnaire, this aspect would have to be translated along the lines of “I do not have an opinion about this” or in some cases as “sometimes yes, but sometimes no”. Through this kind of explanation and translation it is seen that most of the employees would opt for this option – which will not be as indicative of their perceptions as other options on the scale would be. All neutral or indecisive options were, therefore, removed from the questionnaire. This aspect is also concurrent with that found by Le Roux *et al.* (2004) in the administering of the Lonmin employee questionnaire to a similar population (from the mining industry, with differing languages, backgrounds and literacy levels).

In the subsequent section, the contribution of each of the questionnaires that made up this amalgamated questionnaire, their respective focus areas, as well as their relevance to the current study, will be discussed.

▪ **ICA Communication satisfaction questionnaire**

Since communication has been recognised as a contributing factor to the successful operation of any organisation, there has been the need to evaluate communication efforts. In answer to this need, the International Communication Association (ICA) identified and assessed those instruments used to measure communication (Downs *et al.*, 2004:57). From this assessment, eight factors were identified, and made into a questionnaire to research the overall level of satisfaction that employees feel towards their communication environment (Rubin *et al.*, 2004:114; Downs *et al.*, 2004:57).

These eight factors are (as from Rubin *et al.* (2004:114) and Downs *et al.* (2004:57)):

- *Communication climate*: Questions pertaining to this aspect measures communication efforts on organisational, as well as individual levels. It

seeks to understand to what extent communication is stimulating and motivating, and whether or not it promotes employee identification with the organisation.

- *Relationship to superiors:* Questions in this section of the questionnaire are aimed at testing the components of upward, as well as downward communication flow. It tests the openness of supervisors, regarding their listening skills, as well as the trust that subordinates put in this.
- *Organisational integration:* This aspect revolves around the information that workers receive with regard to their work, and related items, such as procedures, incentives and policies.
- *Media Quality:* This looks at communication as it moves through different channels of information in the organisation. Employees are asked about their satisfaction with the end-product.
- *Horizontal and informal communication:* Questions in this section of the questionnaire look at communication as it exists within the informal networks of communication within the organisation. The kind of information found in these channels, as well as their accuracy, is tested.
- *Organisational perspective:* Here, the information that is given with regard to the organisation, its objectives, as well as its attainment of these objectives, is investigated.
- *Relationship to subordinates:* This part of the questionnaire is only answered by those employees in managerial- or supervisory positions. It reads in on the acceptance of employees towards downward

communication, as well as their willingness to send communication messages upwards in the communication chain.

- *Personal feedback*: This dimension questions the ability of employees in supervisory- and managerial positions to realise the problems presented by the work situation. Also, it looks at whether or not workers feel that the criteria by which they are being judged is made clear to them.

All eight of these aspects were included in the questionnaire that was compiled, as each one of these aspects were identified in the literature review to be a contributing factor to the communication of safety information. Having said this, with regard to the aspect of *Horizontal and informal communication*, some questions were excluded. These questions were those which dealt with understanding the kinds of messages that can be found in these channels. The reason for this is the focus of the current study on **safety** communications in particular. It was, therefore, not necessary to identify the other types of messages in these channels, or the accuracy with which they were communicated.

In line with this, the remaining questions that were indeed used in the questionnaire were changed in terms of semantics in order to firstly allow for a focus on **safety** communications in particular (as opposed to all internal communication in general) and secondly to better allow the understanding thereof by respondents. These kinds of changes were identified in the pilot study of the questionnaire (see section 4.8.1 above). An example of this kind of change is question 39 in the original ICA questionnaire (question 12a in the questionnaire used for this study). In order to allow for the two aspects mentioned above, the question that used to read “*Extent to which my subordinates are responsive to my downward directive communication*”, in the new questionnaire reads “*Extent to which my subordinates are*

*responsive to my safety communication*” (taking into account that communication to subordinates is inherently „downward directive’, therefore, omitting this as to not confuse the respondents).

▪ **Grunig & Hon (1999) Relationship questionnaire**

In the relationship satisfaction questionnaire, the focus is on relationships as defined by Grunig and Hon (1999).

According to Grunig and Hon (1999:3), where there is communication in an organisation, there will be a relationship that ensues. In this, the long term intent of organisational communication, in this case internal safety communication, is to build long-term relationships with the organisation’s key constituencies, in this case employees.

Although numerous ways have been proposed to measure short-term outputs of communication, a method of measuring long-term worth still escaped the profession. It is here where Grunig and Hon (1999)’s questionnaire is of value. This questionnaire consists of six key elements of which a relationship comprises.

These elements are (as from Grunig and Hon (1999:3))

- *Control mutuality*: This alludes to the degree to which parties agree over who has the right to influence who. Stable relationships expect that both the organisation, as well as stakeholders have control over the relationship – although some imbalance is inevitable.
- *Trust*: This aspect looks at the willingness of each party to open themselves towards the other party. This element differentiates between *integrity, dependability, as well as competence*.



- *Satisfaction*: The degree to which each party feels favourable towards the other, based on the positive expectations that are upheld by the other. A satisfactory relationship is one where the advantages outweigh the costs thereof.
- *Commitment*: This refers to the degree to which each member of the relationship feels that the relationship is worth the energy spent on it.
- *Exchange relationship*: In this relationship, one member of the relationship offers advantage or gain to the other member, only if the latter feels that the former has given advantage to them in the past, or is expected to do so in future.
- *Communal relationship*: In this relationship, both parties give advantage to the other, based on the fact that the parties are concerned with the other's wellbeing.

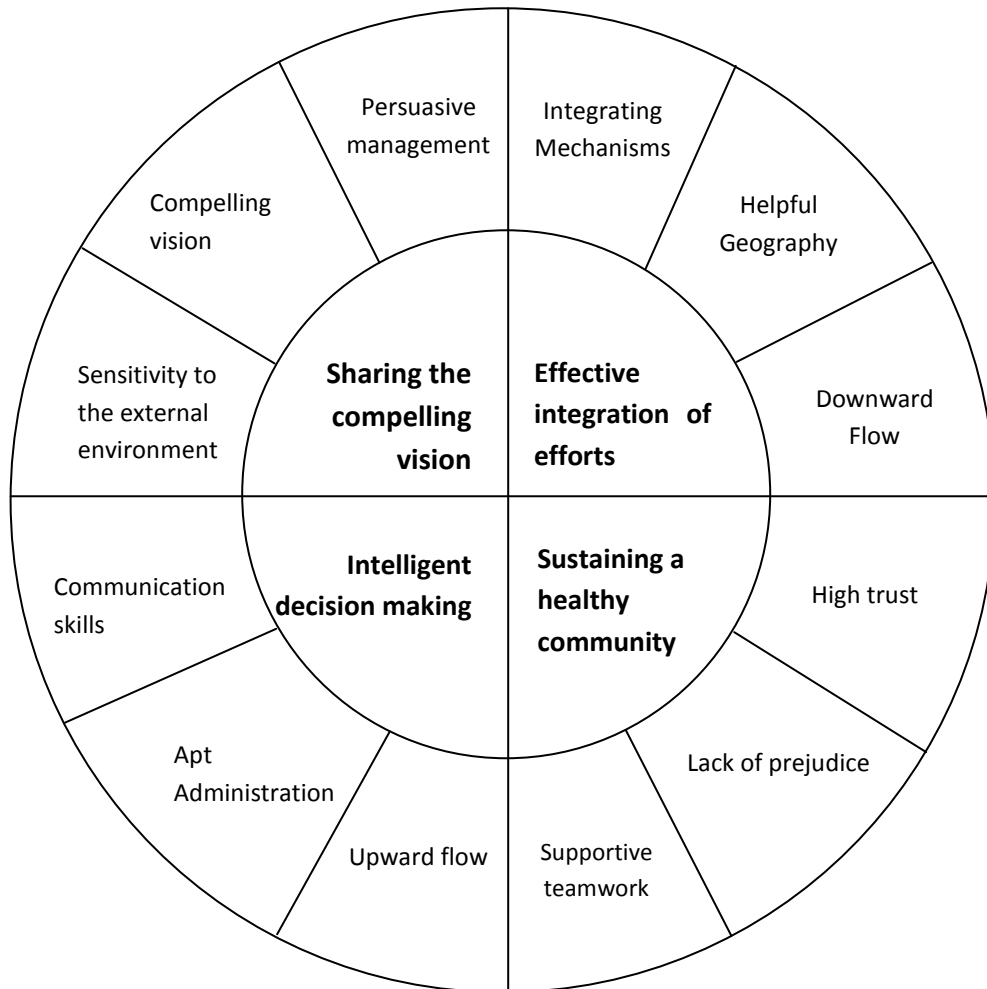
These elements from Grunig and Hon (1999:3) were identified to be all important in the communication of safety information (see section 3.14). As such, all of these **elements** were included in the questionnaire, although not all the **questions** of each element were included. This was done to restrict the length of the questionnaire, as well as to prevent unnecessary repetition. Still, each element received equal representation. The questions that were included in the questionnaire, were not changed (semantically or otherwise) as, firstly, no problems in terms of respondents understanding the questions were noted during the pilot study and secondly, due to the fact that the relationship aspect is unhindered by the focus on safety communications. Put differently, the testing of the concept of relationships is not influenced by the fact that the study focuses on safety communication, as it is indeed the overall relationship between employees and the organisation that affects the communication of safety information, and not vice versa.

- **Francis and Woodcock's (1994) audit of communication effectiveness**

With the goal of auditing the effectiveness of an organisation's communication efforts, Francis and Woodcock (1994:4) construct a conceptual model, with four main sections. These sections are: the sharing of the compelling vision; effective integration of efforts; sustaining a healthy community; and intelligent decision making. Each one of these sections is divided into three subsections, graphically represented as the model in figure 4.8.1. Although each one of the main sections identified, were included in the questionnaire, not all the subsections were. The sections listed as *Helpful Geography*, *Apt administration* and *Sensitivity to the external environment* were excluded from the questionnaire. Firstly, due to the fact that the impacts of these areas are minimal to the communication of safety information. Secondly, the length of the questionnaire had to be kept in mind, as it aimed at combining four questionnaires into one. Therefore, only the most pertinent factors, related to the communication of safety information, were included.

The questions from the factors that were indeed included in the questionnaire, were, yet again, only changed in two ways. Firstly, in the reference to internal communication, the question was changed to refer to internal **safety** communication, due to the focus of the research. Secondly, semantic changes to the construction of the question were made, when suggested in the pilot study, to aid the understanding of the questions by respondents (taking their literacy level, language, and the like into consideration). When this was done, however, great care was taken to not change the meaning of the question during the restructuring. To illustrate this, the first question included in the questionnaire, from Francis and Woodcock's (1994) original questionnaire can be used. The question (2 in the original questionnaire and 20a in the questionnaire used in this study) originally read "*Almost anyone, no matter what their level, can accurately describe the objectives of the organisation*". The changed question reads "*Almost everyone, no matter what*

*their job level, can accurately describe the safety objectives of the organisation*". It is seen that the focus is narrowed to safety in particular, and the aspect of "level" is further explained as "job level".



*Figure 4.8.1 The conceptual model* (Francis and Woodcock, 1994:4)

These factors included in the study (and as identified from the conceptual model above), are subsequently concisely discussed with reference to Francis and Woodcock (1994:4):

- *Communication for sharing the compelling vision:* This section proposes that, in order for communication to be seen as effective, a feasible identity has to be strategised for the organisation – and then

be communicated in a persuasive manner. Herein it is seen that managers must possess the necessary communication skills to be persuasive in communicating the compelling vision of the organisation to all stakeholders.

- *Communication for the effective integration of effort:* Herein, the organisation has to ensure that the energy and efforts of the workforce are pushing in the same direction. Very important is that communication from the top of the organisation (management) has to be clear and consistent, as it is management that sees the “big picture” of the organisation’s operations, as well as how each employee’s work fits into this “big picture”. In this all efforts need to be integrated to reach the objectives set out.
- *Sustaining a healthy community:* For the sustaining of a healthy community, all communication at an organisation has to be lacking in prejudice. Francis and Woodcock (1994:6) state that:  
“Healthy communities are based on the principle of fairness. The most common kinds of prejudice are racial, sexual, religious and between social classes. Prejudice is destructive because it increases the distance between social groups and individuals.”  
This in its turn hinders the organisation to do the work it sets out to do.
- *Communication for intelligent decision making:* This aspect looks at efficiently collecting, structuring and transmitting relevant information to those with power. Upward communication from subordinates to supervisors and to managers is tracked, taking the communication skills of subordinates into consideration.

The fact that the communication skills of the employees are so big a factor in this study (as explained in Chapter 3, Part II), points to the reason why the last questionnaire was included.

▪ **Lonmin employee questionnaire**

The Lonmin employee questionnaire was designed by Le Roux, *et al.* (2004), for use in the Platinum mining industry of South Africa, and then specifically at the Lonmin Platinum mine in Rustenburg. In this, many generic questions pertaining to the biographical particulars of respondents were included in the questionnaire for this research. However, many questions in the Lonmin employee questionnaire were not applicable to the current study, as it deals with specific communications and communication channels, as well as biographical details particular only to that population. These questions were omitted from the questionnaire completely.

Apart from this, this questionnaire also includes the use of the ICA's Communication satisfaction questionnaire; Grunig and Hon's (1999) relationship questionnaire, as well as Francis and Woodcock's (1994) communication effectiveness questionnaire. Questions that were already included in the questionnaire of this study from the above three questionnaires, were not repeated (therefore not used as from the Lonmin employee questionnaire). However, those questions which were completely restructured for use within the context of that research were included in this current study, as these contexts are very much alike. As such, the inclusion of these questions accounted for the use of the equivalent form approach. If the answers given for the two sets of questions (those from the "original" questionnaires, as well as those from the Lonmin questionnaire) correlate, the measurement is reliable (Van der Walt & Breet-van Niekerk, 2006:343). This factor points to the validity and reliability of this method for data-gathering. This will subsequently be discussed in greater detail.

#### **4.8.1.1 Validity and reliability**

Reliability in research refers to the degree to which the measuring instrument (in this case the questionnaire) shows consistency over time. When research is done in one sitting (simultaneously), this is done by making use of more than one item, or question to test the same variable (Gravetter & Forzano, 2006:74; David & Sutton, 2004:171).

The validity of a measuring instrument, on the other hand, points to the degree to which it measures the variable it claims to measure. Put differently, a valid measuring instrument will accurately measure and describe the variable it is designed to measure (Gravetter & Forzano, 2006:74; David & Sutton, 2004:171). With these two definitions in mind, the manner in which reliability and validity was maintained in the questionnaire can now be explored, starting with the former.

As mentioned above, the reliability of the questionnaire was firstly improved by making use of the equivalent form approach. In this approach, the same variables were tested, through the use of multiple questions. The questions were rephrased as to not prompt the respondents to answer these in the same way (Van der Walt & Breet-van Niekerk, 2006:343; Goddard & Melville, 2001:87). The reliability of these sets of questions was tested by means of the **Cronbach alpha** method. This method can be described as a coefficient of reliability, as it measures how well a set of questions measure a single variable. This measurement ranges between 0 and 1. If the question tested has a score of 0.7 and higher, the measurement of that question is valid (UCLA, 2006; Roberts, Priest & Taynor, 2006:44; Santos, 1999:7). However, the number of questions tested by means of the Cronbach alpha may influence this score slightly, with less questions obtaining a lower score, therefore, the number of questions also needs to be taken into account when considering the validity of the Cronbach alpha measurement (Roberts *et al.*, 2006:44; Santos, 1999:7).

The validity of a questionnaire, as mentioned above, is dependent on how well the questionnaire measures what it is designed to measure. To test the overall validity of the questionnaire and the items tested, use was made of both confirmatory and exploratory factor analyses. These factor analyses are aimed at discovering to what degree respondents answered the same questions in the same way. If this degree is high, the instrument is seen to be valid (Field, 2000:640; Asparouhov & Muthén, 2009:425).

Apart from the overall validity of the questionnaire, other kinds of validity are also distinguished. These kinds, applicable to the questionnaire as measuring instrument, along with the application to this questionnaire will now be discussed, as from Gravetter and Forzano (2006:74); Keyton (2006:54), as well as David and Sutton (2004:171).

- **Face validity:** Face validity refers to the superficial appearance of the measuring instrument; whether or not it looks like it measures what it sets out to. Although determining this validity is very subjective, it can be said that the questionnaire does, on face value, include questions pertaining to safety communication and its related items, which is in accordance to the outcomes set out for the questionnaire. This is according to the safety and communication specialists included in the panel of experts in the pilot study (see section 4.8.1).
- **Concurrent validity:** This seeks to establish consistency between two different measures. As alluded to before, the questionnaire is used in conjunction with other measuring instruments, including focus groups and interviews. Concurrent validity was established due to the fact that these instruments measured the same phenomena. The questionnaire was administered before any other measuring instrument, as the qualitative nature of the other elements allowed for elaboration and greater depth of understanding of the findings of the questionnaire.

- **Predictive validity:** Predictive validity looks at how accurately predictions (based on theory), are realised in the research by means of the measuring instrument. An example of predictive validity a questionnaire is the fact that the factor analyses done, would yield the same sets of factors (through the answers provided by respondents) as those in the theory. Put differently, the respondents grouped the same questions in their answering, as was predicted by theory.
- **Construct validity:** Closely related to predictive validity, construct validity points to the degree to which the measuring instrument conforms to the theoretical model, in terms of demonstrating that the **measurement** of the variables behave exactly the same way as the variable itself. In this, construct validity in the questionnaire is seen, where past research suggests that the relationship that employees enjoy with an organisation, will in turn effect their attitude and receptiveness towards the communication efforts of the organisation (Grunig & Hon, 1999:3). This was found to be the case also, in the questionnaires.
- **Internal validity:** For internal validity, it needs to be established that no other factors (on which data was collected, or not) are responsible for the variation in the dependant variable. With the complexity of communication in mind, various factors in an organisation have the potential of influencing the outcomes of communication. This can never be ruled out completely. However, what can be done is to ensure that the research design, measuring instruments and sampling of the research is done in an accurate and correct way. It is for this reason, that the research design makes use of both quantitative, as well as qualitative designs, to strengthen the validity in this way (see section 4.6 for more). The validity and reliability of the questionnaire as measuring instrument was also assessed, by making use of existing questionnaires, which were adapted for the specific context it was to be used in. The validity of this adaptation was tested in two ways: Firstly, by means of



a panel of experts in the fields of communication, as well as safety, and secondly by making use of a pilot study under ten of the employees of the Precast Yard, in order to ensure that the measuring instrument is valid in that context.

Next, the sampling was done in such a way as to ensure **external validity**, with external validity pointing to the extent to which the research findings can be generalised to a larger population. In order to get more clarity on this aspect, the sampling method used for this measuring instrument can now be further discussed.

#### **4.8.1.2 Sampling**

Due to the very heterogeneous nature of the population, a stratified sampling method would be the best choice for research of this nature (Keyton, 2006:54; Berg, 1995:178). In this study, this was not possible, however, as the sampling framework supplied by the organisation (in the form of an employee list) did not include any particulars of the employees – such as race, age, gender, *et cetera* – in order to allow the stratification of these employees.

Therefore, the sampling method used for the questionnaire was **systematic sampling**. Systematic sampling is part of the probability sampling category. Every person in the population has an equal and known chance of being included in the research. This makes systematic sampling a random sampling method, which excludes any bias from the researcher's side. As such, the findings of the measuring instrument are generalisable to the broader population (Gravetter & Forzano, 2006:74; Keyton, 2006:54; Berg, 1995:178).

Systematic sampling is only possible when a sample framework of the population is available – as was the case here, where the list of names of all employees employed at the Precast Yard was taken. This allows the researcher to select every *n*th person from this list, allowing all an equal chance to be included in the

research. The interval between the names on the list ( $n$ ) is determined by dividing the number of persons desired in the sample into the full population (Gravetter & Forzano 2006:74; Berg, 1995:178).

With the full population at 807 employees, the desired sample of 350 (allowing for a good response rate) determined  $n$  to be 2.48, converted to 3.

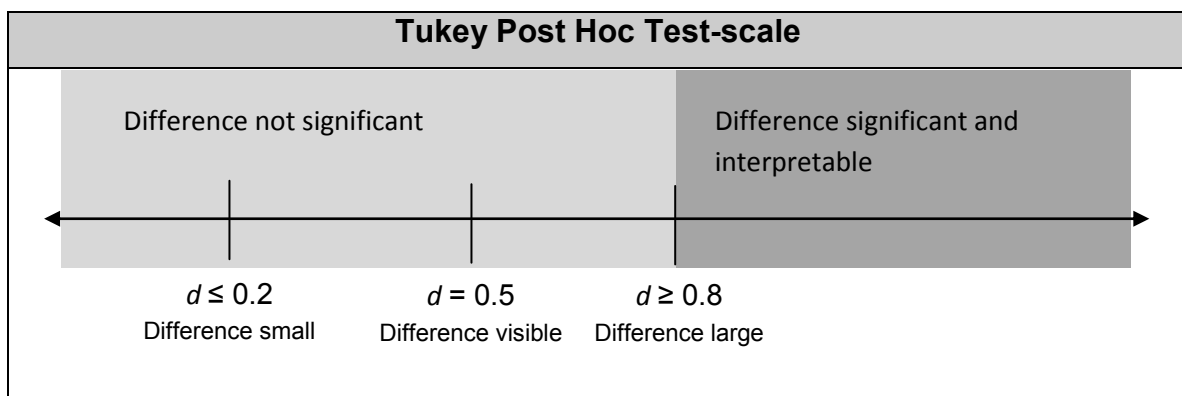
With this, the response rate of the questionnaires turned out to be 281, which gives the sample a confidence level of over 95%, which thus has a satisfactory sampling error of under 5% (Keyton, 2006:122; Du Plooy, 2002:104).

The employees eventually selected by means of the above methods were identified by the foremen of the site, then handed a questionnaire (and the essential items such as a pencil and eraser). If it was determined that this individual respondent will not be able to answer the questionnaire without the help of a facilitator, one was assigned to this individual (in some circumstances these individuals had to wait until one became available). If the respondent was competent to answer the questionnaire, they did so in their own time, as all respondents were excused from their commitments for this exercise. The administration of the questionnaires was done on the site of the Precast Yard, ensuring that the research is done within the natural environment that it pertains to. This strengthens the comfort level of the respondents and strengthens the reliability of the research (Keyton, 2006:54; David & Sutton, 2004:171).

As the entire population of the employees at the Precast Yard had an equal chance to be included in the population, differing groups of employees were seen to be respondents to the questionnaire. This differing is expressed in terms of the population parameters of the research population, which includes the gender; age; classification; job level; language competency and qualifications of individuals. As the respondents are diverse in nature – in terms of the above – the analysis of the questionnaire will allow for **correlation analyses**. These

correlations were firstly done by means of **t-tests**. T-tests allow for the inclusion of two variables, and analysing their relationship to an item or factor (Field, 2000:667). This was used for the analysis of correlations between those population parameters with only two options – for example gender. For those parameters with more than two options (for example job levels) use was made of the **Pearson product-moment correlation coefficient**, as well as **one way anova** tests. With the above statistical analyses, a difference in the way that groups of respondents answered similar items in the questionnaire was calculated (Field, 2000:667). For example this will calculate whether or not operators, supervisors and managers feel differently about trust in the organisation. These analyses do, however, not calculate whether or not these differences are significant (large enough to show any real difference). In order to calculate this, use was made of a Tukey Post Hoc Test.

According to Koekemoer (2009) and Hall (1998), in the Tukey test, the differences are calculated on a scale between smaller than 0.2 to greater than 0.8. It is only once the difference between groups is greater than, or equal to, 0.8 that the difference is significant enough to be interpreted. This can be represented graphically in the following way:



After Koekemoer (2009) and Hall (1998)

#### 4.8.2 Method 2 – Focus groups

(See Appendix B for the questions posed to focus groups)

Construct:	Concept:	Question in focus group
Conveyance of safety information	Internal communication channels	Question 1
	Communication satisfaction	Question 2 Question 3
	Communication effectiveness	Question 6
Employee relations	Control mutuality; Trust; Satisfaction; Commitment; Exchange relationship; Communal relationship	Question 4 Question 5

*Table 4.8.2: Construct, concept and focus group questions relationship*

Adjacent to the administration of questionnaires, focus groups were made use of in this research. Although employees' opinions regarding safety communication were already tested by means of the questionnaires, focus groups were employed so as to gain greater insight and depth into the aspect of safety communication at the Precast Yard (David & Sutton, 2004:92; Berg, 1995:6).

Focus groups is defined as a group of individuals, that share a common interest, goal or characteristic, and are brought together by a moderator to discuss a particular topic in a limited amount of time. The moderator uses this group to gain insight into the specific topic being discussed, with the intent of research (Keyton, 2006:276; Berg, 1995:68).

The focus groups held at the Precast Yard were extended over three days. The first day, the first focus group was held, with general workers on site; the second day with female workers (of all job levels) and the third with supervisors and managers from the Precast Yard. The focus groups lasted between 57 minutes to over an hour and 20 minutes. These focus groups were held in one of the boardrooms made available on the Precast Yard (in the office buildings on site). This location was used, not only due to the fact of convenience, but also to ensure that the research takes place within the natural environment of the respondents in order to improve reliability (Keyton, 2006:54; David & Sutton, 2004:171) in the same way as was done in the questionnaires.

Different to the questionnaires though, participants in focus groups are not limited in their choice of answers, and are free to express their feelings about the topic at hand, in their own words. The researcher (or moderator) is now also free to make observations whilst the participants express their opinions, which might provide greater insight into their feelings (David & Sutton, 2004:92; Berg, 1995:6; Du Plooy, 2002: 180). It is due to this reason that focus groups make up for the shortcomings of questionnaires, which are by their nature not equipped to explain all complexities of respondent's attitudes and feelings (David & Sutton, 2004:92; Berg, 1995:6).

Focus groups have shortcomings and limitations of their own. These limitations, along with the strengths of focus groups as research method can now be discussed, referring to Keyton (2006:276); David and Sutton (2004:92); Berg (1995:6) and Du Plooy (2002:180).

- **Strengths**

- Firstly, as alluded to above, the data gathered in focus groups are made up of the participants' own words. Deeper levels of meaning can be examined through the connotations and choice of words by the participants. This aspect is of use in the current research, as

respondents' connotations with regard to the organisation and its communication of safety information will provide depth to the feelings expressed in the questionnaires.

- Probably one of the greatest strengths of focus groups is the fact that it capitalises on the natural interaction of people. Focus groups stimulate direct interaction among participants, concerning the topic at hand. The idea is not to reach consensus in the group, but rather to get as many opinions on the topic as possible, however diverse they may be.
- In the current research, one of the greatest contributing strength of focus groups is the fact that it allows interaction with participants of low literacy levels.
- Another strength, is the fact that focus groups do not require a lot of resources to conduct. Due to the diverse nature of the population, a bigger sample needs to be drawn (Keyton, 2006:54). Still, the fact that many participants can be questioned at the same time, denotes that not as many resources will be needed as would be the case with one-on-one interviews.
- Lastly, focus groups allow for conversation possibilities that the researcher might not have thought of. The participants are, therefore, not limited in their responses to the anticipations of the researcher. This aspect, however positive it may be, is also the root of a limitation of focus groups. These will subsequently be discussed.

▪ **Limitations**

- As said above, the fact that focus groups can take any direction in the responses of participants, also points to the first limitations of focus groups. Due to the fact that conversations can take unexpected avenues, it can become difficult for the moderator to control the conversation. The questions posed to participants need to be structured in such a way as to keep the focus on the topic being researched. In the current research this was experienced, as the

challenge existed to keep participants focused on expressing their opinions on safety **communication** rather than safety practice at the Precast Yard.

- The second aspect that develops from the freedom of conversation in focus groups is the fact that the analysing of data can be difficult.
- The presence of a strong opinionated person can also hinder other participants to have a chance of expressing their opinions. It is, therefore, the responsibility of the moderator to ensure that no single participant dominates the focus group with just his/her opinion.
- The involvement of the moderator in itself also presents a possible problem in focus group research: due to the fact that the focus group is stimulated by the moderator's questions, the interaction from participants might not be completely natural.

This aspect ties in with the next to be discussed, namely the validity and reliability of the research.

#### **4.8.2.1 Validity and reliability**

Reliability seeks to create consistency in the measuring instrument over time (Gravetter & Forzano, 2006:74; David & Sutton, 2004:171). Determining the reliability of focus groups is a more difficult task than analysing questionnaires. The reason for this is that asking participants the same questions to determine the reliability of the measuring instrument, tests the memory of respondents more than the reliability of the instrument, as respondents are likely to just repeat their answers if the moderator repeats a question (Gravetter & Forzano, 2006:74).

Therefore, in order to obtain reliability of focus groups as measuring instrument, another approach had to be followed. The three common errors to a reliable instrument had to be eliminated, as far as possible. According to Gravetter and Forzano (2006:74) and David and Sutton (2004:171), these are:

- **Question consistency and ambiguity:** This error occurs when the questions asked by the moderator are ambiguous, and can be interpreted in more than one way. The primary way to overcome this error is to, yet again, make use of a panel of experts to evaluate the questions to be asked in the focus groups. This was done in the current study, making use of the same panel that evaluated the questionnaire, comprising communication, as well as safety experts. The safety experts were from the Gautrain project itself, and as such could offer insight into that particular context's understanding of the questions to be asked.

The second way that this error was limited in the current study was to make use of established and tested questions as far as possible. These questions, that make provision for qualitative questioning, originated from the same sources as the questionnaire.

Where qualitative questions were not available to supplement the quantitative questionnaire, the main themes of the theory were put into question form in order to answer the overall aspect of that communication variable.

- **Observer error:** The error of the observer of the focus groups was limited by making use of inter-rater reliability. According to Gravetter and Forzano (2006:75) this refers to the exclusion of observer error by making use of more than one observer to simultaneously record measurements of the same phenomena. For the focus groups, the help of two extra observers were called in (excluding the moderator). These two observers are experts in the field of communication studies, and are trained in the techniques of conducting focus groups.
- **Environmental changes:** When different focus groups are conducted at different times (successive measurements), the possibility exists that changes in the environment might influence the reliability of the measuring instrument.



In relation with the cross-sectional nature of this study, the focus groups with the employees of the Precast Yard were conducted over three days, in order to keep the environmental changes to a minimum (for example changes including an accident on site, new communication channels like posters, *et cetera*).

The validity of focus groups as measuring instrument, as with the reliability, was not such an easy feat as was the case with questionnaires. As the different kinds of validity were defined under 4.8.1.1 as from Gravetter and Forzano (2006:74); Keyton (2006:54), as well as David and Sutton (2004:171), only the application of each of these to focus groups as measuring instrument specifically will subsequently be discussed.

- Firstly, on **face validity**, the questions asked to the focus groups included only questions pertaining to the communication of safety information, as well as the relationship between employees and the organisation.
- For the sake of **concurrent validity**, as said before, the focus group questions were used in correlation with that of the questionnaire.
- In the focus groups, **construct-** and **predictive validity** was also seen, as the theoretical assumptions were realised in the responses of the participants. One such an example is that, in theory, the relationship between the organisation and employees is only effective if it gears towards long-term fulfilment. In realising this theory in practice, respondents expressed their opinion that the semi-temporary nature of the Gautrain projects (and then specifically the Precast Yard as operation) hinders the establishment of a relationship that is meant to be enduring.
- For **internal validity**, much the same methods as employed for the questionnaires were made use of again for the focus groups. Firstly,

triangulation of the research designs (qualitative, as well as quantitative) was used to improve the internal validity. Secondly, the measuring instrument's internal validity was improved by making use of existing and established questions, as well as a panel of experts. Contrary to this, establishing the **external validity** of focus groups is no small feat. External validity points to the extent to which the findings from the focus groups can be generalised to the larger population (David & Sutton, 2004:173). Due to the nature of focus groups, the findings are rarely generalisable, as only a small number of participants are taking part in the research (of the total population). The method of sampling that was followed will subsequently be discussed.

#### **4.8.2.2 Sampling**

For communication research in the organisational setting, Keyton (2006:277) suggests that the ideal number of focus groups to be held is three to five. These focus groups need to be made up of individuals “who possess similar characteristics” as this allows for, and encourages, free-flowing conversation.

This is exactly what was done in the current research, where three focus groups were held with participants. The first focus group was made up of male employees, of all job levels up and to supervisors. The second focus group was made up of female employees of all post levels (due to the fact that there are so few female employees, they were all accommodated in one focus group, and not split up according to post level), and the third focus group was made up of male employees on a supervisory level.

The differentiations in the focus groups (male and female, different post levels) were to ensure that all participants feel free to voice their opinions honestly, and not be troubled to do so due to the inclusion of certain individuals in their focus group (for example their supervisor). This encouraged free-flowing conversations, as suggested by Keyton (2006:277).

The participants, who made up the focus groups, were selected by means of **volunteer sampling**. Participants who completed the questionnaire were asked if they were interested in being part of a focus group. In this instance, the participants show a keen interest in the topic under investigation, and are willing to take part in the study (Keyton, 2006:127; Du Plooy, 2002:115). This sampling method is a non-random sampling method, and coupled with the fact that the focus groups represented such a small part of the population, the findings made are not generalisable to the population of employees working at the Precast Yard (Keyton, 2006:127). Generalisation was however not the main goal of the focus groups, as this method was rather employed to provide greater insight into the answers given through the questionnaire (see section 4.3 for more).

The two methods mentioned above, look at the communication of safety information from the side of employees. The next method of data-gathering allowed for insight into management's perspective on this aspect.

#### 4.8.3 Method 3 – Interviews

(See Appendix C for the structured questions of the interview schedule)

Construct:	Concept:	Question in focus interview schedule
Conveyance of safety information	Internal communication channels	Question 1 Question 2 Question 3 Question 5 Question 8
	Communication satisfaction	Question 4 Question 8
	Communication effectiveness	Question 3 Question 4 Question 5 Question 8

Employee relations	Control mutuality; Trust; Satisfaction; Commitment; Exchange relationship; Communal relationship	Question 6 Question 7 Question 9
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*Table 4.8.3: Construct, concept and interview schedule relationship*

Interviews are simplistically defined as a conversation with a purpose – specifically the purpose of gathering information. In order to ensure that this purpose is reached, the researcher has to compile an interview schedule (Du Plooy, 2002: 175; Berg, 1995:29).

Due to the fact that this study, as an exploratory communication study, does not have a hypothesis to serve as a starting point in developing the interview schedule, the main themes of safety communication, as identified in the literature review, were used as the subject matter for the questions asked (as suggested by David & Sutton, 2004:87). In this, the main theme of the interviews was *the manner in which safety information is communicated at the Precast Yard of the Gautrain project*. This links to the main theme of the questionnaires and focus groups; but in this instance, focus falls on the perceptions of managers who are responsible for the communication of safety information specifically. In this way, it is ensured that the phenomenon of safety communication at the Precast Yard is not only researched from the side of the employees receiving the information, but also from the sending side of it.

For this purpose, **semi-structured** interviews were made use of, which firstly includes standardised questions. These questions were structured by making use of the constructs and concepts identified in the literature review. Supplementary to these standardised questions, semi-structured interviews by nature also give opportunity for follow-up questions to be asked, based on the

participant's answers. This allows the researcher to explore new avenues in the research, which were not anticipated – much in the same way as in the focus groups (Keyton, 2006:276; Du Plooy, 2002:180).

This also gives rise to the fact that the interviews have to be semi-**standardised** in nature to allow for these follow-up questions (Berg, 1995:33). This aspect points to the reliability and validity of the research, which will subsequently be discussed.

#### **4.8.3.1 Validity and reliability**

The reliability of the interviews depends on the consistency thereof over time (Gravetter & Forzano, 2006:74; David & Sutton, 2004:171). When the fact that these interviews were held with different people at different times, is taken into consideration this aspect becomes even more poignant.

In order to establish reliability in interviewing, the **structure** of the interview needs to be held in mind. For the interviews with managers at the Precast Yard, responsible for the communication of safety information, **standardisation** of the interview structure was done. In order for standardisation to improve the validity of the measuring instrument, the questions asked have to be kept identical from one measurement to the next (David & Sutton, 2004:87; Berg, 1995:29). As mentioned earlier, due to the fact that the questionnaires were semi-structured, semi-standardisation needs to be employed. In this, all standardised questions are kept identical, although this is not possible for the follow-up questions (David & Sutton, 2004:87; Du Plooy, 2002:176).

The aspect of validity is dependent on how well the measuring instrument measures what it is designed to measure (Gravetter & Forzano, 2006:74; Keyton, 2006:54). The interviews do have **face validity**, as the questions asked do pertain to the communication of safety information, and subsequent formation of relationships at the Precast Yard of the Gautrain project. For the purposes of

**construct-** and **internal validity**, the main themes in the literature, pertaining to the communication of safety information were used to base the questions on (as mentioned earlier). On improving the **concurrent validity** of the interviews, three measures were taken (Du Plooy, 2002:176). Firstly, the amount of time put aside for each interview (with each manager) was exactly the same. Secondly, the tempo and pace of the interviews were kept identical, as far as possible. Thirdly and finally, the bias of participant answers were kept to a minimum, by not bringing aspects under the attention of the participants that they were unaware of before. An example of this is that questions pertaining to the objectives of safety communication were asked before the questions about the relationship that exists in the organisation. This was done as to not make participants attentive to this aspect, enabling them to truthfully list relationships as an objective of communication, or not.

For **external validity**, the selection of managers was done in such a way as to ensure that the findings are generalisable. For this, the sampling of managers had to be done in a sound way.

#### **4.8.3.2 Sampling**

The use of the word sampling here, does not completely point to the reality of the situation, due to the fact that no sampling method was used for the interviews. Rather, a **census** of all managers was taken, due to the fact that there are only three individuals responsible for the communication of safety information at the Precast Yard.

The fact that all possible participants to the research in this case were included therein, the **external validity** of the measurement is very high (Keyton, 2006:119).

As said above, the use of interviews as measuring instrument is to ensure that the communication of safety information is researched from the side of the senders as well, as the preceding methods researched this phenomenon from the side of

the receivers. The next method to be discussed now looks at the communication channels in particular, ensuring that this contributing factor to the communication of safety information is taken into consideration in the research.

#### **4.8.4 Method 4 – Discussion of the channels of safety communication**

In literature the position is taken that the choice of communication channel by management in an organisation communicates just as much – or even more to employees than the actual content of the message (Sitkin *et al.*, 1992:563; Miller, 2006:294) (see section 2.5.1). In this light, the importance of choice of communication channel is seen, in determining the efficiency of any form of internal communication.

For this reason, the fourth method of data-gathering will be the discussion of safety communication channel choice, through the use of the dual-capacity model with its posits to good media choice.

A discussion of the communication channels, rather than a content analysis (a more conventional choice) was used here due to the different focuses of the two methods. Content analysis aims to research themes in communication **content** (as the name implies) (Keyton, 2006:233). As the content of the communication messages of this study will be safety related, it is of no interest to this study. Rather, the **way in which** this content is communicated is important, which points to the description of the choice of channel, and the appropriateness thereof.

In this, the dual-capacity model – identified in the literature review (section 2.5.1) – will be made use of in the description of the choice of communication channels. The discrete variables, or factors, identified by this model will be used as the themes of discussion. These are named normative and task contingencies; the capabilities of the communicator; that of the organisation, as well as the recipient of the communication (Miller, 2006:294; Stikin *et al.*, 1992:576).

#### **4.8.4.1 Validity and Reliability**

The reliability of this research method is established through the use of a second individual, checking the description as made by the researcher. In this, two analysers described the same communication channels. The method is reliable as the findings by both analysers are comparable (Gravetter & Forzano, 2006:74; David & Sutton, 2004:171).

The validity of the measuring instrument, on the other hand, is ensured by the fact that the instrument makes use of established and tested theory (Gravetter & Forzano, 2006:74; Keyton, 2006:54) in the form of the dual-capacity model, which is a type of medium theory. This aspect accounts for **internal-**, as well as **construct validity**. For **face validity** it can be said that the factors identified in the model actually pertain to the choice of communication channel. Lastly, the **external validity** is yet again strengthened by the sampling method used.

#### **4.8.4.2 Sampling**

In the case of this measuring instrument, the units of analysis will be the different communication channels used at the Precast Yard to communicate safety information. Coupled with the cross-sectional nature of the study, only those channels that were in use during the time data was gathered by means of the questionnaires, focus groups and interviews will be used in the study.

This aspect allows that a **census** of these channels can be included in the research, as the number of channels makes it both possible and practical (Keyton, 2006:119). The channels can be divided into the following four categories; team briefings (including *Toolbox talks*); written communications (including *Pitstops*); notice boards; posters and induction programmes. This will be the focus of the next chapter.



## **4.9 CONCLUSION**

In this chapter, the overall research methodology of this study was discussed. Herein, the four methods of data-gathering were discussed, with the process of sampling and ensuring validity and reliability respectively explained. Penultimately the challenges that were faced, and overcome, in this research were discussed, followed by an explanation as to why this methodology was chosen, by linking it to the objectives of the study.

In the next two chapters, the findings that came from the methodology discussed above will be given, as it originated from the four methods of data gathering.

## CHAPTER 5

### Research findings: Choice of safety communication channels

#### 5.1 INTRODUCTION

The findings of this research project will be presented in the following two chapters (Chapters 5 and 6). This chapter will focus on discussing those internal communication channels utilised by the Precast Yard, in order to convey safety information. The next chapter will focus on presenting the findings, in terms of the effects on employees (albeit the desired and/or realised effects) of safety communication at the Gautrain Project Precast Yard. In this way, the first findings chapter will now focus on presenting the safety communication channels used, whilst the second findings chapter will focus on the effect that these channels had, as from the perception of employees and management of the Precast Yard.

In discussing the internal communication channels selected and utilised for the conveyance of safety information, this chapter will be structured according to the dual-capacity model of communication media choice, as identified in the literature (see theoretical statement 4).

This model is concerned with managerial choice of communication media or communication channels in an organisation. As such, it focuses on the factors that affect which communication channels are chosen in organisations, and how effective these choices are likely to be (Miller, 2006:294; Barker, 2006:98; Sitkin *et al.*, 1992:563).

The model supposes that all internal communication channels inherently possess the ability to carry two kinds of messages. Firstly the channel has a **data-carrying capacity** that relates to the use of the channel to convey task-relevant data efficiently. Secondly channels also have a **symbol-carrying capacity**

(Miller, 2006:294; Stikin *et al.*, 1992:563). The choice of internal communication channels is expressed in terms of normative- and task contingencies and the capability constraints of the communication (Stikin *et al.*, 1992:576). These three aspects will be used in this chapter to discuss the choice of communication channels by the Precast Yard of the Gautrain Project. This discussion will contribute towards the answering of research questions 2 and 3 (see section 7.3 and 7.4)

## **5.2 OVERVIEW OF RECIPIENTS AND CHANNELS OF COMMUNICATION**

Before the above is done, however, an overview of the internal communication channels, as well as the recipients that they are designed and chosen for will be given.

### **5.2.1 Recipients' demographic information**

As the questionnaires for this study are generalisable to the population of employees at the Precast Yard (see section 4.8.1), the demographic information given by these respondents will be used to profile the recipients of internal safety communications of the Precast Yard.

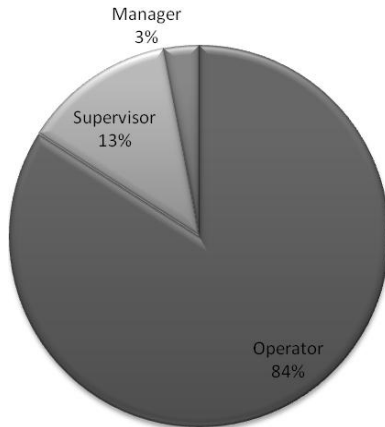
According to the questionnaires, the profile of employees at the Precast Yard is as follows:

- 84 % (where  $N=281$ ) are operators (general workers);
- 13% are supervisors (including foremen); and
- 3% are managers.

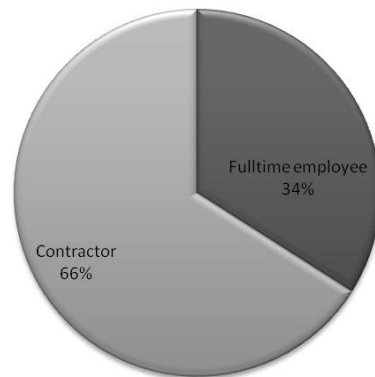
Across these different job levels, 34% of these employees are full-time employees of Bombela Civil Joint Venture (the organisation that heads up the Gautrain project), and the majority 76% are contractors under this organisation. In this, 62% are part of a Union, whilst 38% are not ( $N=281$ ). Of these employees, 95% are male, and 5% are female employees. With the majority being of African descent (86%,  $N=281$ ) and in their twenties and thirties (with

39% and 38%,  $N=281$ , respectively). Furthermore, 14% understand English; 79% read and understand English; whilst 7% do not read or understand English ( $N$  being 281). The graphs below summarises this information.

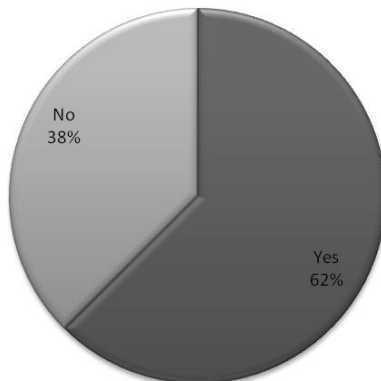
5: Different job levels



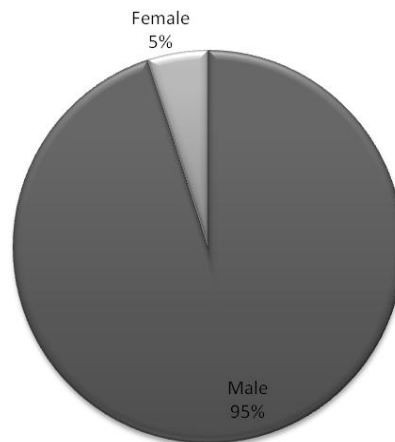
4: Employment status



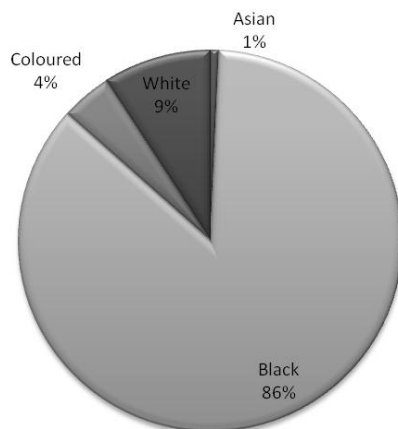
7: Union membership



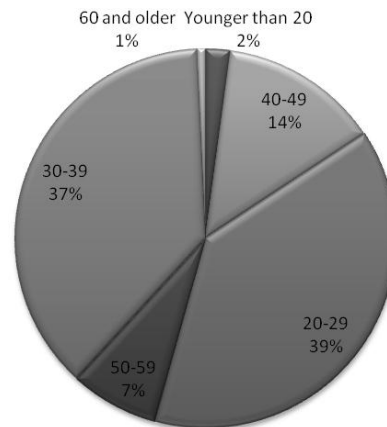
1: Gender



3: Classification



2: Age



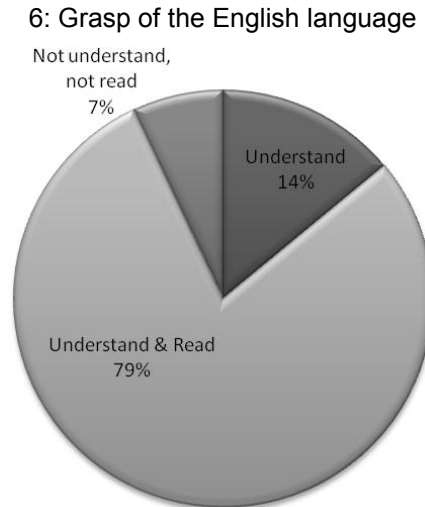


Figure 5.2.1 Recipient characteristics

### 5.2.2 Discussion of internal communication channels

In the focus groups with employees, as well as the interviews with managers responsible for communicating safety information, it was ascertained that the following communication channels are employed in safety communications. In discussing these channels, the perceptions of employees regarding their use will also be demonstrated. This can be done by making use of the questionnaire administered to employees.

In this questionnaire, question 13 (see Appendix A) focused on assessing the amount of safety information received through various internal communication channels, and then specifically their use in communicating safety information.

#### 5.2.2.1 Team briefings / structured meetings

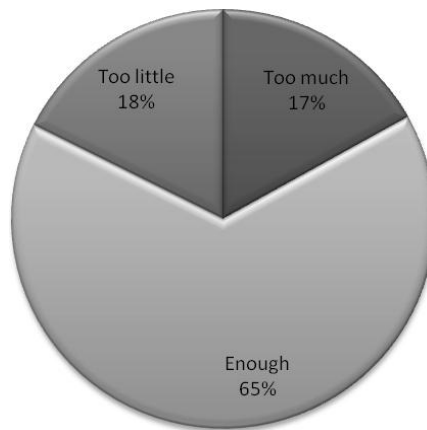
The most pertinent use of this channel for safety communication is through **Toolbox talks**. *Toolbox talks* is a method used by most construction companies to create awareness of safe work procedures. This talk is usually held at the beginning of a shift – before the production tasks of the day begins – and has different safety topics from day-to-day. Although these topics are diverse in

nature (relevant to the work of the organisation), they are inherently aimed at increasing the awareness of hazards that present themselves in the workplace, as well as identifying precautions to be taken to eliminate or control these hazards (Fouche, 2009; HSfB, 2009).

This form of communication makes use of both written and verbal channels of communication. The *Toolbox talks* is presented to the supervisor of the team in the form of written communication with a safety topic inserted. The supervisor then verbally communicates this topic to the entire team, whereupon the members are encouraged to relay their insight into the topic at hand. Team members are then required to sign the *Toolbox talks* as proof that they were made aware of the safety topic (see below for an example).

In relating their perception about the use of this channel of communication in the questionnaire, respondents were asked to give a rating only to those channels applicable to them (those that they are communicated to – for example if they do not have an e-mail address at work, they were asked to not rate the last question). Although these findings will be discussed further at a later stage in this chapter, the findings (specific to every channel) will be summarised alongside the discussion of each channel (in the light of giving an overview), by making use of the majority of responses.

The response of the majority of employees, about team briefings used to convey safety information, was that enough safety information is sent through this channel (with 66%, where  $N=255$ ).



*Figure 5.2.2.1: Communication received through team briefings / structured meetings*

**Toolbox talk no.25**

Presenters name: \_\_\_\_\_ Date presented: \_\_\_\_\_

**Topic:** handling of rat and mice poison

Rat and mice pellets or blocks are highly active poisonous bait for the control of rats and mice. Different types of poisonous pellets or blocks are available from general dealers. All of these are toxic and if contaminated food or water is ingested or when comes in contact with your skin it could have a serious affect on your health and could even lead to death. Depending on the amount of poison that enters into the body. ***Therefore the bait must be handled with great care!!***

Prevent access to poison by people and domestic animals. Store the bait away from food. Wear gloves when handling the pellets or blocks and wash your hands properly; after you have placed the bait in an enclosed place. Prevent soil and water pollution, do not leave the bait exposed to rain; it is toxic to fish and other wildlife. Always read to 'manufacturers safety data sheet' printed on the back of the box/packet for further information.

Presenters signature: \_\_\_\_\_

We the undersigned have attended this toolbox session and we are aware of the inherent dangers.

[illegible]

*Illustration 5.2.2.1: Example of Toolbox talks*

### 5.2.2.2 Written communication

Another method used in much the same way as the above is **Pitstops**. This written form of communication is also used in the team meetings and is focused on assisting communication from the managers to employees and vice versa. Although this form of communication chiefly makes provision for production communication, it includes a point on safety and allows for feedback of any kind (including safety aspects). This form of communication is printed out on an A1 page and is placed up and filled out during team meetings. Below is an example of a *pit stop*.

Other forms of written communication include letters and memos from management, policy statements, *et cetera*, which are only addressed to foremen on the site, not to general workers. The use of **e-mail** is employed in most cases to facilitate these forms of written communication.

**BOMBELA**

**PITSTOP MEETING**

Civilis Joint Venture (Pty) Ltd

TEAM: W/SHOPS NAME: RAJ PILLAY DATE: 19/9/08  
PETER DIETZ

1) TARGETS: Provide a high quality service to the different divisions, when and where it is needed.

2) TASK:

WHAT	WHO	WHEN	HOW	WHY
CLUTCH FAILURE	JABU	19/9/08	REMOVE C-BOX	CLUTCH BURNT OUT
	ERWIN	"	& CHANGE CLUTCH RIT	
	JULIUS	"		

3) OBSTACLES:

PROBLEMS	PERSON RESPONSIBLE	ACTION
RECKLESS DRIVING BY	ELIAS MCHUNU	DISCIPLINARY/REMOVAL
OPERATOR (BATCH PUMP)	ID: 520123 5637084	

4) SAFETY/MINI RISK ASSESSMENT: WORKING ON HEAVY OBJECT UNDER VEHICLE:  
FALLING DEBRIS, DISMEMBER

5) VALUE OF WEEK: APPLY SAFETY STB TO OPERATING OF MACHINERY  
& REPAIR TO BE CARRIED OUT

ACTION: REPLACE COMPONENTS

6) EDUCATION TOPICS: SEND DRIVER BACK TO J/C @ KYNOCHE TO LEARN  
HOW TO DRIVE PROPERLY & SAFELY

7) RECOGNITION: TO JABU, JULIUS, ERWIN & BENNET FOR KEEPING  
MAN OF THE MATCH: MACHINES IN GOOD CONDITION

8) PARKING BAY: FRED WILL EVENTUALLY SORT OUT THE AREA  
IN FRONT OF PARKWAY BY BACKFILLING GROUND  
& INSTALL SPRINKLERS 15cm THICK, CLANE SERVICE  
T.B. GLASS AND TEMP GAUGE CAP REENGINE OIL

9) FEEDBACK: WAITING PATIENTLY....

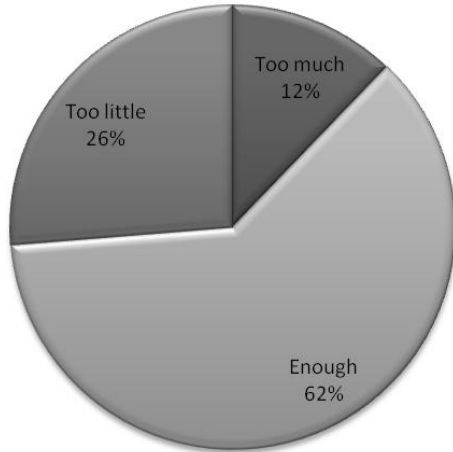
10) LOVE & LOST: LOVE: MY TEAM, MY JOB, MY COLLEAGUES  
LOST: TRIP TO EUROPE

Illustration 5.2.2.2: Example of pit stop



For written communication in general, 62% of employees (where  $N=255$ ) felt that they receive enough information through this channel. In terms of e-mail, however, 55% of employees (where  $n=60$ ) felt that they receive too little safety information via this channel.

13c: Written communication in general



13g: E-mail

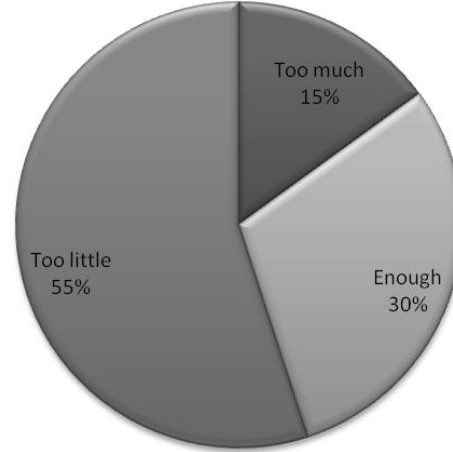


Figure 5.2.2.2: Communication received through written communication and e-mail

### 5.2.2.3 Informal face-to-face contact

The aspect above, of written communication only being sent out to foremen, links closely to the use of face-to-face communication at the Precast Yard. Any form of written communication that is sent out to foremen or supervisors, is to be communicated to that individuals entire team by means of interpersonal, or face-to-face communication. This is largely due to the fact that many workers are not completely literate, and are not first-language English speakers. Written communication is, therefore, explained to workers verbally and usually in different languages (with the help of Safety representatives in the team). It is due to the differing literacy levels and languages that this form or channel of communication is seen to be the one most employed.

Not surprisingly, therefore, employees felt that they receive too much safety information through this channel (with 56%, where  $N=265$ ).

13a: Face-to-face/interpersonal communication

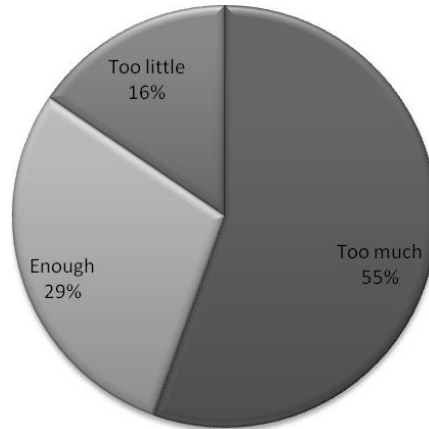


Figure 5.2.2.3: Communication received through face-to-face communication

#### 5.2.2.4 Notice boards

Another channel of safety communication that is used on site, namely notice boards, have safety signs displayed on them. This form of communication is regulatory for construction sites and display recognised safety signs that encourage safe work procedures. Below is an example of such a board at the entrance of the Precast Yard site.



Illustration 5.2.2.4: Example of notice board

The majority of employees (62%, where  $N=233$ ) felt that they receive enough safety information through the notice boards on site.

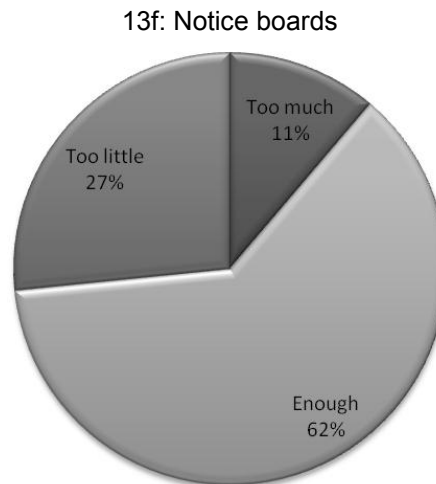


Figure 5.2.2.4: Communication received through notice boards

#### 5.2.2.5 Posters

Similar to the notice boards with safety signs, the Precast Yard also utilises boards that allow for safety posters to be placed up on site. This channel of communication is used very much at the Precast Yard, and includes graphics (images and pictures), as well as written text. The posters used by the Precast Yard are general posters (with general safety content), as well as special posters such as the *absolute shockers of the week*. These weekly posters are aimed at informing workers how **not** to go about doing their work by showing a picture of unsafe working conditions / methods and then explaining it further in writing. Illustration 5.2.2.5 and 5.2.2.6 gives an example of a general poster, as well as one of these *absolute shockers of the week*.

Despite the fact that this channel is made use of frequently, the majority of employees (with 67%, where  $N=234$ ) felt that they receive too little safety information from posters.

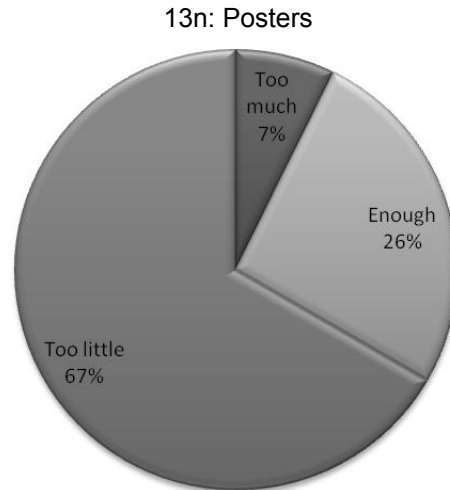


Figure 5.2.2.5: Communication received through posters



Illustration 5.2.2.5: Example of general safety poster

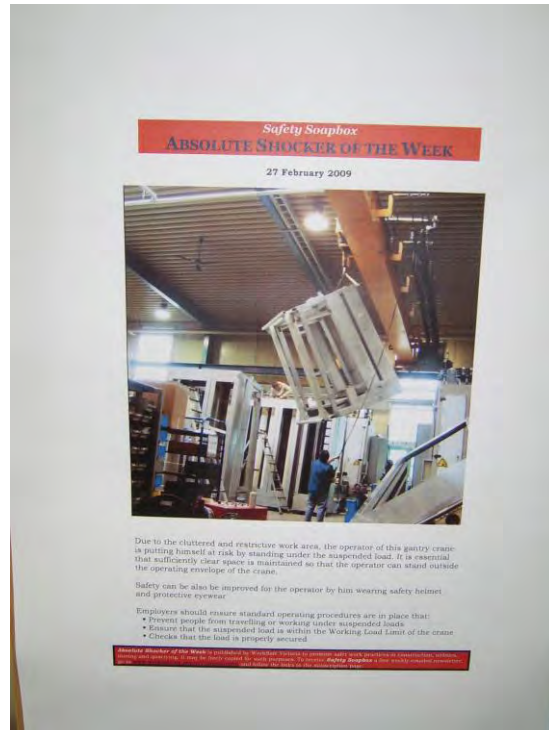


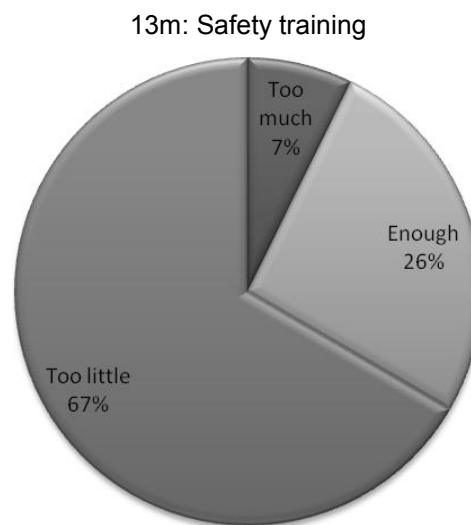
Illustration 5.2.2.5: Example of absolute shocker of the week

### 5.2.2.6 Induction programmes and safety training

It is legally required of all workers, before they can commence working on site at the Precast Yard, to complete an induction programme in accordance to the Mine

Health and Safety Act (85/1993). This programme is aimed at training employees on the workings of the construction site. This training includes safety training and should intrinsically include everything that an employee should know to enable him/her to practice safe work procedures on site, from the moment they step out of this training.

Despite this gravity, the majority of employees (with 68%, where  $N=232$ ) felt that they receive too little safety information from safety training in induction programmes.



*Figure 5.2.2.6: Communication received through safety training*

### **5.3. EVALUATING THE INTERNAL COMMUNICATION CHANNELS IN TERMS OF THE DUAL-CAPACITY MODEL**

With the above in mind, the choices of the Precast Management, regarding which safety communication channels to make use of, can now be discussed by making use of the dual-capacity model. As stated before, this model is driven by three main aspects; task contingency factors; communication capability constraints, as well as normative contingency factors (for more, see 2.5.1 The dual-capacity model).

### **5.3.1. TASK CONTINGENCY FACTORS**

In understanding task contingency factors, two characteristics are identified to be kept in mind when the choice of communication channel is made. These are, namely, task characteristics and message characteristics (Miller, 2006:294; Stikin *et al.*, 1992:576).

#### **5.3.1.1. Task characteristics**

Task uncertainty, analysability, as well as urgency are the three elements that play a role in the choice of communication channel under task characteristics. Starting with the latter, when the task being communicated is urgent in nature, the best suited communication channels would be those which are of the richer media variety (Miller, 2006:294; Stikin *et al.*, 1992:576). At the Precast Yard, the most urgent type of safety communication (relating to task urgency) is when an employee is carrying out their task in a manner that does not reflect safe work procedure – and that may lead to a safety accident or incident. In the interviews and focus groups, the employees were unanimously of the opinion that safety representatives, as well as safety officers and foremen walk around on site and assess the work that they are doing. These individuals will then comment on any work that is being carried out in an unsafe manner – immediately. This person will then be stopped in doing what they are doing and will be taken to their supervisor. The individual that noticed the unsafe work procedure (albeit the safety representative, safety officer or any other employee) will then explain to the supervisor and employee why this practice is wrong, and why they have to do it differently.

This form of interpersonal communication is best suited here, as it is the richest communication channel (as from Daft and Lengel's media richness model in Staw & Cummings, 1994). The choice of communication channel in this regard is, therefore, substantiated. In the interviews with managers, it was commented that this kind of communication channel is mostly aided by the use of two-way radios, where the safety personnel are in constant contact with the supervisors

and foremen on the site. When urgent task communication needs to be relayed, it is done so interpersonally and immediately. Supervisors and foremen then relay the message interpersonally to their team members. Linking to this, when there is uncertainty of the task to be completed, or the task includes potential ambiguous information (pointing to analysability), the organisation is best to choose a richer media as well.

According to the responses from employees in the focus groups, as well as the questionnaires, many tasks that they complete includes ambiguous information in the sense of production communication and safety communication conflicting in many instances. Moreover, employees are uncertain numerous times as to how, or why safety procedures are in place, and how to accommodate these in their work. One employee stated in the second focus group “we do not know where the rules that we follow come from, so how do they expect us to follow them, like to me safety is PPE, it is wearing PPE. So I do not even know” (see definition of PPE in section 1.8). In order to facilitate the communication, to rule out the mentioned ambiguity and uncertainty, the Precast Yard should opt to make use of richer media, of which interpersonal communication is the richest. This will allow for the uncertainties to be addressed and ambiguities to be explained (Staw & Cummings, 1994:157).

Although the Precast Yard makes use of interpersonal communication to facilitate this kind of communication (for example through *Toolbox talks*), this channel can only be seen as a rich media, if the characteristics of such a channel are endorsed. Specifically, Barker (2006:99) and Staw and Cummings (1994:157) state that rich media implies a communication channel with a capability of instant feedback; use of multiple cues; the use of natural language, as well as a personal focus. *Toolbox talks* as communication channel facilitates all of these characteristics – if the individual in charge of this communication allows for it. As from the first and third focus groups, it is evident that this is not always the case. In the first focus group, one employee stated that they are not

encouraged to really give their insight or to ask questions during *Toolbox talks*, as the supervisor (or person in charge of the talk) rushes to start with the production tasks of the day. It is, therefore, seen that the rich characteristics of this media is undermined. Deductively it can be said that the choice of communication channel might be a good one, but should still be allowed to function optimally by those using and/or managing it.

Very closely related to the above, the second task contingency factor focuses on the characteristics of the message being conveyed, and its influence on the choice of communication channel to be used.

#### **5.3.1.2 Message characteristics**

Message characteristics influence the choice of internal communication channels by ways of complexity, clarity, volume, valence and relevance (Miller, 2006:294; Stikin *et al.*, 1992:576). In this, the central assertion is that the more of one of these aspects are present in the communication message, the richer the chosen channel needs to be. The less of this aspect present, the leaner the media ought to be. This assertion can be represented graphically below in figure 5.3.1.2.

Very closely related to those aspects mentioned under task characteristics, the complexity and clarity of a communication message impacts on the choice of communication channel to be used. The more complex and unclear (linking to ambiguity) a communication message, the richer the communication channel ought to be (Miller, 2006:294; Stikin *et al.*, 1992:578). The fact that the Precast Yard mostly makes use of interpersonal communication to communicate to a greater part of the workforce, thus counts in their favour here.

Conversely, the use of interpersonal communication is not as suitable for messages that carry large volumes of data (albeit numerical, textual, audio or visual in nature), according to Miller (2006:294) and Stikin *et al.* (1992:578). This aspect can prove to be problematic, as supervisors and/or foremen have to



communicate most written communication to their workers interpersonally, as they might not always be literate enough to understand these forms of communication.

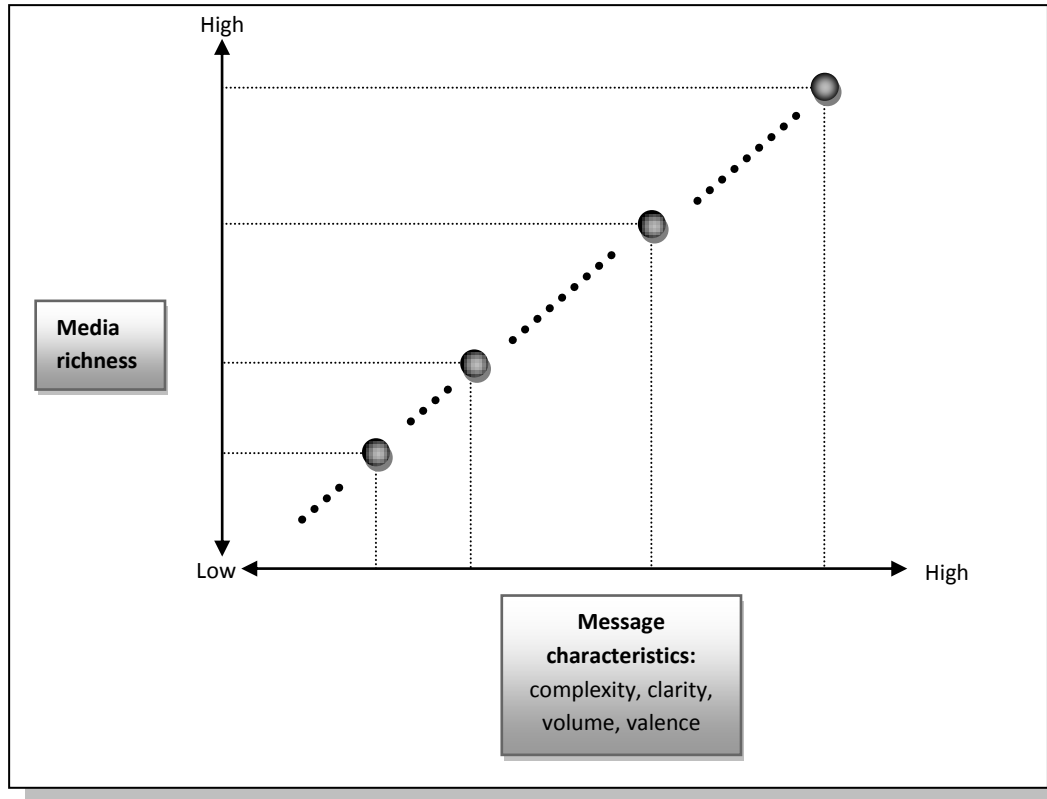


Figure 5.3.1.2: Message characteristics and media richness

A channel of safety communication that is indeed suited for large volumes of content is the induction programmes and coupling safety training. In the induction programmes, use is made of audiovisual communication (presentations with images, charts, *et cetera*), coupled with a facilitator presenting the message (facilitators fluent in different languages are made use of to accommodate most first languages spoken by employees). In the questionnaires, however, 68% of employees (where  $N=232$ ) felt that they receive too little safety information from safety training in induction programmes (see figure 5.2.2.6 above). Additionally, 46% (where  $N=279$ ) of employees stated that they have not been through the induction programme (although it is legally required). This sentiment was echoed in the focus groups (specifically the first and third) where employees stated that

very few of the employees have gone through induction training, and, therefore, very few employees truly understand the basics of safety, as communicated in the induction programme. Yet again, it is seen that the communication processes needn't only be in place, but also need to be made use of in the way intended, before any choice in making use of them could be seen as a successful one.

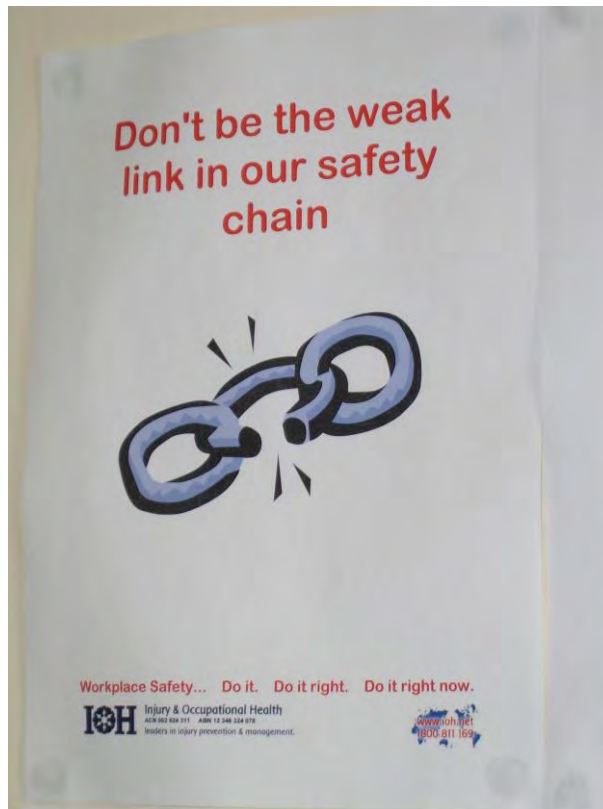
In close relation to the above, employees stated in the focus groups that the fact that they were not sent to induction (and thus not exposed to this channel of communication) hampers them from understanding other forms of communication. One employee, in the third focus group commented that those employees who did not attend induction do not always know what the safety symbols on the notice boards signify. Due to this reason, this form of communication becomes useless to them.

However, to those employees who do indeed understand these symbols on the notice boards, this communication channel is a good choice for the characteristic of the message: Due to the fact that this message does not want to communicate large volumes of information, this lean media is very suited. In this respect, the purpose of the notice boards is to remind workers to wear the correct PPE (see example above of notice boards).

In the same vein, the safety posters on site are used to remind employees of basic safety aspects. An employee in the third focus group commented on the appropriateness of the posters and notice boards by stating that "it [posters] is good, because it is a reminder. People get relaxed; the posters will remind them. You see we do the same job every day, people get bored". An example of a safety poster that is used to remind employees of the basic safety aspects can be seen below. Notice that a great volume of information is not presented.

However, once safety posters do attempt to convey large volumes of data, it becomes a less suitable choice. Below are two examples of posters that are

used for large volumes of data. The inappropriateness of this channel has much to do with the receivers of the communication: Although this might not be seen as too much data for a poster in most circumstances, it has to be kept in mind that the employees at the Precast Yard are not as literate as those in other organisations. This will be dealt with in greater depth in the next two aspects of the dual-capacity model.



*Illustration 5.3.1.2 Example of the use of posters with small volumes of information*

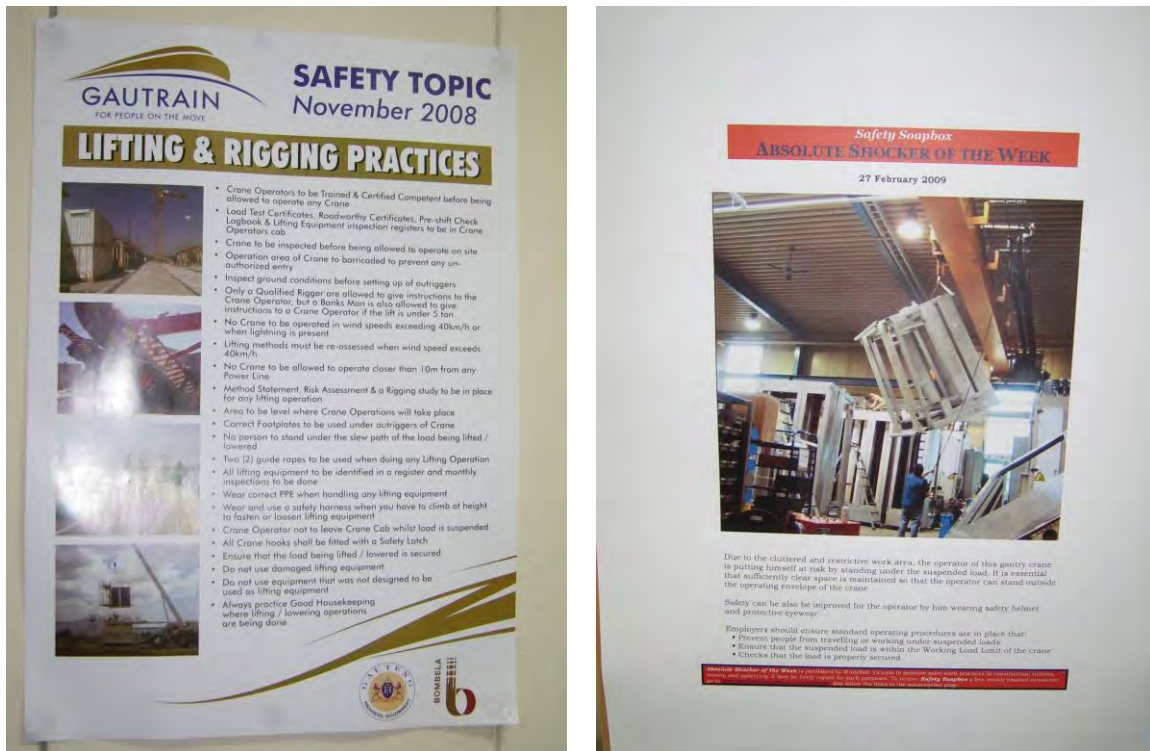


Illustration 5.3.1.2: Examples of the use of posters with great volumes of information

The last aspect under message characteristics, which is significant to the communication of safety information at the Precast Yard, is the aspect of relevance. It is suggested by Miller (2006:294) and Stikin *et al.* (1992:578) that the more relevant a message is to a recipient, the more this recipient's attitude will be influenced by the facts communicated to him/her. As the capacity to relay facts is a feature of a channel's data carrying capacity, it is suggested that the data-carrying capacity on the media choice should be strengthened. It is in this instance that the use of *Pitstops* at the Precast Yard comes into play. The *Pitstops* (as discussed above under section 5.2.2.2) allows for task relevant information to be communicated to employees. The amalgamated use of written and verbal communication allows illiterate employees an understanding of the message being communicated, while at the same time allowing for a heightened data-carrying capacity through the use of the written communication.

As with any of the other forms of communication this channel needs to be made use of, in the intended manner, before it can be seen as successful. According to the manager specifically responsible for the *Pitstops*, some teams put in a lot of effort into filling these out, whilst others make no effort at all. This is a determining factor for the success of this channel in the organisation.

Very closely related to this point is the next to be discussed under the dual-capacity model, namely the communication capability constraints.

### **5.3.2 Communication capability constraints**

“There are a number of quite significant constraints imposed by characteristics of the communicator, the recipient, and the organization that limit the media selector’s range of practical options” of communication channels (Stikin *et al.*, 1992:578). As discussed before, the nature of the South African context, wherein the Precast Yard finds itself, makes this aspect even more salient (with constraints such as diversity and illiteracy). In understanding how the choices of the organisation are limited by this, the dual-capacity model avers three characteristics, namely communicator-, recipient-, and organisational characteristics.

#### **5.3.2.1 Communicator characteristics**

According to Stikin *et al.* (1992:578) communicators (in this case the managers responsible for safety communication at the Precast Yard) will opt more frequently for the use of those channels which they have easy access to, which they are competent in, and subsequently comfortable with using. Still, Stikin *et al.* (1992:578) states that communicators who are more flexible in their media choices are perceived being more effective. This is due to the fact that effectiveness of a communication channel rests in this channel’s ability to communicate the given message optimally, rather than the manager’s comfort level with it.

At the Precast Yard, the communication channels used to convey safety information is very formal in nature. Even the interpersonal communication (used so often) is hierarchical, and revolves around dictative processes. An employee in the first focus group stated: “You have to follow the levels [of communication flow] – you cannot jump levels. This hampers communication, if the supervisors do not listen – you have nowhere to go – the communication stops there”. This aspect points to the fact that the communication processes and –channels are not entirely flexible at the Precast Yard, as a few set channels are to be used (in a prescribed manner), with no alternatives (according to the participants of the focus groups).

However, these choices of the channels to be used are not in entirety dependent on the characteristics of the communicators (although they are indeed responsible for the sternness and formal nature thereof) but also to the characteristics of the recipients of this communication.

#### **5.3.2.2 Recipient characteristics**

According to Stikin *et al.* (1992:578), the knowledge and skills levels of the recipients are critically important in determining whether the communication message is received and understood. As the utilisation of different media requires different basic recipient characteristics, it is important that these characteristics be kept in mind when the decision is made of which communication channel will be used to communicate to recipients.

The characteristics of the recipients are discussed above in section 5.2.1. Specifically with regard to the communication of safety information, it is important to take note of the English proficiency of employees, as this is the only language in which formal communication channels appear. Of these employees, 14% understand English; 79% read and understand English; whilst 7% do not read or understand English (*N* being 281).

In the focus groups, it was voiced that many of the employees do indeed read and understand English (consistent with the responses from the questionnaires) but that this understanding is a very limited one. It was stated that this comprehension is on the level of third or fourth language proficiency. Intricate safety messages with complex meanings are, therefore, not understood even by those employees who do indeed understand and read English.

The illiteracy of these workers goes even further than the reading of written text, however, as one employee in the third focus group commented that “Some people do not know what the signs [safety signs on the notice boards] mean – this communication is ineffective. This is supposed to help people who cannot read, but it doesn’t help, because some people are not visually literate either.”

These characteristics need to be kept in mind when the choices of communication channels are made. At the Precast Yard, the reckoning of these characteristics is seen in the hierarchical nature of the communication flow. All three managers agreed, in the interviews, that the hierarchical nature of communication maintained at the Precast Yard, is necessary to ensure that all employees understand the message being communicated. This is due to the fact that the communication can be explained to subordinates by their superior, who understands their communication needs, and can cater for them (for example explain it in their own language). Many other forms of communication are ruled out in this instance as well, where written communication (for example) can only be distributed to managers and foremen, who then have to relay the message in a verbal manner. According to the manager in the first interview, this hierarchical nature of communication seems to work best in eliminating the threats of illiteracy and differing languages, even though it might not be the communication ideal, it is certainly the best alternative when the characteristics of the employees are taken into consideration.

This kind of experience noted above, links to the next communication characteristic, namely that of the organisation itself.

### **5.3.2.3 Organisational characteristics**

Experience, structure, resources, time availability and needs of the organisation are the most pertinent factors in organisational characteristics which influence the choices made with regard to communication channels, according to Stikin *et al.* (1992:578). As above, the experience of the managers at the Precast Yard gauges the communication to be hierarchical, as this allows barriers of illiteracy and differing language levels to be overcome. In this instance, the structure of the organisation is also conducive to the hierarchical flow of information. Still, even though this hierarchical nature might be helpful in crossing barriers, in practice, it is not always as productive and successful as it should be. In the first interview with a manager responsible for communication, this was addressed: “Look, management speaks to foremen, foremen are supposed to speak to team leaders and then they are supposed to go to the rest of the workforce. But it doesn’t work that way. Somewhere along the way somebody will miss somebody”. This breakdown in communication, caused by the hierarchical nature of the communication flow, therefore, has the potential to be just as dire as those caused by diversity. This shows that this system has to be managed, in order to ensure that these kinds of breakdowns in communication do not happen.

The hierarchical nature of the communication is strengthened again by the resources that are available at the Precast Yard. Being a construction site, communication resources such as computers, telephones and the like are not readily available as the setting does not allow for it (as would be the case in an office building, for example). Very few communication resources are indeed available, and those who are available, are utilised; for example two-way radios – although these are only distributed to foremen and supervisors. Written communication resources are indeed made available to employees (albeit in a limited scope), for example *Pitstops* and *Toolbox talks*.



These forms of communication do contribute to the flow of safety communication, although they are not always utilised in the best possible manner. This is largely due to the time availability set aside to these communication channels. In the first focus group with employees, it was stated that “Safety is skipped over – not enough time is even used for *Toolbox talks*. It is rushed over in order to start production”.

This aspect links to the last organisational characteristic, namely needs of the organisation. In all focus groups, as well as in the questionnaires it was reflected that the organisation (as from the perspective of employees) value production more than safety. The need communicated to employees is, therefore, one of production advancement, rather than safety advancement. Put differently, the need of the organisation to produce is ranked higher than that of working safely.

Under the next element of the dual-capacity model, namely normative contingency factors, this aspect will be elaborated on.

### **5.3.3 Normative contingency factors**

As per Stikin *et al.* (1992:583), normative contingency factors affect the choice of communication channel, as it influences the channel’s symbol carrying capacity. This is owing to the fact that a channel, as a carrier of meaning, relies on normative definitions of what is meaningful. The three norms that gauge this choice are cultural norms, role expectations, as well as institutional expectations. Starting with the latter, these will each be discussed.

#### **5.3.3.1 Institutional expectations**

“By adopting communication methods that are acceptable to key external groups, the organization can maintain an institutional image of legitimacy that could be essential for continued success” (Stikin *et al.*, 1992:586). In this, organisations develop a standardised manner- and way of communicating by harmonising the

expectations and requirements of various external constituencies which influences the communication channel choices that are made.

At the Precast Yard, as an operation functioning in the mining and construction industry of South Africa, these expectations of external constituencies are felt mostly in the form of the legislative requirements of the Department of Minerals and Energy (DME). As stated above, some of the communication channels used (such as the induction programmes) are required by law for all employees and/or prospective employees of any company operating under the DME.

Apart from these required channels of communication, the use of other safety communication channels are seen in order to satisfy the expectations of the DME. One such an example is the *Toolbox talks* (see section 5.2.2.1). This communication channel is used, as discussed above, at the beginning of a shift in light of orientating workers towards safe work procedures, before the production of the day begins. All employees present are then required to sign the *Toolbox talks* in recognition of the fact that they were made aware of the safety topic at hand, and that they understand the accompanying hazards of the discussed topic, as well as ways to avoid this. If an accident/incident occurs (even in the distant future of this topic being discussed) that relates to the hazards discussed in a *Toolbox talks*, managers of the Precast Yard then go back to that day's topic to see if the employees involved in the accident/incident were present during the *Toolbox talks*. If they were indeed present, the organisation's duties so far as making employees aware of the hazard(s), as well as ways to overcome this hazard, are fulfilled – the organisation also has a signed statement from the employees confirming this.

In the above it is seen that this form of safety communication channel is enforced by the organisation in lieu of institutional expectations. However, this fact in itself causes employees to feel that this is something that they must do, just to cover themselves from getting into trouble, and the opportunity to truly share safety

information remains unobserved in many instances. In the third focus group with supervisors and foremen, it was stated that *Toolbox talks* at the Precast Yard are not really as effective as they could be, due to the fact that it needs to be rushed in most cases in order for production to start. In this, a supervisor would just read out the safety topic of the day and then get everyone to sign the form – without allowing any other interaction. The participants in these focus groups added that it is also not only just the supervisors of the groups that rush the *Toolbox talks*, but the workers themselves. One supervisor noted “...and you can even see them playing on their cell phones while you are giving the talk. They don’t care...They just come and they sign, they do not even know, they just sign”. As stated before, these communication channels are only as efficient as the implementation thereof allows.

#### **5.3.3.2 Cultural norms**

The above nonchalant attitude of the workers to this safety communication channel greatly links to the cultural norms of the organisation. According to Stikin *et al.* (1992:583), the setting of the organisation decides the manner in which communication channels as symbols are interpreted – how meaning is assigned to it. It is seen how the organisational culture influences the choice of communication channel. If it is routine for subordinates to be contacted through one kind of communication channel, the use of another channel would assign meaning to the message. Above, the opinions of the employees of the Precast Yard, with regard to the use of *Toolbox talks* is discussed. The fact that this communication channel is used every day, and the fact that it is (mostly, in the opinion of the workers) only used to satisfy the needs of the DME, assigns the cultural norm that this form of safety communication channel is not that important to take note of.

A manner in which to overcome this, as suggested by the first focus group is to not have the topics of the *Toolbox talks* be generic in nature, but rather specific to each team’s work. This aspect links back to that of relevance, discussed under

message characteristics (see 5.3.1.2). In this, the norm of this message being „not that applicable’ will be overruled, and recipients might pay more attention to the message being communicated through this channel. In line with this, the third focus group proposed that this safety communication channel might be more effective if the teams were divided into smaller groups in order to discuss the *Toolbox talks*. According to the participants in this focus group, this would allow the presenter of the discussion to focus in on individuals (and thus get them to participate), as well as allow a better platform for shy individuals in the group to voice their opinions – which they might not be willing to do in a larger group.

In line with this, these focus group participants also commented on the fact that the use of safety communication channels has become very monotonous in nature, and in order for it to be more efficient, “things need to be shaken up a little”. By this, the opinion of the participants was that different channels (other than those used every day) should be made use of to communicate to employees. One specific example named was the use of channels allowing for audiovisual methods of communication. One participant noted “if you see what can happen, if you show people what can happen if they don’t work safely then that will have an impact”.

#### **5.3.3.3 Role expectations**

The last characteristic under normative contingency factors is that of role expectations. Role expectations influence the choice of communication channel owing to the view of what is appropriate in the organisation, in specific roles. For example “leaders can convey compassion by using more personalized media, whereas the same approach might be viewed as presumptuous on the part of a subordinate communicating with a high-level organizational executive” (Stikin *et al.*, 1992:586).

This aspect has a great impact on upward communication at the Precast Yard. As stated, the communication at the Precast Yard is very hierarchical in nature.

Although the reasons for this kind of communication flow might be well founded, it still does not take away from the fact that it impedes upwards communication. One employee in the second focus group commented “I do not have the right to talk to them [management] like they talk to me. Why do you not respect me because of the job I do?”.

In the above it is seen that the hierarchical nature of communication creates certain role expectations in the organisation, in the line of subordinates not being allowed the same communication liberties than superiors in the organisation. These kinds of expectations hamper the ascertainment of two-way asymmetrical communication, which is necessary for efficient internal communication in any organisation (Downs *et al.*, 2004:57; Grunig, 1997:290; Lindenberg, 1994:5) (see theoretical statement 2).

## **5.4 CONCLUSION**

In this chapter, the use of the different safety communication channels at the Gautrain project's Precast Yard was discussed. This discussion was facilitated by the norms and characteristics stated in the dual-capacity model of communication media choice in its place as a medium theory.

The findings of this chapter were expressed in a general manner, as aided by those aspects deemed important by literature. These findings will be given greater clarity in the next chapter, where the effects of these internal safety communication channels will be discussed (as from the perceptions of employees and their management).

## **CHAPTER 6**

### **Research findings: Effects of safety communication**

#### **6.1 INTRODUCTION**

In the previous chapter, the findings as they pertain to safety communication channels were discussed. In this chapter, these findings will be given greater clarity, as the safety communication effects, stemming from the use of these channels will now be discussed.

In presenting the effect of the safety communication, as perceived by the employees, this chapter will, therefore, focus on the findings from the questionnaires and focus groups, as well as managerial interviews.

In order to structure the findings of this chapter, the use of constructs – as identified from literature – will be employed. These constructs will provide a suitable vantage point to view and contextualise the findings from. As seen in table 2.1 (Chapter 2), the two constructs for this research project are the communication of safety information, and employee relationships. Under the construct of communicating safety information three concepts are distinguished, namely internal communication channels, communication satisfaction and communication effectiveness. As the previous chapter focused on discussing the internal communication channels used at the Precast Yard, this chapter will now focus on the two remaining constructs (communication satisfaction and communication effectiveness), as well as the construct of employee relations. In doing so, this chapter will answer research questions two and three.

## **6.2. CONCEPT 1: COMMUNICATION EFFECTIVENESS**

The concept of communication effectiveness, according to Francis and Woodcock (1994:5), includes the following aspects (see theoretical statement 8):

- Sharing the compelling vision (as discussed under 3.12);
- Effective integration of effort (as discussed under 3.11);
- Intelligent decision making (as discussed under 3.13); and
- Sustaining a healthy community (as discussed under 3.14.2).

In determining the reliability and validity of this concept, use was made of statistical analyses (see section 4.8.1.1). Firstly, a determination of the Cronbach's alpha of this concept was done, in order to test its reliability. Alongside this, the validity was tested by means of a confirmatory factor analysis. The factor analysis was done due to the sampling adequacy of the questionnaires. As the findings of the questionnaire could be made generalisable to the research population, the factor analysis could be completed successfully (Field, 2000: 640).

This confirmatory factor analysis assessed the fit of the items in the questionnaire to the research population of the Precast Yard. As predicted by Field (2000:640), the vast difference between the research population being tested at the Precast Yard, with that of the original research population of Francis and Woodcock's (1994) study, saw a poor fit for the proposed model. Therefore, an exploratory factor analysis (by means of a Principal Component Analysis with a Promax with Kaiser Normalisation) was done to test the validity of the concept, with positive results.

All of these variables were subsequently tested by means of the determination of their Chronbach's alpha coefficient. In this, the Chronbach's alpha for this concept was seen to be 0.89, well above the benchmark for reliability which is 0.7 (Priest & Taynor, 2006:44; Field, 2000: 666; Santos, 1999:7).

Now that it is seen that the measuring instrument for the determination of the responses of employees is both valid and reliable (so far as statistical analyses could determine), these responses can now be discussed.

Making use of statistical methods, specifically correlation statistics by names of t-tests, one-way anova, Pearson's correlation, as well as Tukey's Post Hoc Tests (see section 4.8.1.2), it can generally be stated that the perceptions of employees were not directly related to their proficiency in English, or their qualification levels. Put differently, this means that employees who were proficient in English (the lingua franca of safety communication at the Precast Yard) did not have a different perception towards safety communications to those who were not. Employees with less schooling (qualifications) did not have a different opinion to those with higher qualifications either. In some circumstances, differences in job levels did yield a different response from employees. These are indicated below, as they were seen to be significant.

With the above in mind, the specific responses of employees can now be discussed, as under the different elements of communication effectiveness.

### **6.2.1 Sharing the compelling vision**

According to Francis and Woodcock (1994:5), sharing the compelling vision of the organisation implies "finding a viable identity for the organisation and ensuring that it is persuasively communicated". Management is responsible for communicating the safety identity of the organisation that defines where it is heading. Subsequently, communication strategies that transform this „vision' of the organisation into reality need to be implemented.

#### **6.2.1.1 Quantitative findings**

Firstly, this element was tested at the Precast Yard by means of a questionnaire. In this questionnaire, the element of *sharing the compelling vision* was



researched using seven items – namely questions 20a; 20b; 20c; 20e; 20f; 20g and 20h (see sections 4.8.1).

In answering these questions, 60% ( $N=281$ ) of the respondents felt that almost everyone in the organisation, no matter their job level, could accurately describe the safety objectives of the organisation. Against this, 40% felt that this was not the case. It is seen that the majority of the employees of the Precast Yard feel that the safety vision of the organisation is communicated to all employees. Still, a large amount of employees (40%  $N=281$ ) feel that this message does not reach everyone in the organisation.

20a: Safety objectives can be described by all in the organisation

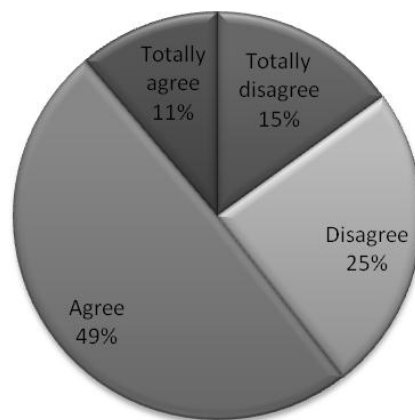
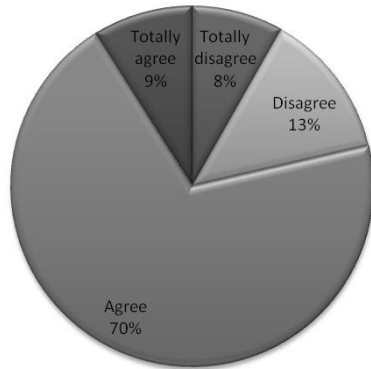


Figure 6.2.1.1.1 Communication of safety objectives

When asked about the persuasiveness of **supervisors'** safety communication, an overwhelming 70% ( $N=281$ ) of respondents felt that supervisors at the Precast Yard were persuasive in their safety communication versus the view that **managers** of the Precast Yard are not persuasive in communicating safety information (32%  $N=281$ ).

20b: Supervisors persuasively communicate safety information



20c: Management persuasively communicate safety information

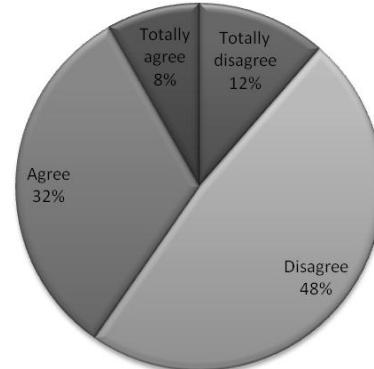
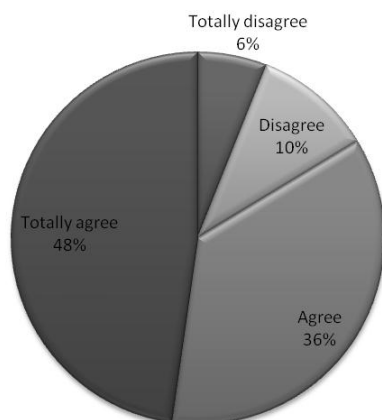


Figure 6.2.1.1.2 Persuasive supervisors and management

Notwithstanding the fact that management was unpersuasive, respondents felt strongly that, at the Precast Yard, they as employees were indeed encouraged to work safely, individually, as well as in teams. This was reflected by a cumulative 84% ( $N=281$ ) of respondents agreeing or totally agreeing with the statement that they were encouraged to work safely. Similarly, 84% of respondents ( $N=281$ ) felt that they were encouraged to work safely within a team.

20e: Workers are encouraged to work safely



20f: Workers are encouraged to work safely in a team

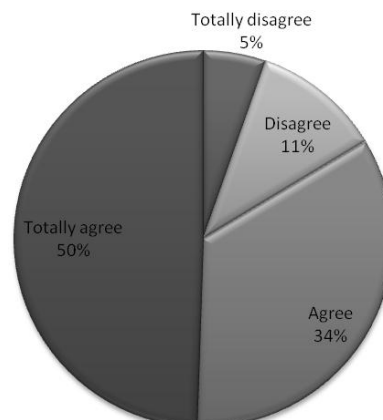
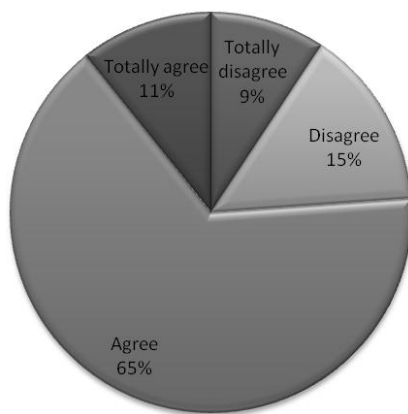


Figure 6.2.1.1.3 Safety encouraged

Linking closely with the aspect of persuasiveness, the next two questions in the questionnaire asked whether or not supervisors and managers (respectively) forwarded clear safety instructions/suggestions to employees, which were supported by strong arguments. Yet again, the polar sentiments of the employees are seen in their response to these two questions, where it was felt that supervisors did indeed forward clear instructions/suggestions that were rooted in strong arguments, although managers did not. Including both positive responses, 76% of respondents felt that supervisors were adequate in this regard, whilst only 35% felt that managers were ( $N=281$ ).

20g: Instructions from **supervisors** are clear and supported by strong arguments



20h: Instructions from **managers** are clear and supported by strong arguments

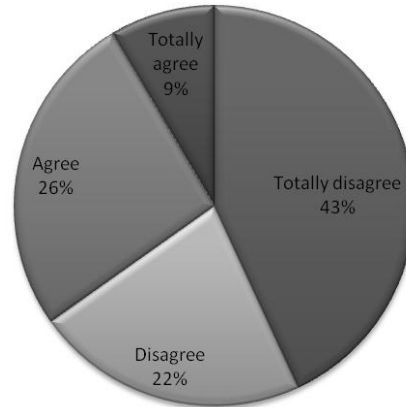


Figure 6.2.1.1.4 Instructions/suggestions from supervisors and managers

The view of respondents with regard to the compelling vision of the organisation can thus be summarised by stating that the majority of employees do indeed feel that the compelling safety vision of the organisation (to work safely) is identified, and then communicated to them. However, the response shows that the persuasive communication of this vision is left in the hands of supervisors, and not management, although literature suggests that management should take this task on themselves. This aspect was given more clarity in the focus groups and interviews.

#### 6.2.1.2 Qualitative findings

In the interviews, as well as the focus groups, it was made clear that the communication flow at the Gautrain-project's Precast Yard is incredibly hierarchical in nature. All vertical communication has to filter through various levels to reach the lower side of the job level scale. In this, communication that originates from managers in the organisation will necessarily be communicated to employees by their direct supervisor.

This aspect clarifies the above responses of employees somewhat, although the fact that these employees feel the need for management to communicate to them cannot be ignored. Participants in the first focus group (with general workers) stated that they would like management to talk to them **directly**, more frequently. One participant, when replying to the question about how safety communication at the Precast Yard could be bettered, stated "If they [management] could maybe... you know... could like call us all together, like once a week, maybe on a Monday, and talk to us about safety, that would be good" . This sentiment was echoed by most of the workers that participated in the focus group.

The supervisors that participated in the third focus group held an opposing opinion, however. These participants were of the opinion that management talked to the general workers more than they did to them, as supervisors. In this, these participants felt that the workers that work directly under them were more informed, and communicated to, by management than they were.

Having said this, the participants from this focus group did, however, feel that the safety communication that they did receive from management did indeed change the way they did their job, and how they instructed their subordinates to do theirs. This opinion stresses the fact that the safety vision of the organisation needs to be translated into reality, as suggested by literature. Focus group one (with general male workers), as well as focus group two (with female employees) felt the same way, although another dimension was added to this: The fact that they did not always know **why** they needed to do what was communicated to them.

Put differently, these participants felt that they did indeed implement the safety procedures communicated to them, although they had no idea as to why they needed to do this. The sentiment that is reflected in this is that the identity and vision of the organisation are not communicated to its full extent: Workers seem to know **how** to transform the vision of the organisation into reality, but not **why** this is done. The strategy and underlining motivation for this vision are not sentient.

The next element of communication effectiveness to be discussed, relates to the above discussion of management involvement in safety communication. This aspect is the effective integration of effort.

### **6.2.2 Effective integration of effort**

In effective integration of effort, the organisation has to ensure that the energy and efforts of the workforce are pushing in the same direction. Very important here is the fact that communication from the top of the organisation (management) has to be clear and consistent, as it is management that sees the “big picture” of the organisation’s operations, as well as how each employee’s work fits into this “big picture” – in other words, is integrated (Francis & Woodcock, 1994:6).

#### **6.2.2.1 Quantitative findings**

In the questionnaire administered to employees, the aspect of *effective integration of effort* was tested by means of seven questions (questions 20d; 20i; 20j; 20k; 20l; 20r; and 20s). The first question in this regard, touches upon the aspect lastly discussed under *sharing the compelling vision* above. This question asked whether or not great efforts are made to explain the **reasons** for change in safety strategies/procedures to employees.

20d: Efforts are made to explain changes in safety strategies/procedures

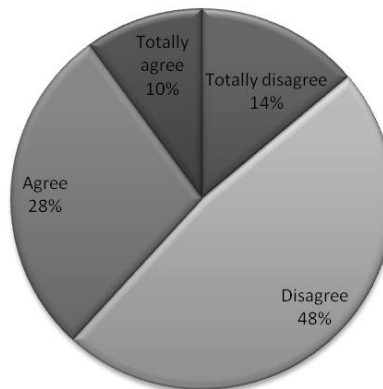


Figure 6.2.2.1.1 Explanation of changes in safety strategies

Concurrent with the qualitative findings under *sharing the compelling vision*, respondents to the questionnaire mostly felt that the **reasons** for changes in the safety strategies/procedures that they had to abide by, was **not** explained to them. This is reflected by 48% (N=281) of employees disagreeing with the statement, 14% totally disagreeing, only 10% totally agreeing, and 28% agreeing. In this instance, it is interesting to see how operators, supervisors and managers respectively answered this question, as supervisors seemed to disagree with operators in the focus groups about this aspect. Managers were the responsible party here, so their responses would also be enlightening.

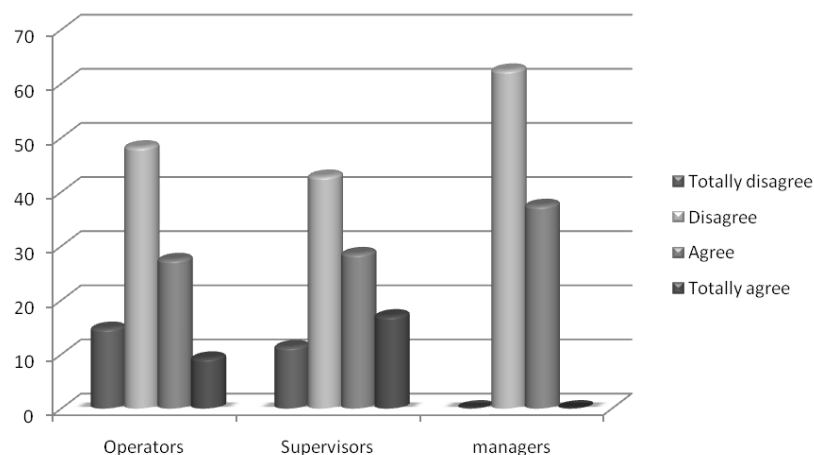
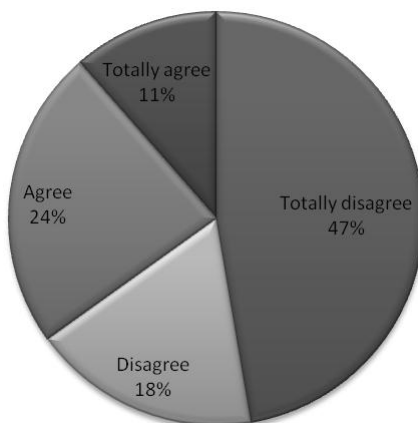


Figure 6.2.2.1.2 Explanation of changes in safety strategies according to job level

In this figure it is seen that operators and supervisors answered this question in much the same way. Managers, however, did not choose the more extreme options at all (**totally** disagree or **totally** agree). Still, these responses of management show that they too (along with operators and supervisors) realise that there is a need for communication, regarding the **reasons** for changes that are made in safety strategies/procedures. The sentiment of supervisors that their subordinates receive much more safety communication is contested by the above, however, as operators feel that their need for this communication is not yet satisfied – whether or not they receive more than their supervisors.

Closely related to the above question about communication regarding the **reasons** behind safety strategies/procedures, the next two questions ask about information in general. The first question asks whether or not employees feel that safety information to do their job, specifically, is easily available. The second question is more general, and asks whether or not employees feel that information on general safety is easily available. Respondents answered in the following way:

20j: Safety information about respondents' specific job is easily available



20k: Information on general safety is easily available

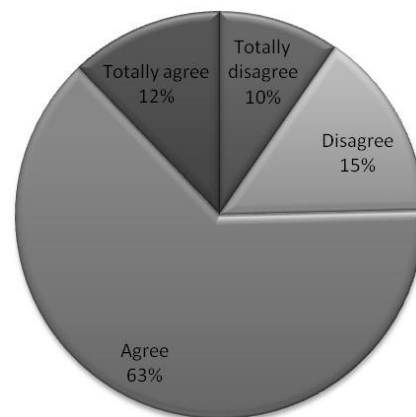
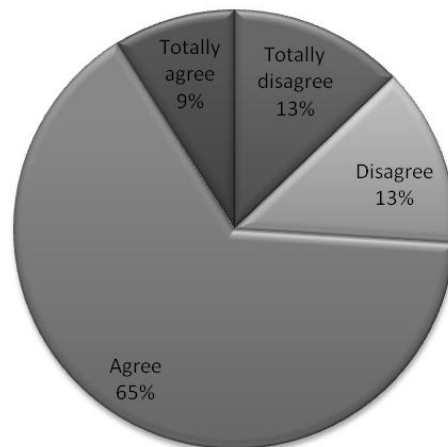


Figure 6.2.2.1.3 Availability of safety information

In the above responses, the integration factor at the Precast Yard is clearly outlined. When the cumulative totals are taken, it is seen that most employees definitely feel that **general** safety information is indeed easily available to them (with 75%  $N=280$ ). Opposing to this, they feel that safety information regarding their job, specifically, is not that available (with a cumulative 35% agreeing and 65% disagreeing). It is seen that management needs to improve in its integration efforts, as the specific occupations of employees are not given adequate attention in the safety communication at the operation. Rather, focus falls on the communication of general safety practices.

Next, employees were asked whether or not they felt that they were frequently updated with news about the safety successes in the organisation. In this aspect most employees felt that they were indeed updated with news about the safety successes of the organisation. Herein, a positive picture is painted with regard to integration, as employees are informed about the overall successfulness of the safety endeavours of the workforce.

20I: Updated frequently about the safety successes of the organisation



*Figure 6.2.2.1.4 Safety success updates*

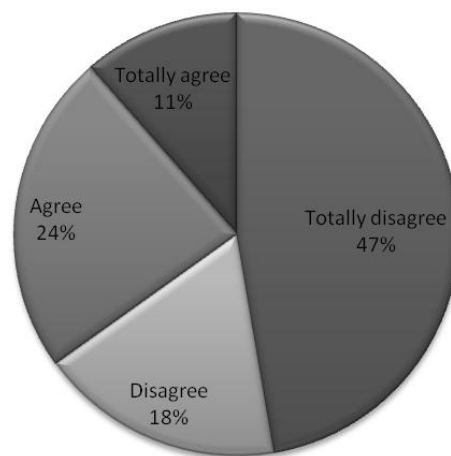
The tendency that emerges here is that management is successful in its communication regarding the integrative effort of the organisation as a whole,



although the individual employee's place therein is not that clear. This aspect closely relates to the next question, where employees were asked whether or not they felt that managers at every level made great efforts to keep in touch with everyone in the organisation. In this, the aspect of integrating every individual into the workings of the organisation as a whole is seen.

Corresponding to the sentiments displayed in the foregoing questions, most employees felt that management did not keep in touch with everyone in the organisation. Herein, 47% of respondents totally disagreed with this statement ( $N=280$ ), 18% disagreed, 24% agreed and 11% totally agreed.

20i: Managers at every level keep in touch with everyone in the organisation



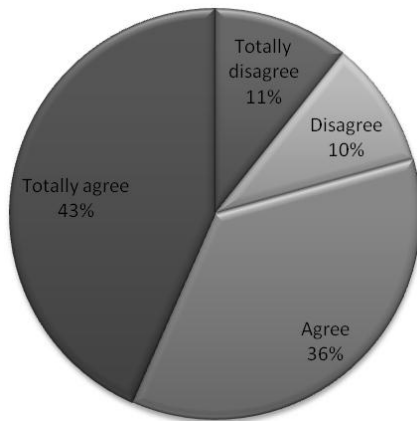
*Figure 6.2.2.1.5 Managers' contact with everyone in the organisation*

The next question in this regard acted in the same seam as the question above, but in this case the question was made more concrete. In this instance respondents were asked whether or not they agreed with the statement that managers talked frequently with people throughout the organisation about safety. As a gauging factor, this question was repeated, but in the second instance respondents were asked about their supervisors.

As expected, judging from previous responses in this vein, respondents had differing – almost opposite – opinions with regard to managers as opposed to

supervisors. Pertaining to the question asking about supervisors talking to employees regarding safety, a cumulative 79% ( $N=280$ ) of responses were that they did so frequently. The same question regarding management yielded only 39% for the positive response.

20r: **Supervisors** talk frequently with people throughout the organisation about safety



20s: **Managers** talk frequently with people throughout the organisation about safety

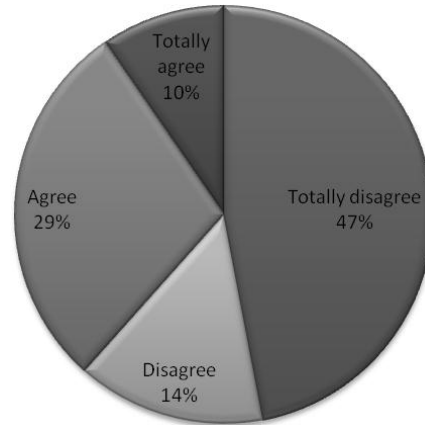


Figure 6.2.2.1.6 Frequency of managers and supervisors talking to employees about safety

As stated before, the hierarchical flow of information at the Precast Yard could give rise to these opinions. Next, further qualitative findings linking to *the effective integration of effort* will be discussed.

#### 6.2.2.2 Qualitative findings

As stated in literature, the effective integration of effort does not only speak to the integration of individual members of the organisation into the whole, but also to the integration of various departments of the organisation. In this integration of various departments, the statement was made that the most difficult convergence, in this kind of environment, is that of safety and production departments (Mohamed, 2002:377). This sentiment from literature was seen in the qualitative findings of the research, where interviews with managers conceded that production pressures hinder safe work practices. This is due to the

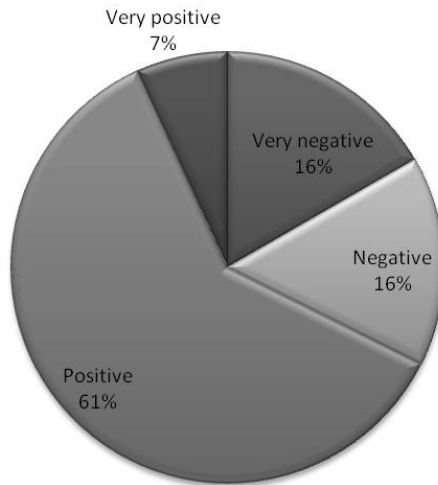
fact that production runs parallel with time constraints, so too are the bonuses linked to finishing a given task on time, or in less time than scheduled. Contrasting to this, safe work practices ask for careful and considered actions.

Even safety communication practices take up too much time for some supervisors – according to the focus group consisting of general workers. Workers stated that they were discouraged to ask questions during the *Toolbox talks* (a safety communication channel), as this would take up too much production time. One participant in the focus group declared “pressure of production should be lessened, before safety will be successful”. In this regard, the focus group of supervisors noted that the communication that they received from the top was inconsistent. Safety is said to be a priority, although production seems to (in their opinion) take precedence.

This is an example of dissemination of departments, and subsequently the communication that originates from them. Before production communication and safety communication are not integrated, the one will always be perceived as more important than the other – at the Precast Yard the onus seems to fall on production.

This aspect was directly seen in the quantitative findings as well, although not under the questions dealing with the effective *integration of effort*. When asked to rate the organisation’s behaviour with regard to safety and production (amongst other aspects) employees responded in a very telling way. Although the overall sentiment towards safety was positive, with 7% very positive and 61% positive ( $N=281$ ), it came nowhere close to the positivity of the organisation towards production. In this question an overwhelming 77% of respondents felt it was **very** positive, whilst 20% felt it was positive ( $N=281$ ).

23c: Organisation's behaviour towards safety



23q: Organisation's behaviour towards production

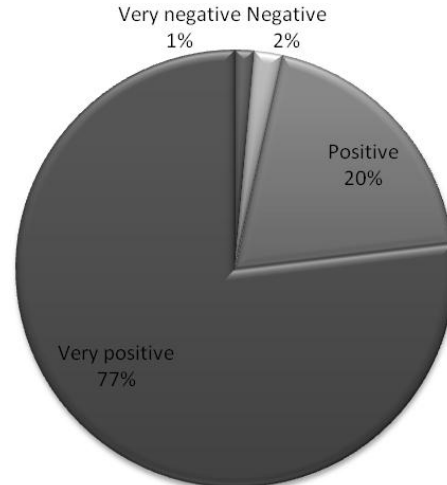


Figure 6.2.2.2.1 Organisation's behaviour with regard to safety and production

### 6.2.3 Intelligent decision making

The next element under *effective communication* is the aspect of intelligent decision making. In its turn, communication for intelligent decision making looks at “efficiently collecting, structuring and transmitting relevant information to those with power” (Francis & Woodcock, 1994:6). In the current study, upward communication at the Precast Yard is, therefore, looked at.

#### 6.2.3.1 Quantitative findings

In the questionnaire, *intelligent decision making* was tested through five items – these were namely, questions 20n; 20p; 20q; 20t and 20u.

The first question asked whether or not employees felt that there was a genuine conversation between representatives of the workforce and management. In answering this question, a cumulative 64% ( $N=280$ ) respondents did not agree with this statement, while only 36% did agree. Herein it is seen that the majority of employees at the Precast Yard feel that there is a blockage in the communication between themselves and management.

20n: Genuine conversation between the workforce and management

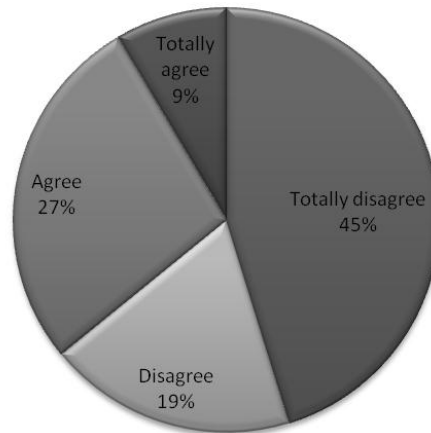


Figure 6.2.3.1.1 Conversation between workforce and management

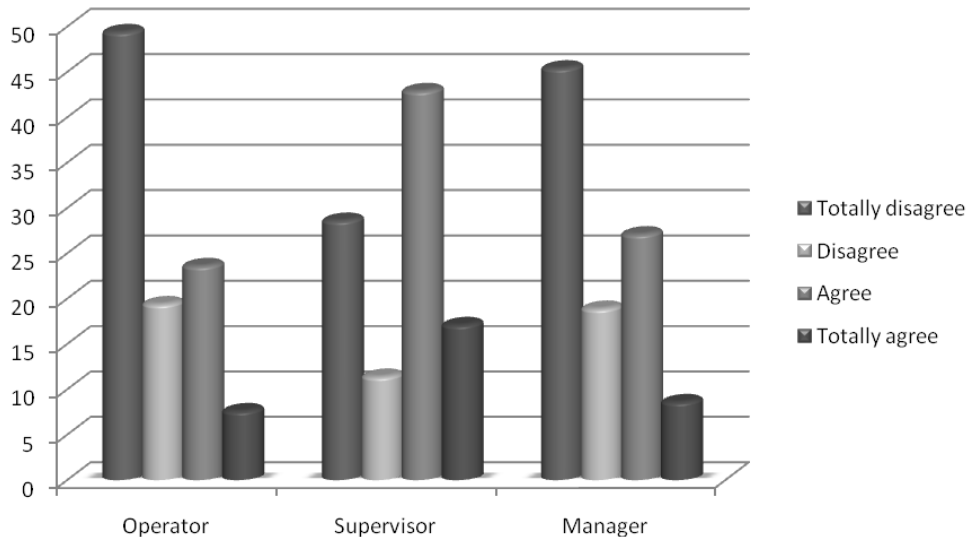
In researching where this blockage is felt more pertinently, a contingency table can be used to see what the responses of operators, supervisors and managers were, respectively.

Conversation between workforce and management according to job levels (expressed in terms of valid percentages)				
	Totally disagree	Disagree	Agree	Totally agree
Operators: <i>n</i> =237	49.4%	19.4%	23.6%	7.6%
Supervisors: <i>n</i> =35	28.6%	11.4%	42.9%	17.1%
Managers: <i>n</i> =8	45.4%	18.9%	27.1%	8.6%

Table 6.2.3.1.2 Conversation between workforce and management according to job level

Although differences are already seen in the above, these are clearer in the graphic below (Figure 6.2.3.1.2). It is seen that operators and managers were on average more troubled about the conversation between the workforce and management, although the majority of supervisors felt that indeed there was a genuine conversation between these parties (with a cumulative 60%, *n*=35).

Opposed to this, a cumulative 69% ( $n=237$ ) operators felt that there was **not** a conversation between management and representatives of the workforce. This was echoed by the responses of managers, where 64% ( $n=8$ ) of managers felt this way as well.



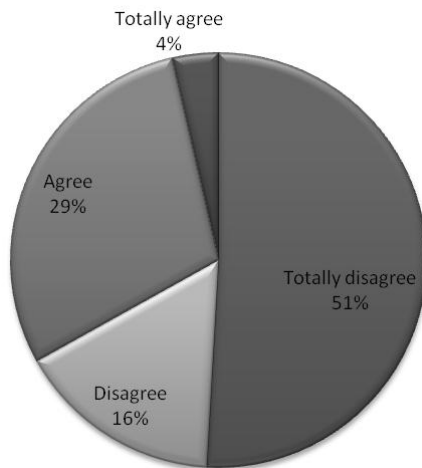
*Figure 6.2.3.1.2 Conversation between workforce and management according to job level*

In order to get further clarification on this aspect, the next two questions asked whether or not employees lower down in the organisation feel that those higher up in the organisation fully understood their safety problems. For these questions to truly bring more clarity on the question asked, as discussed above, the first question specifically asked whether or not **management** understood the safety problems of employees lower down in the organisation, and the next specifically asked if **supervisors** understood these problems.

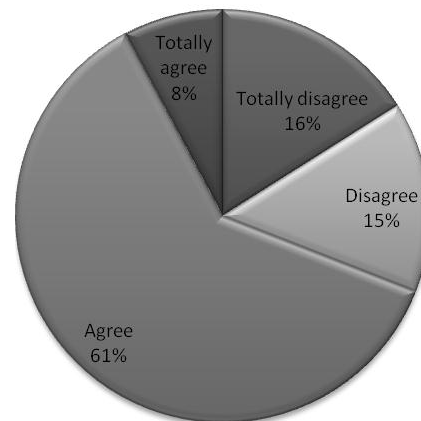
Very much consistent with the previous responses, the responses to these two questions proved to be quite telling. 69% ( $N=281$ ) of respondents felt that **supervisors** understood the safety problems of those employees lower down in the organisation, whilst only 33% ( $N=281$ ) felt that **managers** did. The emphatic nature of the responses with regard to management's lack of understanding of

the safety problems faced by those lower down in the organisation was seen in the fact that the majority of employees **totally** disagreed with this statement (with 51%,  $N=281$ ).

20p: Management fully understand employees' safety problems



20q: Supervisors fully understand employees' safety problems



*Figure 6.2.3.1.3 Understanding of safety problems*

This breakdown in communication was then further researched in terms of upward communication, by asking whether or not managers and supervisors (respectively) frequently **collected** information on the thoughts and feelings of the workforce about safety. In answering this question, respondents to this questionnaire answered these next two questions in a statistical exact manner as they did the two questions discussed above.

This points to the fact that the majority of employees feel that **managers** do not understand the safety problems of those lower down in the organisation, as they do not collect information about this from them. Divergently, supervisors do indeed understand the safety problems of those lower down in the organisation, as they do indeed collect information regarding safety from those lower down in the organisation.

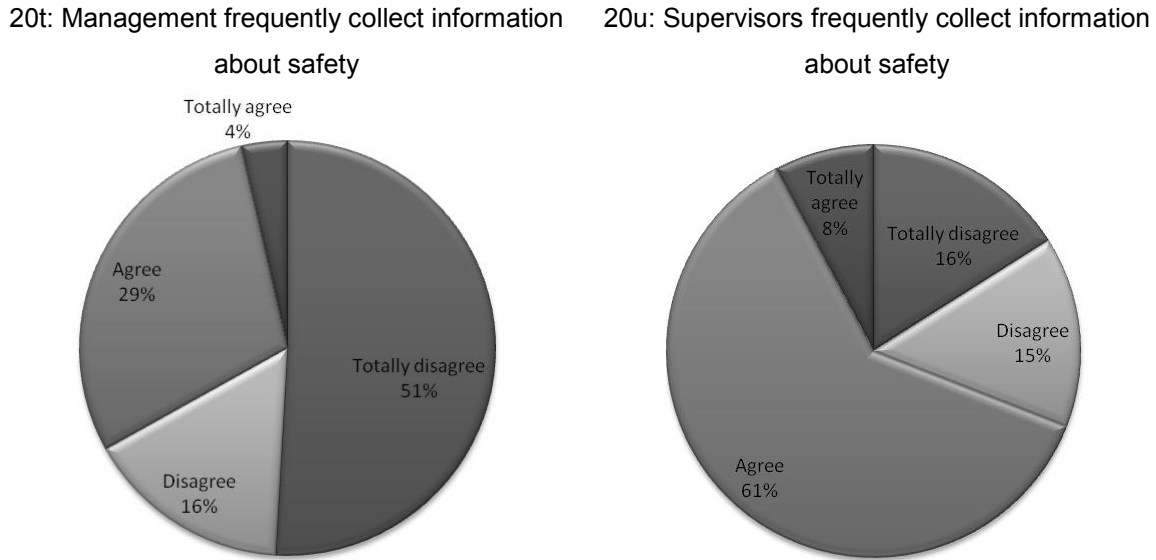


Figure 6.2.3.1.4 Collection of safety information

As said before, this aspect was addressed in the focus groups and interviews, where employees of the Precast Yard made it clear that the communication flow in this operation was strictly hierarchical in nature. This element, as well as other found in the qualitative findings, will now be discussed.

### 6.2.3.2 Qualitative findings

As stated above, the hierarchical nature of the communication flow at the Precast Yard can account for the feelings reflected in the questionnaires. Still, the focus groups yielded the same negative response that was seen in the questionnaires. The first major aspect that was reflected was that employees felt that there was a breakdown somewhere in the communication chain to the top, although they were unsure where it was. Employees felt that there was a blockage in the communicating of information – whether it be going up to management, or coming down. In the first focus group one employee asserted that many times employees did not even voice their concerns, as they felt that it had no use; it would not reach management anyway, although management was the only body which had control over their concerns.



In the interviews with managers, the necessity of the hierarchical structure was voiced. All three managers stated that the language barrier made it necessary for management to talk to employees through their supervisors/foremen. One manager stated "...there is a language barrier, everything has to be explained, so there has to be a foreman that explains management's answer. Just an answer from management means nothing to them."

One way of bypassing the hierarchical structure to communicate to management, as identified in the interviews, is by making use of the communication channel called *Pitstops*. This written form of communication gives employees the opportunity to communicate any problems to management by writing it down in a "problems box" that is brought on, on a piece of A1 paper. Managers then write feedback to these employees, to give answers to these problems (for more see section 5.2.2).

In the first and third focus groups, employees expressed the opinion that this channel was good for communicating problems, and getting feedback on it, but this did not necessarily mean that anything got done about it. In other words, although this medium allows for two-way communication regarding safety problems, the organisation still (in the mind of the employees who took part in the focus groups) does not apply this communication to be symmetrical – nothing is done about the information that is communicated. The position of the organisation remains unchanged as before the communication.

#### **6.2.4 Sustaining a healthy community**

The next aspect to be discussed under *communication effectiveness* is the *sustaining of a healthy community*. For the sustaining of a healthy community, all communication at an organisation has to be lacking in prejudice. Francis and Woodcock (1994:6) state that:

"Healthy communities are based on the principle of fairness. The most common kinds of prejudice are racial, sexual, religious and between social

classes. Prejudice is destructive because it increases the distance between social groups and individuals.”

This in its turn hinders the organisation to do the work it sets out to do.

In this, the empirical part of this study tries to understand the prejudices (if any) that exist at the Precast Yard, and that hinder the flow of safety communication and inherently thus the practice of safety in the workplace.

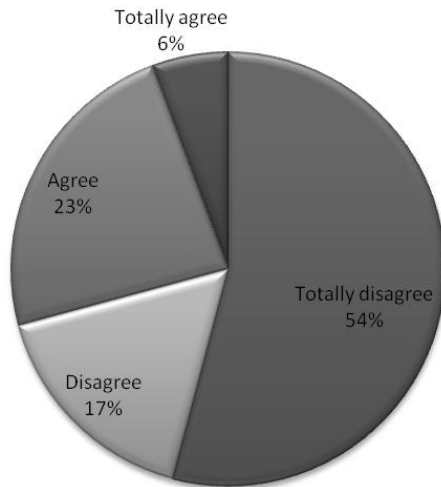
#### **6.2.4.1 Quantitative findings**

The quantitative findings from the questionnaire administered to employees at the Precast Yard focused on finding out whether or not prejudices exist at this organisation. Two questions were employed to this end, namely question 20m and 20o.

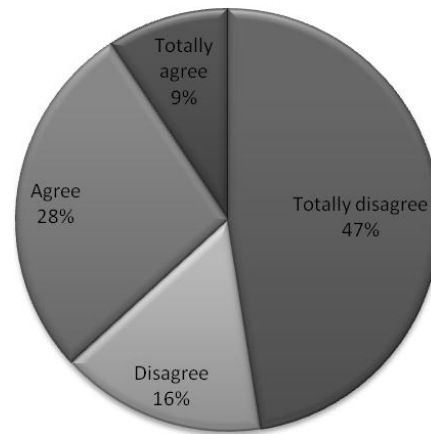
Question 20o asked whether or not everyone in the organisation received equal treatment regardless of race, colour, sex or creed. The responses to this question showed that, in the opinion of the employees, there were prejudices at play at the Precast Yard, as 54% (N=280) totally disagreed with the statement, 17% disagreed, 23% agreed and only 6% totally agreed.

Next, employees were asked about the prejudices of status levels, and the communication between these. Although the response to this question was not as overwhelmingly negative as that of the previous question, the results still showed that there were indeed prejudices with regard to status levels that hampered employees from communication freely. This is seen, as a cumulative 63% (N=280) of employees felt that they did not feel comfortable communicating between status levels, whilst 37% felt that they were.

20o: Equal treatment, regardless of race,  
colour, sex or creed



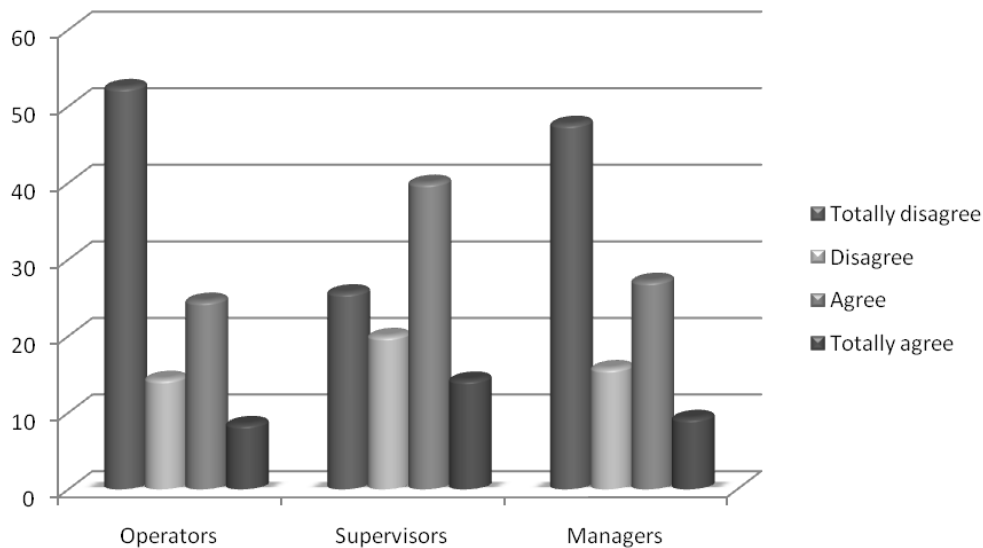
20m: Employees feel comfortable  
communicating between status levels



*Figure 6.2.4.1.1 Communication prejudices*

The freedom to communicate between status levels, free of prejudice, is however an aspect that could be affected by the position that the individual holds in the organisation, and subsequently this individual's seniority. It is for this reason that the segmentation of the last question's results into job levels would give a clearer impression of the feelings of the entire workforce.

When the response averages of the differing job levels are taken (as represented graphically below in Figure 6.2.4.1.2), it is seen that operators and managers seem to be the most negative with regard to this question, whilst supervisors are the most positive. This aspect strengthens the qualitative findings so far, which claims the supervisors to be the middle-men of communication between operators and managers. In this, it would be natural for supervisors to feel that they are free to communicate between status levels. The findings do, however, still point to the fact that the hierarchical flow of communication at the Precast Yard creates prejudices where all employees do not feel comfortable in communicating between levels of seniority and status in the organisation.



*Figure 6.2.4.1.2 Communicating between status levels, according to job level*

This aspect is echoed in the qualitative findings of focus groups.

#### **6.2.4.2 Qualitative findings**

The qualitative findings of the focus groups and that of the interviews are conflicting with regard to communicating between status levels. In the interviews with managers responsible for communicating safety information, all three managers were of the opinion that all employees were free to speak directly with them concerning any safety problems/queries they might have. One manager stated "...if the person sees me on site they can talk to me, or they are always welcome to come to the office and talk to me", whilst another stated that they (the managers responsible for safety communication) have "an open door policy" with regard to talking about safety.

In the focus groups with general workers and female employees, a different picture was painted, however. These focus groups were of the opinion that communication between status levels was not encouraged. Moreover, communication between status levels spoke of prejudice. One employee stated: "I do not have the right to talk to them [management] like they talk to me. Why do you not respect me because of the job I do?".

On prejudices regarding race, colour, sex and creed, all opinions as from the focus groups and interviews coincided, however. During interviews managers alluded to the fact that employees did not always accept women in the roles that they were appointed in. One manager asserted "...like when you bring in a woman as a foreman, you know they will not listen to her, because they believe only men can be leaders". The focus group with female employees echoed this sentiment, with statements like "If a woman tries to correct someone doing something [with regard to safe work practices] wrong, they do not listen to them – like they would a man. Although it is your duty to tell them when they do something wrong, because you can get hurt through their actions" and "They do not respect us, because of our gender, as well as our colour".

This same focus group spoke about the barriers that this kind of prejudice could cause the communication process, with the words "You need to talk to me nicely before I will be able to listen to what you tell me".

### 6.3 CONCEPT 2: COMMUNICATION SATISFACTION

The next concept that originated from literature is that of *communication satisfaction*. Communication satisfaction incorporates the following aspects according to Downs *et al.*, 2004) (see theoretical statements 6, 7, 8 and 9):

- Communication Climate (as discussed under 3.9);
- Organisational integration (as discussed under 3.11);
- Media Quality (as discussed under 3.13); and
- Organisational Perspective (as discussed under 3.10).

As with the concept discussed previously, the reliability and validity of the concept of communication satisfaction were also tested by means of a confirmatory factor analysis and by determining the Cronbach's alpha. Unlike the previous concept, however, the model proposed by the ICA's questionnaire did prove to be a fit on the questionnaire administered at the Precast Yard, in the confirmatory factor analysis. Interestingly enough, one variance was seen in the factors of the proposed model and that of those from the responses of the Precast Yard: In most instances, the employees of the Precast Yard did not make any distinction between organisational perspective and organisational integration (as the respondents of the ICA study did). The factors were seen to be similar to those proposed in the ICA questionnaire, with the difference of organisational perspective and organisational integration being seen as one factor, and not two. It is seen that the measuring instrument was valid.

The items of these factors were subjected to the testing of their Cronbach's alpha coefficient. This showed reliability of the measuring instrument, as the coefficients ranged between 0.78 and 0.88 – all well above that of the acceptable 0.7 (Roberts *et al.*, 2006:44; Field, 2000: 666; Santos, 1999:7).

In determining the reliability and validity of the factors and concept, the discussion of the employees of the Precast Yard's responses will now follow as from the factors and aspects identified originally from literature.

In general, the responses of employees (as from the testing by means of one-way anova and t-tests – see section 4.8.1.2) did not yield any difference, notwithstanding the respondents' different qualification levels, or their proficiency in the English language. Some differences were indeed noted in terms of different job levels, and these were indicated in those circumstances where they were found to be significant (according to the Tukey Post Hoc test).

### **6.3.1 Communication Climate**

According to Downs *et al.* (2004:114) communication climate refers to the manner in which communication at the organisation is both stimulating and motivating with regard to meeting the organisation's goals. In order for the environment to be stimulating and motivating, however, employees need to have trust in their co-workers, in terms of working together (Mohamed, 2002:376).

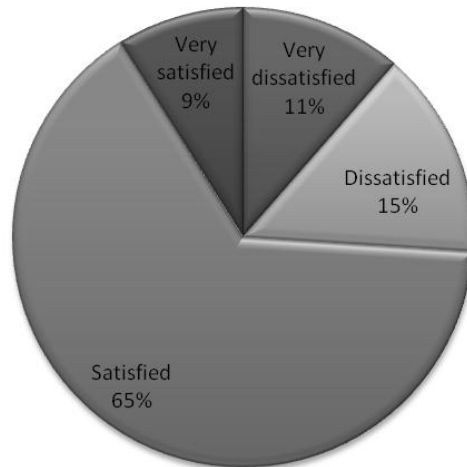
Communication climate in the empirical part of this study seeks to understand to what extent the safety communication at the Gautrain project's Precast Yard stimulates and motivates employees to meet the operation's safety goals. In addition, the element of trust between co-workers will also be researched.

#### **6.3.1.1 Quantitative findings**

The first question regarding communication climate in the questionnaire administered to employees (namely question 16b) encompassed the entire first part of the explanation above, as it asked employees how satisfied they were with the manner in which the Precast Yard's safety communication motivated them to meet its safety goals. In answering this question, the employees of the Precast Yard showed that they were mostly satisfied with the extent to which the safety communication motivated them to meet the organisation's goals. This is

reflected by the cumulative 74% (N=281) satisfied responses, against the 26% dissatisfied responses.

16b: How safety communication motivates employees to meet the organisation's safety goals



*Figure 6.3.1.1.1 Safety communication's motivation to reach safety goals*

This aspect was then further tested in question 22, where employees were asked to rate their trust towards co-workers, in terms of working together. As seen below in Figure 6.3.1.1.2, the trust that employees have towards different groups of co-workers coincides with the previous findings in this regard. The ratings that employees gave can now be summarised from highest- to lowest levels of trust.

#### **High trust**

- Immediate work colleagues
- Supervisors
- Safety department
- Middle management
- Unions
- Senior- and top management

#### **Low trust**





Figure 6.3.1.1.2 Trust in co-workers

### 6.3.1.2 Qualitative findings

The results seen in the graphs above were reflected in the qualitative findings as well. In the interviews with managers, the issue of trust came up in two of the three interviews. In the second interview, the manager stated “they [employees] do not want to trust management. I mean there is no reason for them not to trust management, but I suppose they see it as management is on top and they are at the bottom, like they are lower down in the food chain and that they are affected more by managements’ decisions, and that management is untouched. So there is a bit of a trust issue there. So if they talk to each other it is a lot better”.

The sentiment reflected here (which was echoed in the other interview that spoke of trust), is that the trust between workers is very high, but that employees do not trust management to the same extent. Still, employees receive the safety communication at the Precast Yard, being hierarchical as it is, from their supervisors, as well as the safety department (not management). The overall degree of trust that employees indicated towards these two groups was relatively high. This accounts for the fact that employees felt an overall satisfaction with the way in which the safety communication motivated them to reach the organisation’s safety goals (as discussed above and depicted in Figure 6.3.1.1.1).

This aspect was, however, given greater understanding in the focus groups. In this, participants stated that, although the safety communication at the Precast Yard did indeed motivate them to reach the safety goals of the organisation when it was seen in isolation, it paled in comparison to other forms of communication. The employees felt that the communication of the organisation sometimes focused more on production communication than on safety communication, and that the impression was given that production was more important than safety by the sheer amount of information that was given about each topic. In this, employees felt that, although the **safety** climate of the organisation was satisfactory geared towards the reaching of the organisation’s safety goals, the

organisation's **overall** climate seemed to value production more. This aspect touches upon the next element to be discussed, namely Organisational Integration.

### **6.3.2 Organisational integration**

The element of integration was also mentioned in *effective integration of effort*, above, under the concept of communication effectiveness, where the focus was on the integration of departments in the organisation – such as the safety department and the production department. Under organisational integration, however, focus is given to the integration of individuals in the organisation into the whole.

In this, organisational integration, according to Downs *et al.* (2004:115), refers to the “information employees receive about their job and related items, such as policies and benefits”. In the empirical part of this study, questions about organisational integration thus seek to understand how employees feel about the communication that they receive pertaining to the safety of their job, and related items such as safety policies and safety benefits.

#### **6.3.2.1 Quantitative findings**

In the questionnaire administered to employees, the **amount** and **quality** of the communication that employees received, were firstly tested. Question 14 dealt with the amount of communication received, whilst question 15 dealt with the quality thereof.

The first coupled questions in this regard focused on communication concerning personal news about colleagues. In answering these two questions, the responses were very similar. In both cases, employees majorly indicated that they were satisfied with both the amount, as well as the quality of information that they received in this regard. Herein a cumulative 69% ( $N=281$ ) of respondents

felt satisfied with the amount of information concerning personal news about colleagues, whilst 65% ( $N=281$ ) were satisfied with the quality.

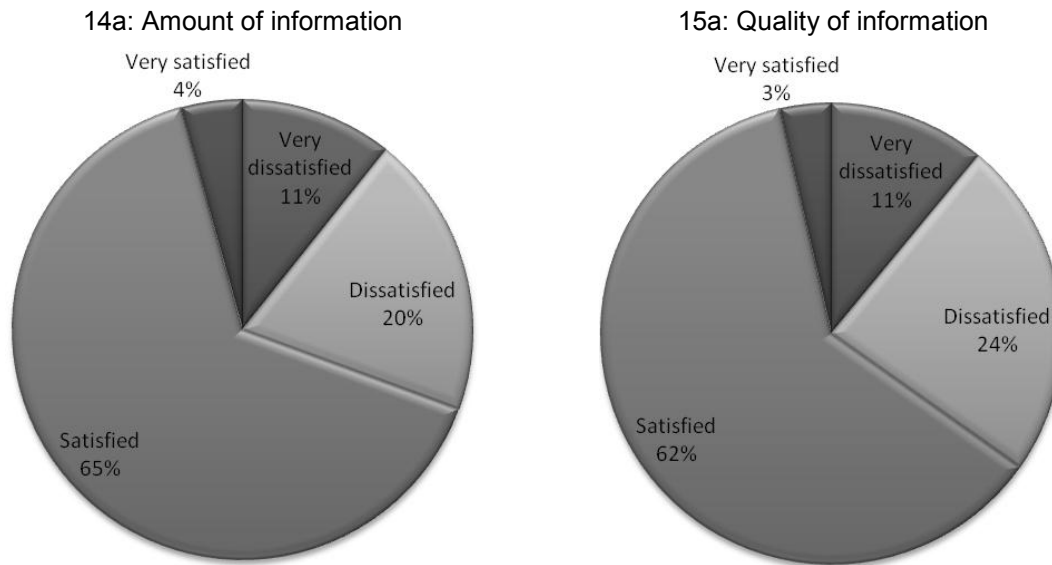


Figure 6.3.2.1.1 Personal news about colleagues

Next, employees were asked to rate the amount and quality of information that they received about organisational policies. In answering these two questions, employees did, however, not show such a positive response as above. The majority of respondents showed a negative response to this question, as 61% ( $N=281$ ) were dissatisfied, and 13% were very dissatisfied with the amount of information that they received with regard to organisational policies. The responses of these employees were even more negative when asked about the quality of information they received with regard to organisational policies, as 28% ( $N=281$ ) indicated that they were dissatisfied, and 43% indicated that they were very dissatisfied. It is seen that the majority of employees felt that information regarding organisational policies was not communicated enough, and when it was communicated, the quality of the information was not on a satisfactory level.

This aspect echoes the findings under *sharing the compelling vision*, where employees indicated that the reasons behind safety rules and procedures were not communicated to them. The comparison can be drawn here between not

understanding where procedure comes from, and not communicating organisational policies on a satisfactory level.

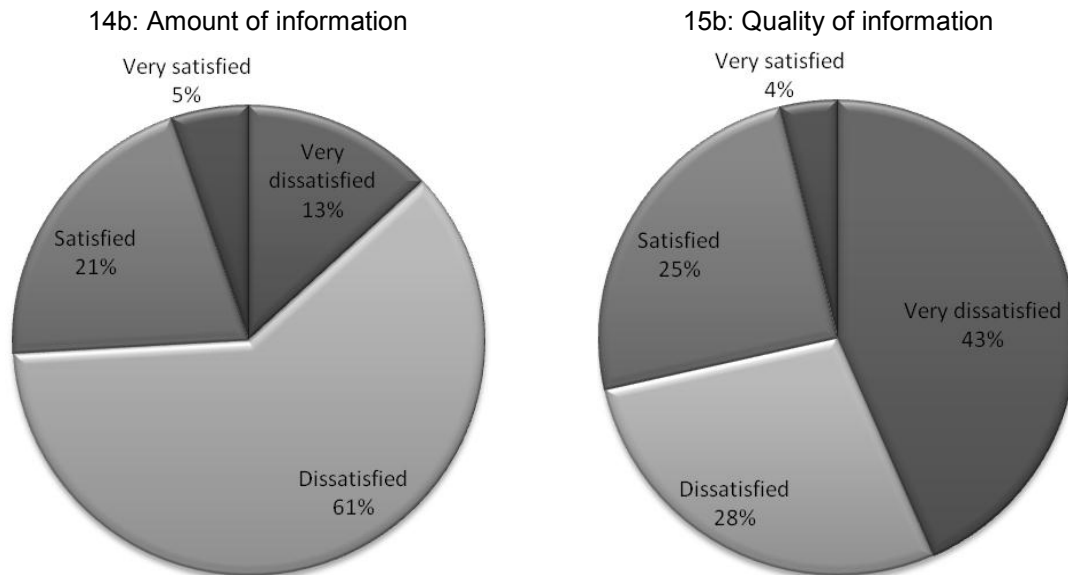
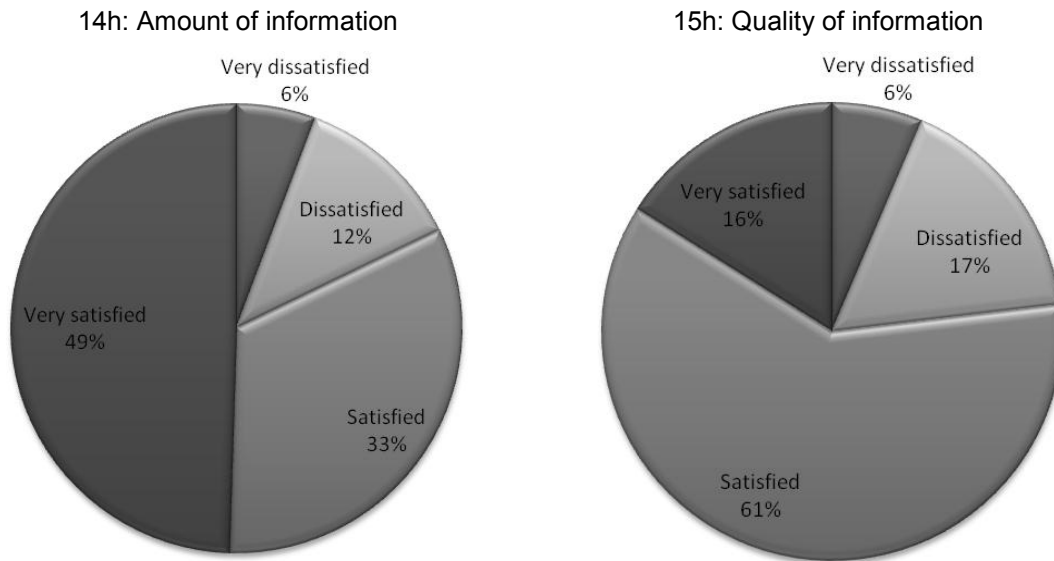


Figure 6.3.2.1.2 Information about organisational policies

Closely related to the above, the next question in this regard, asked to what extent employees were satisfied with the amount and quality of information that they received with regard to doing their work safely. As seen in Figure 6.3.2.1.3, employees were overwhelmingly satisfied in this regard, as 49% ( $N=281$ ) of employees indicated that they were **very** satisfied with the amount of information sent with regard to doing their work safely, and 33% indicated that they were satisfied. Linking to this, although not as positive, the majority of respondents indicated that they were satisfied with the quality of information that they receive, with regard to working safely (with 61%,  $N=281$ ), whilst 16% indicated that they were **very** satisfied.

As stated, this aspect closely relates to that discussed above, linking to the *sharing of the compelling vision*, where it was found that employees were made aware of **how** to do their work safely, although the question of **why** was not answered in communication. In the below it is made clear that employees receive

enough information to empower them to do their work safely – put differently, how to do this.

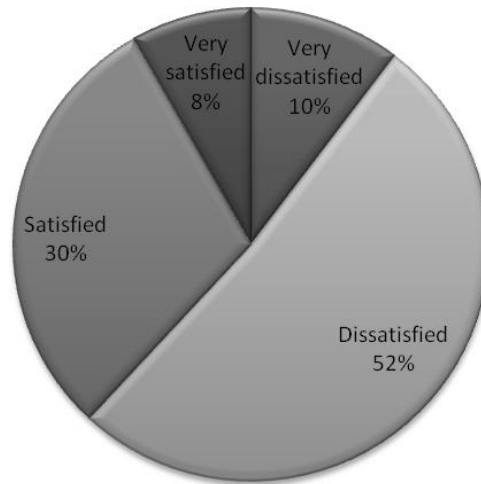


*Figure 6.3.2.1.3 Information about working safely*

The next questions researching organisational integration, asked about more intricate aspects in the integration of individuals into the organisation. In this, employees were only asked to rate the amount of information that they received with regard to the issues listed, in order to ascertain whether or not the organisation spent time communicating to employees about these issues. Specifically the questions in this regard were question 19b; 19d; 19i and 19j.

In question 19b, respondents were asked to rate their satisfaction with the amount of information they received regarding how decisions were made that affected the safety of their job. In this, the element of **why** safety is practised the way it is (as discussed above), is directly addressed.

19b: Amount of information regarding how decisions that affect employee's work is reached



*Figure 6.3.2.1.4 Information regarding decision-making*

Predictably (with regard to previous findings), the majority of employees were dissatisfied with the amount of information that they received in this regard (with 52%,  $N=281$ ). Still, an almost equally large number of employees (30%) indicated that they were indeed satisfied. In order to gain greater clarity on this division of responses, the answers of employees can be diffused according to job levels.

As seen in the figure below, the same amount of supervisors felt satisfied with the amount of information, as those who were dissatisfied (with 37.1% in each instance,  $n=35$ ). The negative response seen in the overall percentages of this question was made up (in majority) by the responses of operators and managers (operators with 64.6%,  $n=237$  and managers with 62.5%,  $n=8$ ).

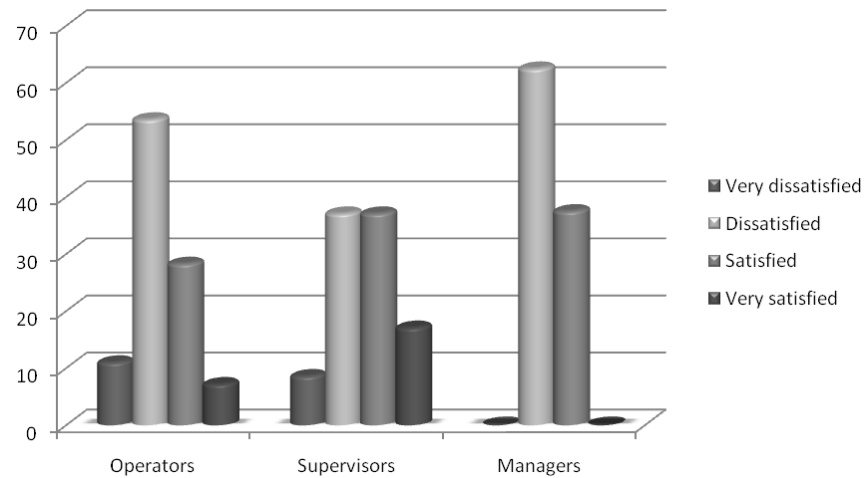


Figure 6.3.2.1.5 Information regarding decision-making, according to job levels

In linking with the communication of benefits, and related information as part of communication that encourages integration, the next question (19c) asks employees to rate their satisfaction with regard to information they received about pay, benefits of employment and conditions of employment.

19c: Information regarding pay, benefits of employment and conditions of employment

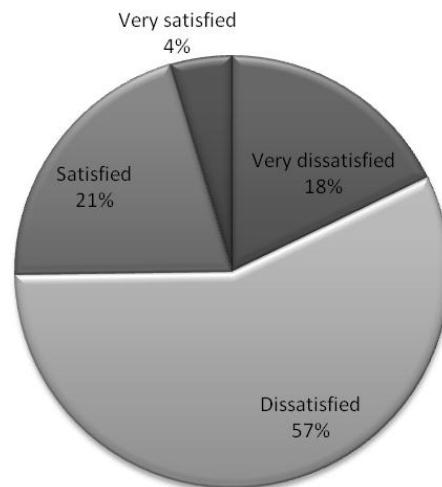


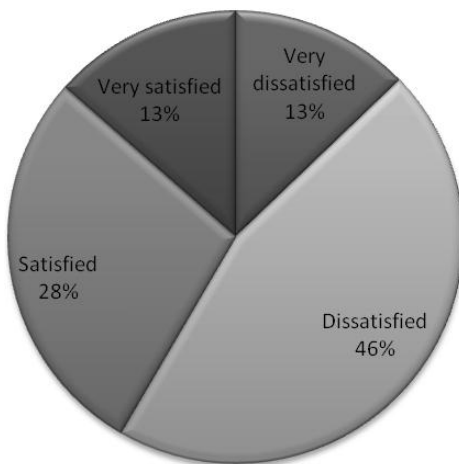
Figure 6.3.2.1.6 Information regarding benefits

Yet again employees indicated their dissatisfaction with this kind of integrative communication, as a cumulative 75% of employees were dissatisfied ( $N=281$ ) and only 25% were satisfied.



Next, employees were asked about the amount of information they received with regard to how their job contributed to the organisation, and then how doing their work safely contributed to the organisation. This kind of information communicates to employees what their place in the organisation is, and how important they are to the overall functioning of the organisation. In turn this makes employees feel integrated.

19i: Information regarding how employees' work contributes to the organisation



19j: Information regarding how doing work safely contributes to the organisation

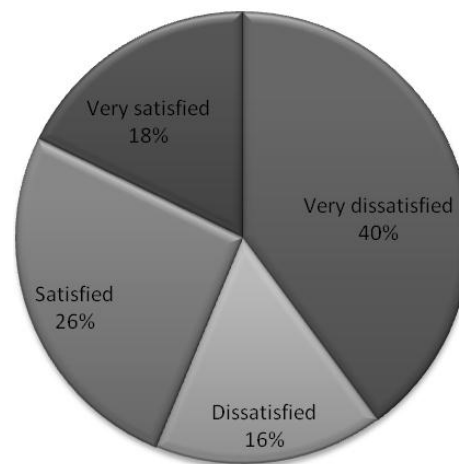


Figure 6.3.2.1.7 Employees' contribution to the organisation

In the responses of employees, it is seen that the majority of employees feel dissatisfied with the amount of information they receive with regard to how their job contributes to the operations of the organisation (with 46%,  $N=281$ ). Employees feel even more negative with regard to the manner in which doing their work safely contributes to the operations of the organisation, as 40% ( $N=281$ ) of employees are **very** dissatisfied and 16% are dissatisfied.

In the above it is seen that employees do not feel that they are aware of what their place in the organisation is, and what it means to the overall operation of the organisation to have them working there. According to Francis and Woodcock (1994:6) this kind of information can only be sent from those in the organisation that see the "big picture" and thus know how everyone in the organisation fits into

this “big picture”. At the Precast Yard, the hierarchical nature of communication almost prohibits managers from talking to general workers directly. This aspect, therefore, hinders integrative communication, as it is managers themselves who see the “big picture”.

This aspect touches upon the qualitative findings of this element, which will subsequently be discussed.

#### **6.3.2.2 Qualitative findings**

In one of the three interviews with managers, the desire to integrate individuals into the organisation was commented on. In this, the manager commented on the use of safety competitions to show employees (in their respective teams) that they contributed to the organisation, and that their actions were noticed.

Still, in the first and third focus groups, employees commented on the fact that “workers have tunnel vision” with regard to their work. Participants felt that workers only focused on their specific task (that they did day-in and day-out) and that the rest was oblivious to them. This aspect speaks to integration, as it is seen here that employees are not made aware of their function in the overall workings of the organisation, or even the project.

Very closely related to this integration effort of the Precast Yard, is the fact that, the organisational perspective of the operation needs to be communicated for effective communication, according to Downs *et al.* (2004:115).

#### **6.3.3 Organisational Perspective**

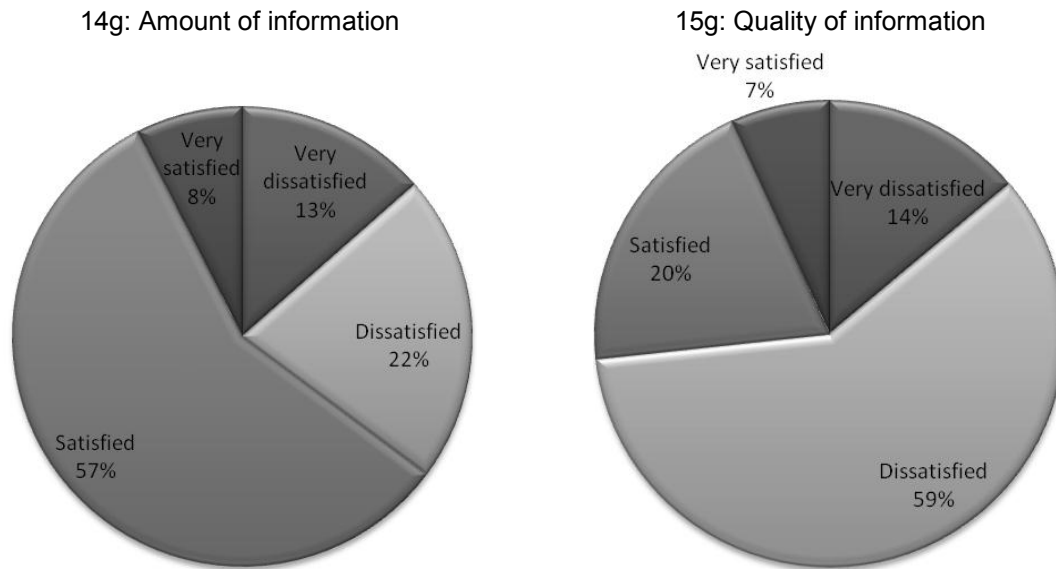
Organisation perspective “refers to the information given out concerning the corporation and its goals and performance. It also encompasses knowledge about external events such as new government policies, which impact on the organisation” (Downs *et al.*, 2004:115).

In the empirical aspect of this study, questions about the organisational perspective thus seek to understand the information given to employees about the Precast Yard's safety goals and performance. Also, the communication about government policies and other external events that impact on the safety of the Precast Yard is examined.

#### **6.3.3.1 Quantitative findings**

In the questionnaire, this aspect was tested in much the same manner as that of *organisational integration*. The first four items asked about the **amount** of information received on issues pertaining to organisational perspective first, and then about the **quality** of this information (specifically question 14e and 14g asked about the amount of information, whilst question 15e and 15g asked about the quality of that information).

The first coupled questions, question 14g and 15g, asked about the amount and quality of information that employees received about the organisation's achievements against its goals. In the response it is seen that most employees feel satisfied with the amount of information they receive on this topic (with 57%,  $N=281$ ) although they are dissatisfied with the quality of this information (with 59%,  $N=281$ ). Employees thus feel that the quantity of information about the organisation's goals and achievements is satisfactory although they have a need for better quality of information, in this regard.



*Figure 6.3.3.1.1 Information about the organisation's achievements against its goals*

In the next question, where respondents were asked to rate their satisfaction with the amount and quality of information received on government policies affecting their job, an overall negative sentiment was seen. 54% ( $N=281$ ) of respondents were dissatisfied with the amount of information they had received, whilst 22% were **very** dissatisfied. Even more negative than this, 48% of respondents indicated that they were very dissatisfied with the quality of information they had received about government actions that impact on their job, as 29% felt dissatisfied (see Figure 6.3.3.1.2).

These responses coincide with that of previous responses, where employees indicated that they had received enough information on **how** to do their job safely, although they feel a need for communication explaining **why** they needed to do so. As stated before, safety policies, procedures and regulations that organisations such as the Precast Yard follow, are dictated by the legislation created by government, specifically the DME (Van Tonder, 2008). In communicating to employees **why** they need to follow specific regulations, the

organisation will need to include information regarding government action that impacts on the operations of the Precast Yard.

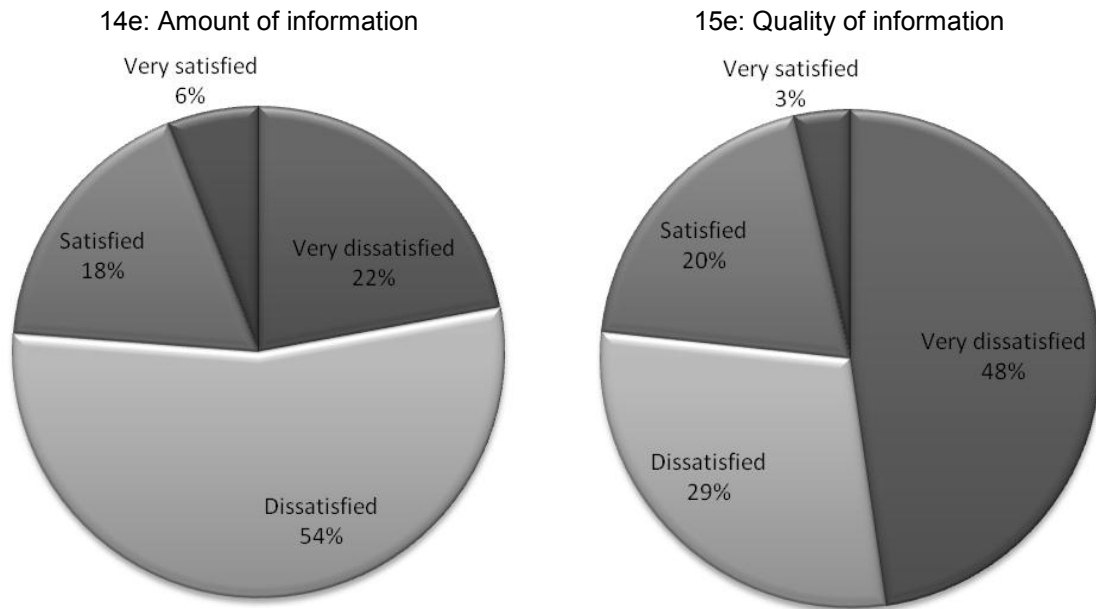


Figure 6.3.3.1.2 Information about government action affecting work

### 6.3.3.2 Qualitative findings

This sentiment was seen in the focus groups as well. The first focus group commented that they were well aware of internal goals and performances of the organisation, but all things external to the Precast Yard was not communicated to them. In the second focus group one employee commented “we do not know where the rules that we follow come from, so how do they expect us to follow them, like to me safety is PPE, it is wearing PPE. So I do not even know” (For a definition of PPE, see chapter 1, section 1.8).

Further clarification was given on this matter in the interviews with managers. In the third interview, the manager commented on the communication of information about government policies: “the unions talk to their own people. Like when government gives instructions we let the shopstewards talk to the people and let them know what is going on; so then, then they can see that it is not coming from us, you see, they can see that it comes from them”. It is seen that the

organisation leaves the responsibility of this communication up to the unions. This aspect can prove to be problematic, however, as the unions are not responsible for the safety on site – neither for the communication nor the implementation thereof. Alongside this, only 62% (N=281) of the employees indicated in the questionnaires that they were members of a union or such association. This means that 38% of employees are left out in the communication about government policies that impact on the operations of the Precast Yard.

7: Member of union or association

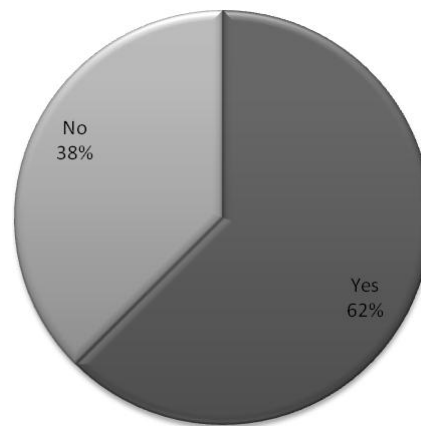


Figure 6.3.3.2.1 Membership to union or association

In the above, the importance of the channel used to convey communication is seen. This links with the aspect of media quality.

#### 6.3.4 Media Quality

According to Downs *et al.* (2004:115), media quality “looks at communication as it travels through several channels... Employees are asked about the helpfulness and clarity of these information sources and the quantity of information”. Although this aspect is counted under the concept of *communication satisfaction*, this relates to the previous research findings chapter, and as such, this element was discussed there at length (see chapter 5).

## 6.4 CONSTRUCT: RELATIONSHIPS

The construct of relationships, according to Grunig and Hon (1999) can be researched by examining the six elements of organisational relationships. These six elements – concepts in terms of this study – are (see theoretical statement 3):

- Control mutuality (as discussed under 3.14.1);
- Trust (as discussed under 3.14.2);
- Commitment (as discussed under 3.14.4);
- Exchange relationships (as discussed under 3.14.5);
- Communal relationships (as discussed under 3.14.6); and
- Satisfaction (as discussed under 3.14.3).

In the questionnaire, the reliability and validity of this construct and its concepts were once again tested by means of factor analyses and by determining the Cronbach's alpha.

Yet again, as with the concept of communication effectiveness, the proposed model of Grunig and Hon (1999) did not prove to fit when a confirmatory factor analysis was done on the questionnaire. Therefore, in order to test the validity of the research, an exploratory factor analysis had to be done. From this it was seen that the employees of the Precast Yard recognised three factors in the questionnaire (with regard to relationships) – half of that proposed by Grunig and Hon (1999). Still, the exploratory factor analysis (with the Principal Component Analysis and rotation by Promax with Kaiser Normalisation) did show that the same set of respondents answered the same set of questions in the same way. As a result, it is seen that the construct of relationships was tested validly in the questionnaire (Field, 2000:640; Asparouhov & Muthén, 2009:425).

Furthermore, the reliability of this construct, according to the Cronbach's alpha coefficient, proved to be quite outstanding with a result of 0.91 – far above the

acceptable norm of 0.7 (Priest & Taynor, 2006:44; Field, 2000: 666; Santos, 1999:7).

With the establishment of the reliability and validity of the concept, the responses of respondents can now be discussed – as from the elements and constructs identified in the literature.

Before this is done, however, the responses of employees, in general terms, can firstly be expressed. Yet again it is seen that the responses of employees were not related to their language proficiency or their qualification levels, in terms of their perception towards relationships. Less qualified employees did not hold a different perception towards the relationship with the organisation than those with higher qualifications. Employees with greater proficiency in English did not react any different to the questions relating to relationships than those with a lesser grasp of this language.

As with the two concepts above, some differences were indeed seen with some elements, in terms of job levels. These are subsequently discussed as they are significant.

#### **6.4.1 Control mutuality**

Control mutuality, as an element of relationships, points to the degree to which the two parties in the relationship (the organisation and employees) agree on who has the “rightful power to influence one another” (Grunig & Hon, 1999:3). Stable relationships oblige that both parties should have some control over the situation, although imbalance is inevitable. In this, the weight of balance almost always falls on the part of the organisation.

##### **6.4.1.1 Quantitative findings**

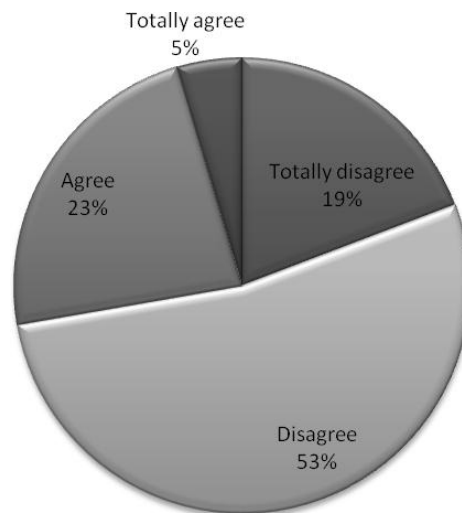
In the questionnaire, the weight of control was tested by making use of two items. These were, namely, questions 21i and 21k. In the first question, employees



were asked to what extent they agreed with the statement that the organisation really listened to what they have to say.

The imbalance of control is seen (as from employees' perspective) in the response to this question, as most employees felt that the organisation did not really listen to them. In this, the sentiment is displayed that the organisation does not truly empower employees in the communication process, by taking their opinions into account (according to the employees). This is reflected by a cumulative 72% ( $N=281$ ) of employees disagreeing with the statement, and 28% agreeing.

21i: The organisation really listens to what employees have to say

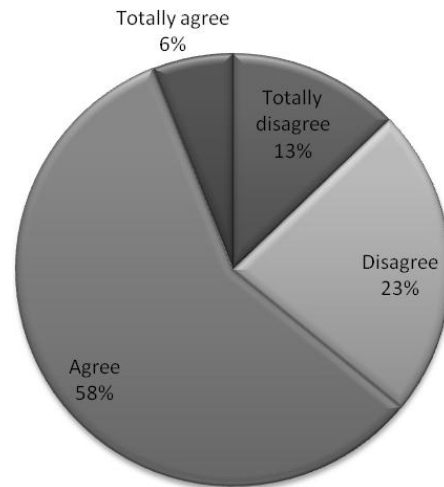


*Figure 6.4.1.1.1 Organisation listening to employees*

Next, employees were asked whether or not they felt that they had some control over the situation, when they interact with the organisation. Contrary to the response discussed above, employees generally responded positively towards this statement, with a cumulative 64% ( $N=281$ ) of respondents feeling that they did indeed have some control over the situation, when they interacted with the organisation, and 36% stating that they felt they did not.

The findings from this item seems to be contradictory to that of the item discussed above, but once the findings from the qualitative methods are taken into consideration the sentiments of the respondents become clearer.

21k: Employees have some control over the situation, when they interact with the organisation



*Figure 6.4.1.1.2 Employees' control when interacting with the organisation*

#### **6.4.1.2 Qualitative findings**

In the interviews with managers, it was stated that reciprocal communication was encouraged by means of communication channels such as *Pitstops* (for more see chapter 5). In this, employees were encouraged to communicate any form of information (in teams), albeit problems, concerns or even personal information regarding someone in the team's family life. In the focus groups, it was made clear that employees felt that this type of communication gave them control over their situation, as they were able to communicate to management what was on their minds.

However, employees felt that management did not always take what they said to heart, and did not do anything about it. One employee, in the first focus group, commented: "when we tell management something, they do not do anything about it – it is all just empty promises". Still, this unresponsive nature of management, as described by the employees, did not allude to the loss of control

in their minds. When asked whether or not they felt that they lost control when the organisation did not respond to what they said, both the first and second focus groups (with female employees and general workers) felt that it did not. In their opinion they experienced control when they communicated information to management, what management did after that should not be in their control.

This response from employees is interesting and very telling. In this response it is seen that the employees at the Precast Yard attribute the two-way flow of communication to control in relationships, and not necessarily the symmetry thereof.

In the third focus group, held with supervisors of the Precast Yard, the participants stated that the organisation could also take away control, by means of the communication processes that they undertook. The participants felt that management undermined their relationship with their subordinates when they communicated information to these subordinates before it was communicated to them as supervisors. One supervisor remarked: "Management skips us, and talks to the people under us. They take away our control over our people. I will have to find out from my people what is going on. They cannot come to me and ask me, I have to ask them". This aspect also refers back to the hierarchical nature of the communication flow at the Precast Yard, as mentioned earlier. The flow of communication speaks to the aspect of control in the organisation – when a level in this hierarchy is "skipped", control is taken away from the employees at this level.

In this hierarchical flow of communication employees are dependent on their immediate superior for communication. This implies that the subordinate will need to be able to trust his/her superior. The next element under relationships that will be looked at is thus the element of trust.

### **6.4.2 Trust**

Concisely, it can be said that trust in a relationship points to the level of confidence that each party has in opening up to the other party, according to Grunig and Hon (1999:12).

#### **6.4.2.1 Quantitative findings**

The element of trust is very abstract in nature, and as such had to be evaluated by making use of six items in the questionnaire. Specifically these questions pertaining to trust are questions 21a; 21b; 21c; 21d; 21e and 21g.

Before the responses from these questions are looked at, a previous item in the questionnaire can be touched upon again. Under the concept of Communication satisfaction, the trust that employees have towards various groups of co-workers was tested (see 6.3.1 Communication Climate). This gives an overview of the element of trust at the Precast Yard. In this it was seen that employees trust their immediate work colleagues the most and senior management the least. This was reflected in the following manner:

#### **High trust**

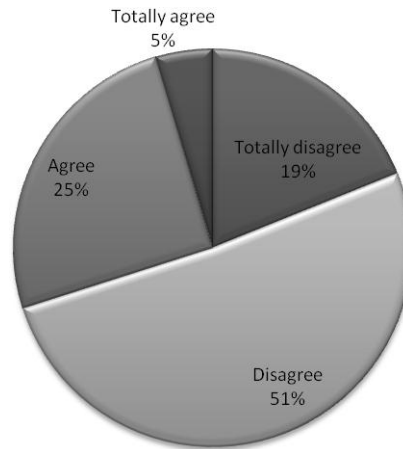
- Immediate work colleagues
- Supervisors
- Safety department
- Middle management
- Unions
- Senior- and top management

#### **Low trust**

The above gives an overview of the relationships that employees have with individual groups within the organisation. Next, the relationships that the employees share with the organisation as a whole will be explored. In the first of the six items designed to meet this purpose, employees were asked whether or

not they felt that the organisation could be relied upon to keep its promises. The majority of employees felt that the organisation could indeed not be relied upon to keep its promises (with 70%,  $N=281$ ).

21a: The organisation can be relied upon to keep its promises



*Figure 6.4.2.1.1 Keeping of promises by the organisation*

Closely related to this, employees were next asked (in question 21c) whether or not they felt that the organisation treated them fairly and just. Although the response on this question was not quite as negative as that discussed above, the majority of employees (with 63%,  $N=281$ ) felt that the organisation did not treat them fairly and just. According to Grunig and Hon (1999:12), feeling that the organisation treats them fairly is a major component in a relationship that employees have with their organisation. If employees do not feel that they are treated fairly, they will not be able to trust an organisation, and trust is what a relationship is built on.

21c: The organisation treats employees fairly and just

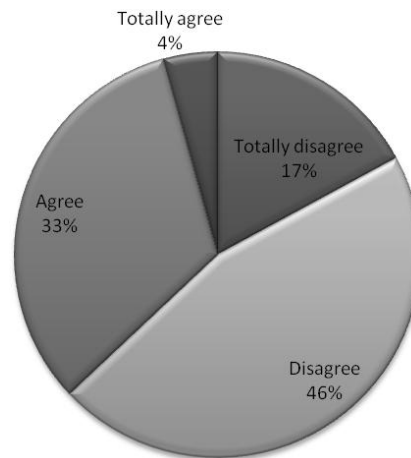
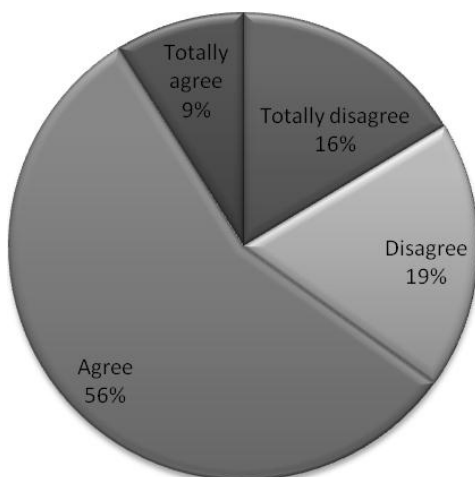


Figure 6.4.2.1.2 Fair and just behaviour towards employees

Ensuing from the two above questions dealing with the organisation treating employees fairly and keeping its promises to them, the next two questions asked about the organisation's skills and abilities. Employees were asked whether or not they felt that the organisation actually had the ability and skill to accomplish what it said it would do (what it promises).

21b: Employees are confident about the organisation's skills



21g: The organisation has the ability to accomplish what it says it will do

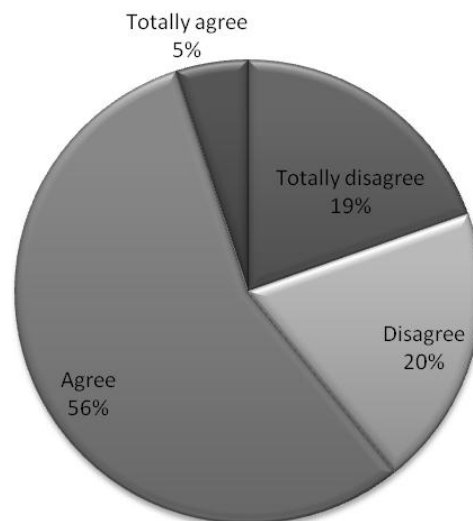


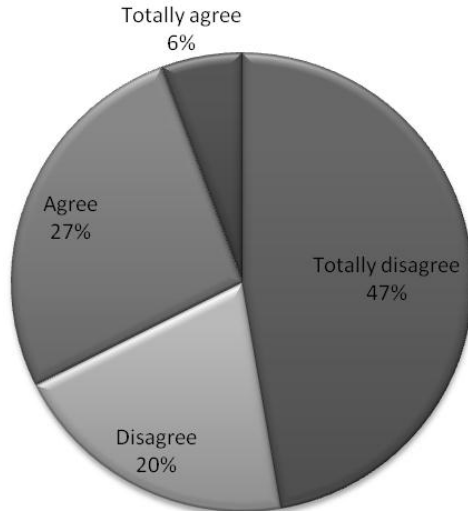
Figure 6.4.2.1.3 Skills and abilities of the organisation

In answering these two questions, employees responded much the same way to each. 65% ( $N=281$ ) of employees indicated that they were very confident of the organisation's skill, and 61% of employees felt that the organisation had the ability to accomplish what it said it would do.

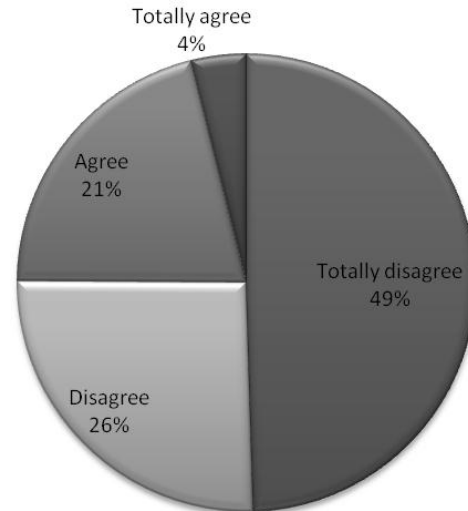
In the above it is clear that the employees' feeling of trust in the Precast Yard, as organisation, stretches as far as the organisation's abilities, but not to this organisation's concern over their employees. This aspect was further tested in the next two items.

In questions 21d and 21g, employees were asked whether or not they felt that they, with their needs and opinions, were taken into account whenever the organisation made important decisions.

21d: Whenever the organisation makes a decision it is concerned about employees



21g: Whenever the organisation makes a decision it takes my opinion into account



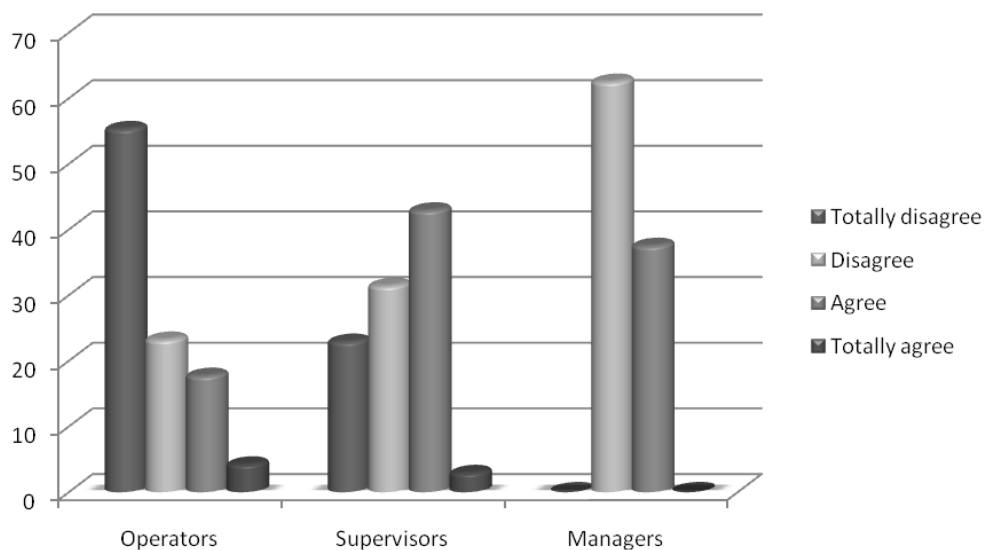
*Figure 6.4.2.1.4 Employees taken into account when important decisions are made*

As seen in the above, the response that the questions received, was very negative. In the first instance 47% ( $N=281$ ) of employees **totally** disagreed with the statement that the organisation was concerned about them when decisions

were made. A further 20% disagreed with the statement, against the 27% that agreed and the 6% that totally agreed.

In the second instance, employees were asked whether or not they felt that their opinions were taken into consideration when important decisions were made. This question yielded an even more negative response, as 49% ( $N=281$ ) totally disagreed with the statement that their opinions were taken into account, 26% disagreed, whilst 21% agreed and 4% totally agreed.

Yet again, with this aspect, the seniority of the respondents might have some bearing on the degree to which they feel that their opinions are taken into consideration.



*Figure 6.4.2.1.5 Taking employees' opinions into account, according to job levels*

As seen in the figure above, the most negative responses came from the job level of operators namely general workers. The responses showed a decline towards the positive end of the measuring instrument scale. Opposite to this, the responses of supervisors showed an increase (for the most part) towards the positive end of this scale. Herein, the sentiment is illustrated that supervisors are



more likely to feel that their opinion is taken into consideration than operators are.

Interesting enough, more managers (with 62.5% against 37.5%,  $n=8$ ) feel that their opinions are **not** taken into consideration, than those who feel that they are. A possible reason for this response is shared in the qualitative research methods.

#### **6.4.2.2 Qualitative findings**

In all three interviews with managers, as well as the three focus groups, the issue of the demobilisation of the Precast Yard came to light. According to these participants, the Precast Yard is facing demobilisation in the near future. What this means is that the Precast Yard will be shut down to make room for the Gautrain project bus depot. Not all employees are guaranteed a position in the next phase of this project – many employees, therefore, feel unsure about their future at the organisation.

Managers commented on the fact that they had no control over the demobilisation, and even stated that they themselves were unsure about their role in the future of the organisation. The decision about the demobilisation was made before any of the employees of the Precast Yard were working for the Gautrain project as it was part of the “natural process of a construction site to close down when construction is finished”. In this, managers feel that they “have no say” in the matter of demobilisation – an opinion possibly expressed in the questionnaire.

The fact that the relationship between the organisation and employees cannot be seen as long-term in nature, affects this entire relationship. One more element affected is that of commitment.

### 6.4.3 Commitment

According to Grunig and Hon (1999:12) commitment refers to the extent to which the parties in the relationship believe that the relationship is worth the energy they are spending to promote and maintain. Both parties, therefore, have to have equal vested interest in the promotion and attainment of goals.

#### 6.4.3.1 Quantitative findings

In the questionnaire, the element of commitment was tested by means of two items. The first item researched the level of commitment as from the side of the organisation (in the opinion of employees), and the second item researched the commitment as from the side of the employees. These items were specifically questions 21j and 21l.

In researching the commitment from the side of the organisation, employees were asked whether or not they agreed with the statement that the organisation wanted to maintain a relationship with them.

21j: The organisation wants to maintain a relationship with employees

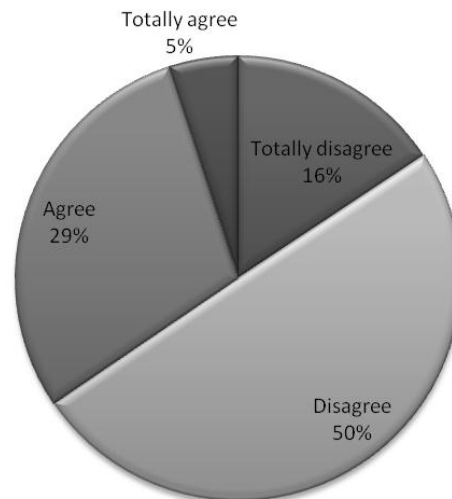


Figure 6.4.3.1.1 Commitment of the organisation

The majority of employees (with a cumulative 66%,  $N=281$ ), felt that the organisation did not want to maintain a relationship with them. As stated

previously, the looming demobilisation of the Precast Yard could have had an influence on the responses of respondents, as the demobilisation inherently implies that this operation no longer will exist to have a relationship with employees (see qualitative findings below).

Still, when employees were asked next whether or not they were loyal to the organisation, a large majority of employees stated that they were indeed loyal to the organisation – with a cumulative 82% (N=281).

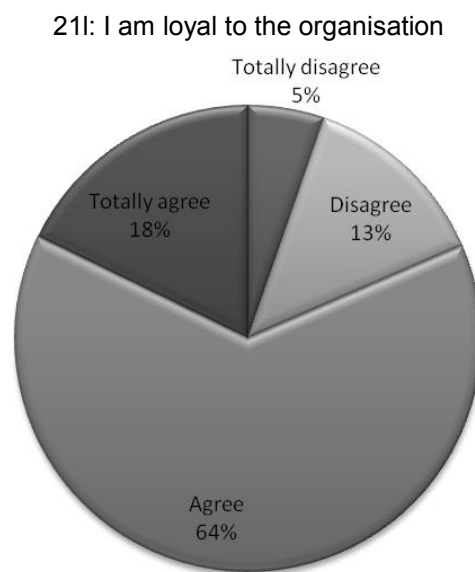


Figure 6.4.3.1.2 Commitment of employees

This positive sentiment was not completely shared in the qualitative findings, however, as the issue of demobilisation came to the forefront in a very large way.

#### **6.4.3.2 Qualitative findings**

As stated above, the focus groups with employees held many referrals to the demobilisation of the Precast Yard. One employee commented on how this impacted on him doing his work when he stated “I work, as well as I can, but then there is nowhere for me to go, no promotions, as the company is closing down. Why should I then do my best? I just do enough not to get into trouble”, and yet another stated “Due to the fact that the organisation is not permanent, why

should we put so much effort into this company, if they do not have anything else for us in the future". It is clear that the element of commitment impacted on the productivity of the workers at the Precast Yard. Still, this aspect does not truly impact on the safety of the workers, according to the third focus group with supervisors. When asked whether or not the demobilisation impacts on the practice of safety one supervisor responded: "No, no way, you see, safety is not for the organisation. If you get hurt because you were spiteful because of the demob [demobilisation] then you are actually just spiting yourself. The company will not care if you are sitting with just one leg, they will go on, but you will not go on, you see?". This sentiment was shared by all in the focus group.

This opinion was also shared by those participants of the first focus group, although this focus group took this aspect further by explaining that the organisation did not share the employees' commitment to safety. In this, the focus group stated that the organisation was not committed to employees' safety, but rather to production. One employee stated: "The Company does not care about me, just about my production. They only care about me when I work fast. They will not like it if I am slow because I want to be safe". This aspect touches upon the next to be discussed, namely exchange and communal relationships.

#### **6.4.4 Exchange- and communal relationships**

According to Grunig and Hon (1999:3) exchange relationship entails that one of the parties in the relationship offers benefits to the other, only because the other has given benefits in the past, and/or is expected to do so in future. In a communal relationship, on the other hand, both parties provide benefit to the other, as they are concerned for the other's welfare.

This concern about the welfare of the other party is closely related to the goals of safety communication, as per the interviews with managers. Two of the three managers expressed that the primary goal of safety communication was to ensure that employees did not hurt themselves (showing a concern for their

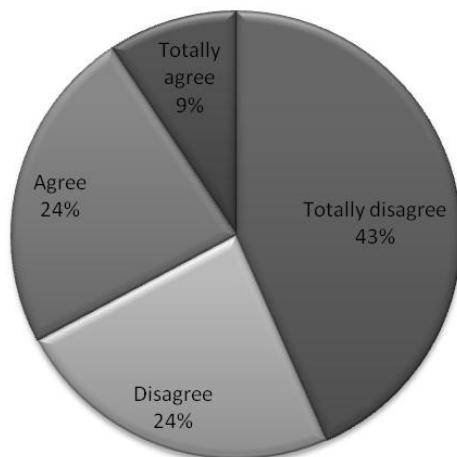
welfare). Therefore, the building of a communal relationship seems to be a good choice. Still, Grunig and Hon (1999:3) state that elements of both forms of relationships can be present in the relationship between the organisation and its employees. In this light, these two forms of relationships will be discussed simultaneously. Next the opinions of employees regarding these two types of relationships will thus be discussed as from the questionnaire that was administered.

#### **6.4.4.1 Quantitative findings**

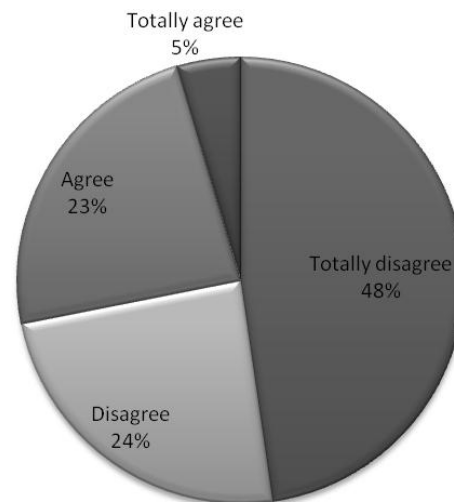
The questionnaire administered to employees contained two items asking about the exchange relationships (questions 21v and 21z), and two asking about communal relationships (questions 21r and 21t).

In question 21r, asking about elements of communal relationships, employees were asked to what extent they agreed with the statement that the organisation is concerned about their welfare. Linking to this, in question 21t, employees were asked whether or not they agreed with the statement that the organisation helped employees, without expecting anything in return.

21r: The organisation is very concerned about employees' welfare



21t: The organisation helps employees without expecting anything in return

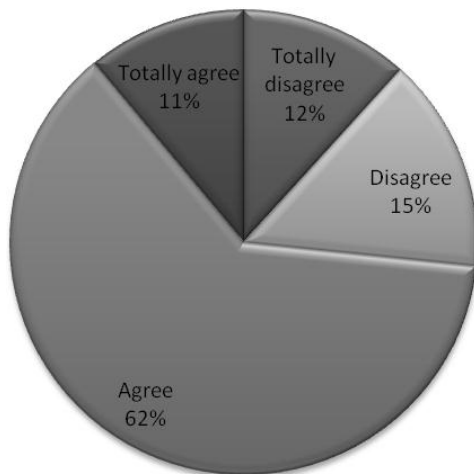


*Figure 6.4.4.1.1 Communal relationship elements*

In both instances it can be seen that employees do not generally feel that communal relationship elements are reflected in the relationship that they share with the Precast Yard. Herein, a cumulative 67% ( $N=281$ ) of employees disagree with the statement that the organisation is concerned about their welfare – with the majority of these responses being in total disagreement. In the same vein, a cumulative 72 % ( $N=281$ ) of employees disagree with the statement that the organisation helps employees, without expecting anything in return.

Conversely, employees do generally feel that exchange relationship elements are reflected in the relationship between them and the organisation. It is seen that a cumulative 73% ( $N=281$ ) of employees agree that the organisation takes care of those who are likely to reward the organisation. Also, a cumulative 67% of employees ( $N=281$ ) feel that the organisation generally expects something in return, when it gives or offers something.

21v: This organisation takes care of people who are likely to reward the organisation



21z: When the organisation gives or offers something, it generally expects something in return

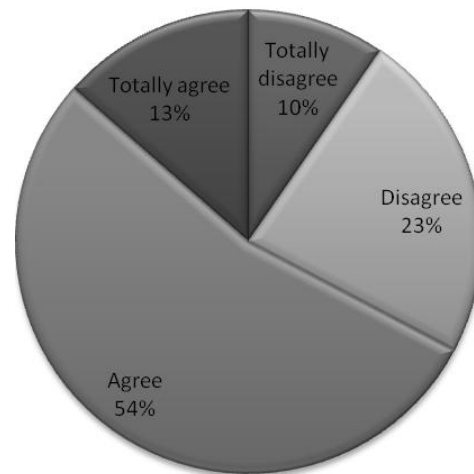


Figure 6.4.4.1.2 Exchange relationship elements

Overall, the quantitative findings, therefore, indicate that the relationship that employees share with the organisation (as from the perspective of employees) is

more of an exchange relationship than a communal relationship. This is echoed in the qualitative findings.

#### **6.4.4.2 Qualitative findings**

In the interviews with managers, the nature of the exchange relationship between the employees and the organisation was reverberated. Two of the three managers signified this by stating that employees received bonuses when and if they did well in the organisation – for example safety bonuses. All three managers also mentioned the fact that they gave out prizes and trophies to teams who performed well in their safety endeavours. This signifies that the organisation rewards and takes care of people who do well and advance the organisation's strategies (for example by holding up a safety record). This is indicative of an exchange relationship.

Employees expressed their need for communal relationship elements, in the focus groups, however as one of the employees in the focus group with female employees remarked: "We are disappointed that, for example, like when it was World Aids Day the other day. Management or no-one even, they did not even say anything about it, they did not, they did not even commemorate this day". In line with this, an employee in the first focus group stated that "you have to give to the company, before the company will give and offer to you" when asked about the organisation's methods of motivating employees to apply safe work procedures. Expressing the same feeling, another employee in this focus group remarked that he "is only giving to the company now, because they are only giving to me now. I will not give to them something, something that they will take forward, because I have nothing that I will take with me when I leave here".

The sentiment expressed here not only points to the exchange relationship that the employees share with the organisation, but also to the impact that the demobilisation and the subsequent letting go of employees have on the relationship with the organisation. Overall, a slump in the satisfaction of the

relationship that employees have with the organisation is seen, as the demobilisation impacts negatively on it. Consequently, the satisfaction element in the relationship between employees and the Precast Yard will be looked at.

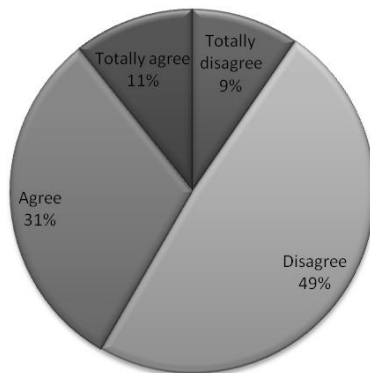
#### 6.4.5 Satisfaction

The element of satisfaction points to the “extent to which each party in the relationship feels positive or favourably towards the other, as positive expectations are reinforced in the relationship. If the benefits of the relationship outweigh the costs thereof, the relationship is satisfying” (Grunig & Hon, 1999:3).

##### 6.4.5.1 Quantitative findings

In the questionnaire, satisfaction in the relationship was tested by means of three items, specifically questions 21m; 21o and 21p. Questions 21m and 21p are closely related. The first question asked whether or not employees were happy with the organisation. The second question asked whether or not employees were happy with the **relationship** that they shared with the organisation. The relatedness of these questions is seen in the responses of employees – presented in Figure 6.4.5.1.1, below. In this, a cumulative 58% ( $N=281$ ) of employees state that they are not happy with the organisation, and a slightly more negative 63% ( $N=281$ ) of employees feel that they are not happy with the relationship that they share with the organisation.

21m: I am happy with the organisation



21p: I am happy with the relationship

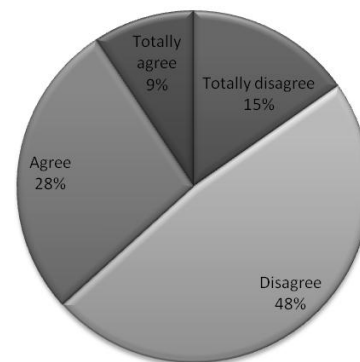


Figure 6.4.5.1. Satisfaction of employees with organisation and relationship with the organisation



Still, despite these feelings of dissatisfaction, most employees – with a cumulative 67%, where  $N=281$  – indicated that they felt that both the organisation, as well as they (as employees), benefited from the relationship that they shared with the organisation.

21o: Both the organisation and employees benefit from the relationship

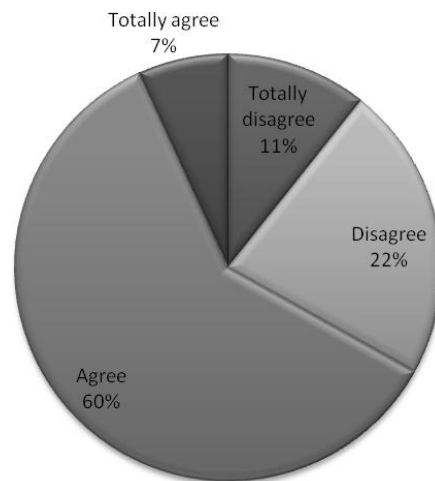


Figure 6.4.5.1.2 Benefit from relationship by organisation and employees

The rationale of this response was given in the focus groups with employees, where reference was made to the nature of the Gautrain project.

#### 6.4.4.2 Qualitative findings

In the third focus group with employees – that with the supervisors on the Precast Yard – mention was made of the fact that the Gautrain project compensated (in terms of payment) much better than other organisations in the mining and construction industry. It is due to this reason that many of the employees at the Precast Yard do not move on to another job with the looming demobilisation, as they will not likely be compensated as much elsewhere. In the first focus group (with general workers) this sentiment was reverberated, and employees added on that many of the employees who worked at the Precast Yard were “locals” – people who stay in the surrounding area, and have never worked on a construction site before. For these “local” workers, the Precast Yard

is a great project for job-creation in their community, as without it, they might have to become migrant workers, working away from their home and family.

These two reasons were then quoted to be the main reasons why the employees stayed with the organisation, even if they were not always happy with it – as they benefited from it in these two great ways. What workers, in the first and third focus group thus stated was, that they might not be happy with the organisation, and the relationship that the organisation was building with them (as it is coming to an end soon), but the benefits that they received whilst working for this organisation were better than what they will find elsewhere – thus they stayed with the organisation.

In the second focus group, with female employees, much the same sentiment was expressed. In this, these female employees mentioned the fact that the Precast Yard had to employ a certain amount of women to be compliant to the Labour Laws of South Africa. In this, these women stated that they would not necessarily have been employed by other construction organisations (due to the fact that they were women), but this project appointed them in jobs that only men traditionally do. These gender roles of course bring about many other aspects inherently, but still the female employees felt that they benefited from the organisation being there, and giving them a chance that other organisations might not have.

Having said all this, the fact that a great majority of employees (63%,  $N=281$ ) are dissatisfied with the relationship that they share with the organisation cannot be ignored, as this impacts on the employees' contribution to the realisation of organisational goals (Dolphin, 2005:173).

## **6.5 CONCLUSION**

In this chapter, both the quantitative and qualitative findings were discussed, as they pertain to the effects that safety communication has on the employees of the Precast Yard. Herein, the findings were divided into two concepts and the construct of employee relationships, identified from literature, in order to structure the chapter in a sensible manner. These concepts and construct – namely communication effectiveness, communication satisfaction and relationships – were then discussed alongside the quantitative findings from the administered questionnaire, as well as the qualitative findings as from focus groups with employees and interviews with safety communication managers.

In the next chapter, these findings will be restructured to answer the research questions that guided their researching. These findings (alongside those of the previous chapter) will then be employed to structure recommendations for the improvement of safety communications at the Gautrain project's Precast Yard.

## CHAPTER 7

### Conclusions and recommendations

#### 7.1 INTRODUCTION

In chapters two and three, the literature regarding the use of safety communication in the context of the South African mining and construction industry was reviewed in seeking to understand the scope thereof. Thereafter, in chapters five and six, the prevalent concepts of safety communication – as identified in literature – was used to structure and discuss the empirical research findings from the Gautrain project's Precast Yard. In this chapter, all of these aspects will now be cumulatively employed towards specifically answering the research questions stated at the outset of this research project, therein summarising it. Lastly, suggestions for further research will be made, following the general conclusion.

To commence all of the above, the first of the four specific research questions will now be discussed.

#### 7.2 GUIDELINES FOR THE EFFICIENT COMMUNICATION OF SAFETY INFORMATION ACCORDING TO LITERATURE

Answering specific research question 1:
What are the guidelines for the efficient communication of safety information, within the mining and construction industry, according to literature?

In the literature review chapters, theoretical statements were used in order to condense the central assertions of safety communication literature. These statements will now be employed in answering the first research question.

The first theoretical statement concisely expresses the assertions of the systems theory. It is stated that *all forms of communication in an organisation have an influence on each other. Due to this fact all communication forms need to work as a whole, in order to be seen as efficient. The communication activities of all forms of internal communication need to be geared towards reaching the communal communication goals. This can only be done once internal communication practices adapt to the changes of the environment* (Herting & Stein, 2007:3; Van der Walt, 2006:119; Kurtyka, 2005:30; Littlejohn & Foss, 2005:40; Wood, 2004:162; Angelopulo, 2002:41; Ledingham & Bruning: 2000:13).

In the above it is seen that the safety communication endeavours of an organisation need to be harmonised with all other forms of communication in the organisation, in order to be efficient. This is then strengthened by the fact that the organisation in itself can also not be seen in isolation, but needs to be distinguished in its place, as part of a greater environment. In the case of this study, that environment is the mining and construction industry of South Africa.

This interrelatedness expressed in the systems theory is then partially reflected in the next theoretical statement, which deals with the arguments set forth by the excellence theory. Herein it is stated that *excellent communication is strategically managed, and is seen as fundamental to the overall management of the organisation. It exercises two-way symmetrical, as well as two way asymmetrical communication as it takes the needs of the organisation, as well as the needs of employees into consideration. Lastly, excellent communication should reflect the multicultural and diverse points of views of employees, as they are encouraged to work in teams* (Wood, 2006:21; Downs et al., 2004:57; Eisenberg & Riley, 2001:291; Grunig, 1997:286; Dozier et al., 1995:vii).

The sentiment of employee-centeredness reflected above is reflected in the next theoretical statement as well, which is derived from the stakeholder relationship

theory. It states that *in order to reach organisational goals, the organisation must create and maintain a relationship with employees as a primary stakeholder group. This relationship is facilitated through the proper use of internal communication. The characteristics of the relationship are control mutuality, trust, satisfaction, commitment, exchange relationship and communal relationship* (Ledingham & Bruning, 2000:75; Grunig & Huang, 2000:34; Broom et al., 2000:13; Mitchell et al., 1997:854; Burleson, 1995:576; Freeman, 1984).

Internal communication, through the use of various channels – according to the dual-capacity model of communication media choice and theoretical statement four – *possesses the ability to carry messages in two capacities; firstly, data and secondly, symbolic meaning. Each channel's respective ability to focus on these two capacities should direct its choosing. Specifically this choice is influenced by task and normative contingencies, as well as communication capabilities* (Miller, 2006:294; Barker, 2006:98; Sitkin et al., 1992:563).

The influence of the external expectations on safety communication in an organisation was further explored by seeking to understand what influences existed in the South African mining and construction industry. Theoretical statement five summarises this by stating that *the communication practices of the organisation should adapt to the context that the organisation finds itself in. In this, the most notable influences of safety communications on organisations within the mining and construction industry of South Africa are: The infrastructure of the country; corporate social responsibility; the media environment; threats to the natural environment; as well as the diversity of employees (specifically with regard to culture, language and literacy differences)* (Bates, 2009:15; Rensburg & Cant, 2009:236; Dinsbach, Feij & De Vries, 2007: 728; Naudé & Le Roux, 2005:6; Le Roux, 2005:5; Rensburg, 2003:154; Sriramesh & Verčič, 2003:17; Cutlip et al., 2002:21; Rhodes & Baker, 2002:289; Steyn & Puth, 2000:19).

The internal influences on safety communication, however, as from the perspective of the organisation in which it is communicated, are settled in theoretical statements six through ten. Theoretical statement six deals with the aspect of safety climate and its relationship to safety communication. It is stated that *the safety climate of the organisation is a contributory factor to the efficient communication of safety information. In order for the safety climate to be conducive to efficient communication, management has to be committed to the element of safety, as the safety rules of the organisation have to be implemented and enforced. It is seen that supervisory personnel are responsible for ensuring that the programmes set in place by management are implemented in the daily operations of the organisation – though workers are still accountable for their own safety practices* (Lin et al., 2008:1038; Barker, 2006:85; Mohamed, 2002:376; Eisenberg & Riley, 2001:307).

Very closely related to the above, theoretical statement seven communicates the importance of organisational perspective. In this it is stated that *in order for the communication of safety information to be efficient, the organisation needs to ensure that the safety **goals** of the organisation are communicated to employees. Alongside this, all external factors that impact on the practice of safety at the organisation need to be explained to employees, whilst no opposing goals in the organisation should be made out to be more important than that of safety* (Mathis, 2008:46; Downs et al., 2004:115; Mohamed, 2002:377).

The place of employees in relation to those goals is dealt with next under organisational integration, and in theoretical statement eight it is seen that *management of an organisation needs to **communicate the organisation's vision compellingly** to all employees, whilst employees are made aware of their contribution to the attainment of these goals – thereby integrating them into the organisation. In this, the goal and vision of the organisation do not only need to be communicated, but management needs to motivate employees in transforming it into reality. In conjunction with this, all departments in the*

*organisation need to put forward **integrative** (as opposed to conflicting) **messages** to employees about safety* (Mathis, 2008:46; Angelopulo, 2006:40; Grunig, 1997:290; Francis & Woodcock, 1994:4).

In communicating to employees in this way, a **variety** of formal and informal communication channels need to be utilised to communicate safety messages to employees, in order for it to be seen as efficient. These channels should allow for **downward**, as well as **upward communication** (Mohamed, 2002:376; Downs et al., 2004:114; Francis & Woodcock, 1994:6), according to research statement nine.

Lastly, these communication channels as described above, *should provide the dominant coalition with valuable information in order to facilitate **intelligent decision making**. Furthermore, internal communication should be free of prejudice and create trust, in order to **sustain a healthy community*** (Francis & Woodcock, 1994:6), according to theoretical statement ten.

The relation of these statements to the Gautrain project's Precast Yard, specifically, will be stated next, as the statements are summarised to answer the first research question concisely.

According to the literature, the following can be seen as the concise guidelines for the efficient communication of safety information within the mining and construction industry. Therefore, safety communications at the Gautrain project's Precast Yard must:

- work in relation to all other forms of communication (e.g. production communication) in the organisation; in order to communicate the same central message.
- allow for the implementation of safety rules and regulations as communicated.
- adapt its practices to the context of the South African mining and construction industry.



- ensure that the safety goals and vision of the organisation are communicated to employees.
- motivate employees towards reaching the set safety goals of the organisation.
- ensure that all external factors that impact on the practice of safety in the organisation are communicated to employees.
- be strategically managed in the organisation.
- exert both two-way symmetrical, as well as two way asymmetrical communication.
- take the needs of the organisation, as well as the needs of employees into consideration.
- facilitate a relationship between the organisation and employees.
- allow employees to feel integrated in the organisation, as their specific place therein is made known to them.
- encourage employees to work in teams.
- reflect the multicultural and diverse points of views of employees.
- reflect the data, as well as symbol carrying capacity of any channel in its choosing.
- utilise a variety of formal and informal communication channels.

In the next section, these statements from literature will be correlated to the perceptions of employees and managers, regarding safety communication at the Precast Yard. This done, research questions two and three will subsequently be answered.

### **7.3 THE NATURE OF SAFETY COMMUNICATION AT THE GAUTRAIN PROJECT'S PRECAST YARD**

This section will focus on giving insight into the communication of safety information at the Gautrain project's Precast Yard. This will be structured according to the concise theoretical statements as from literature given above. In

this way, this discussion will, therefore, answer both research question two, as well as research question three.

Answering specific research question 2:
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<p>What is the nature of safety communication at the Gautrain project</p>
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- |   |
|---|
| <ul style="list-style-type: none"> <li>▪ according to those managers responsible for distributing the messages?</li> <li>▪ according to employees?</li> </ul> |
|---|

Answering specific research question 3:
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<p>To what degree does the safety communication at the Gautrain project correlate with the guidelines set in the literature?</p>
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### 7.3.1. Description of channels used for safety communication

Before the perceptions of employees and management with regard to the safety communication, or the relation to literature can be discussed, a general overview of the safety communication channels employed by the Precast Yard should be given.

At the Precast Yard, numerous channels are employed for the communication of safety information:

- **Team briefings:** Team briefings are very important in the communication of safety information at the Precast Yard, as it is through this channel where use is made of *Toolbox talks* (see section 5.2.2.1). *Toolbox talks* are seen to be one of the primary sources of safety information on site, and is one of the few mediums that allow for proactive safety communication.
- **Written communication:** Although not many forms of written communication can be implemented successfully at the Precast Yard, due to the diversity and illiteracy of workers (see section 3.7), the Precast Yard does employ one form of written safety communication to communicate with all employees. This communication channel is called *Pitstops*. *Pitstops* are used in much the

same manner as the *Toolbox talks*, as the contents of the written safety message is being conveyed to employees verbally. This communication channel does, however, allow for feedback from workers, as well as return feedback from management on employees' communication (see section 5.2.2.2).

- **Face-to-face communication:** Closely related to the above, is the use of face-to-face communication at the Precast Yard. Due to the illiteracy and diversity of employees (as mentioned above) verbal face-to-face communication is employed the most at the organisation, owing to the fact that other forms and channels of communication used, have to – in most cases – be supplemented with verbal communication in order for the message to reach all receivers. This phenomenon gives rise to a strict hierarchical system of communication, at the Precast Yard, as any message has to filter from individual to individual, rather than to the entire organisation at once (for more see section 5.2.2.3).
- **Notice boards:** Notice boards with permanent safety signage are displayed around the site of the Precast Yard. The presence of these notice boards is a legal requirement as they contain basic but pertinent safety communications, mostly about the use of PPE (see section 1.8 for a definition).
- **Posters:** Closely related to the use of notice boards are safety posters used at the Precast Yard. This communication channel is, however, not a permanent fixture as notice boards, but is changed regularly to display different topics about safety.
- **Induction programmes and safety training:** Yet another legal requirement is the use of induction programmes to give workers the necessary safety training before they may begin their work on site of the Precast Yard. Accordingly, all employees would have to have completed this training before they would have been able to start working as an employee at this

organisation. The safety training is done by means of a combination of video recordings and interpersonal contact communication (for more see section 5.2.2.6).

Now that the channels used for the communication of safety information have been discussed above, the next sections will look at how these channels are to be implemented, according to literature.

### **7.3.2 Relation to other forms of communication**

Communication at the Gautrain project's Precast Yard should work in relation to all other forms of communication that the organisation employs. This done, the central message communicated by all these different forms should be no different from each other.

As predicted by safety communication literature, the greatest rivals, prone to conflicting messages, are safety and production communication (Mohamed, 2002:379). In the focus groups with employees the mutual feeling was expressed that messages from the organisation were sometimes conflicting in nature. Employees expressed their opinion that, although the organisation communicated to them that safety was of the utmost importance, production still took precedence in practice.

Managers stated that it was communicated to employees that they needed to take ownership of their own safety, as well as the safety of those around them. In the focus groups, however, the opinion was expressed that these kinds of messages were rivalled when production was added into this equation. One employee, in the second focus group stated "If you stop doing something because you feel that it is unsafe, the supervisor will tell you that you can go home if you do not like how you work here". Yet another employee, in the first focus group, stated that the "pressure of production should be lessened, before

safety will be successful”, clearly pointing to the conflicting nature of messages generated from safety and production communications.

### **7.3.3 Implementation of rules and regulations**

Very closely related to the above, the next theoretical statement revolves around the fact that safety communication at the Precast Yard should allow for the implementation of safety rules and regulations set forth by this communication. Put differently, rules and regulations should not only be communicated, but implemented at the Precast Yard, in order for the safety climate of this organisation to be conducive to efficient communication.

In this theoretical statement it is noted that it is the responsibility of supervisory personnel to implement the safety programmes and regulations, set in place by management. This aspect can become problematic at the Precast Yard, however, as pressures of time and production play a role once again. In this it is seen how the safety communication programmes set in place by management are not implemented or utilised optimally by supervisors. One such an example is the *Toolbox talks*. As mentioned in chapter five (section 5.2.2.1), this form of safety communication is used to allow free and open communication between team members regarding a safety topic set forth by management. It is facilitated in the form of interpersonal communication, every morning, before the production work of the day is to begin.

According to management this channel of safety communication is one used almost primarily in all proactive safety communications. In this, the importance of this channel (according to the perceptions of management) is seen for the efficient communication of safety information. However, employees in the focus groups, painted another picture of the use of this channel. According to employees this kind of safety communication is done, “only for the sake of doing it”. In the third focus group with supervisors and foremen, it was stated that *Toolbox talks* at the Precast Yard were not really as effective as they could be,

due to the fact that it needed to be rushed, in most cases, in order for production to start. In this, the implementation of this communication channel is far removed from the intentions set forth by management.

Having said this, the implementation of safety communication programmes is still something that has to be adhered to, according to the safety **regulations** of the Precast Yard. These regulations are seen to be *non-negotiable* according to the Mine Health and Safety Act (85/1993), as any individual who does not adhere to these regulations incriminates himself/herself. The implementation of these rules and regulations is, therefore, something that employees have no other choice in, but to do (as the alternative could even be imprisonment).

This influence of external aspects on the safety communications at the Precast Yard is indicative of the next statement.

#### **7.3.4 Adapting to the context of the organisation**

According to the next statement from literature, the communication of safety information at the Precast Yard should adapt to the context of the South African mining and construction industry. One of the greatest influences in this context is the Department of Minerals and Energy.

This Department is the governmental regulatory body over organisations that function within the mining and construction industry of South Africa. In this, these organisations are bound by the Mine Health and Safety Act 1996 No 29 of 1996 or the Occupational Health and Safety Act 85 of 1993 – or as in the case of the Gautrain project, both. Non-compliance to these Acts could lead to the shut down of the organisation, depending on the severity of the misconduct.

According to the managers at the Precast Yard, all is done to ensure compliance to the Health and Safety Acts set forth. One example of how this translates to safety communication in the organisation, is the use of induction programmes as

a safety communication channel. According to the second interview with managers responsible for the communication of safety information, “every single person that is working [at the Precast Yard] has gone through an induction session”.

When employees (from general workers to supervisors and foremen) were asked about this, however, their responses were divergent from those of management. These employees stated that not all employees who were working at the Precast Yard had been to induction training. This aspect is troublesome, not only due to the fact that it shows non-compliance to the Safety Acts mentioned above, but also due to the gap this leaves in the safety information that these employees (who did not attend induction) receive from the organisation. In the induction programmes the basic aspects of safety, as well as the regulations for safe work procedures, are explained. This aspect is the next to be discussed.

#### **7.3.5 Communicating the goals and vision of the organisation**

According to the next two theoretical statements, the safety communication at the Precast Yard should communicate the safety goals and vision of the organisation to employees. Here, all external factors that impact on the safety in the organisation should also be communicated to employees.

With the first statement here, the communication of the safety goals and vision of the organisation, employees are mostly satisfied and testify to the fact that the organisation is very clear in communicating what its vision and goals for safety at the Precast Yard are. The managers of the Precast Yard also state that the overall goal of safety communication at the Precast Yard is to facilitate a “zero accident, zero incident” rate in the organisation. The target set to all employees (short term) is five hundred thousand accident free hours. All safety communication is geared towards this.

The overall positive response towards this aspect, as from employees, as well as management's perspective, is subdued when qualified by the next expression, however. It is the perception of most employees that they are very clear on what the safety goals of the organisation are, although they are not so sure as to where these goals – and the regulations that drive them – come from. Employees expressed the opinion that they knew **what** to do, in order to reach safety goals, but not **why** they had to do this.

This aspect points to the fact that the organisation is encouraged to communicate to employees any and all aspects that impact on the safety operations of the Precast Yard. This done, employees will have a better understanding of the goals of the organisation, and could apply themselves better to reaching them.

According to the managers of the Precast Yard, this aspect is left up to the unions at the organisation. In the third interview with managers responsible for safety communications, the manager commented “the unions talk to their own people. Like when government gives instructions we let the shop stewards talk to the people and let them know what is going on; so then, then they can see that it is not coming from us, you see, they can see that it comes from them”.

This does not point to the ideal for communicating this aspect, however, as the unions are not responsible for the communication, and implementation, of safety at the Precast Yard, and as such have their own goals and programmes to promote. Moreover, only 62% (where  $N=281$ ) of employees indicated, in the questionnaires, that they were members of a union or such association. This means that 38% of employees are not communicated to, regarding external aspects that impact on the operations of the Precast Yard.

### **7.3.6 Motivating employees to reach organisational goals**

It is expected (as from the statements in literature) that the safety goals, and those aspects that impact on these goals, not only be communicated to



employees of the Precast Yard (as above), but also that these employees be motivated – by the safety communications – to reach these goals.

According to management responsible for safety communications at the Precast Yard, specific campaigns are used to motivate employees in terms of safety success. The primary campaign used in this light is safety competitions, for example the safety team of the month, as well as the safety posters competitions. Managers perceive this to be a successful manner in motivating employees, although not all employees (teams) are equally eager to participate.

Employees correspondingly perceive these competitions to be motivating in reaching organisational safety goals, although they state that they have a more personal interest in reaching safety goals, other than committing to the organisation. One employee summarised this feeling, shared in all three focus groups, when stating “you see, safety is not for the organisation...The company will not care if you are sitting with just one leg, they will go on, but you will not go on, you see?”. In this it is seen that the reaching of safety goals is a personal objective to employees, as they do not want to get hurt themselves. The motivation is, therefore, a personal one, rather than one that necessarily has to come from the organisation’s side (according to employees).

Having said this, however, employees still need to be informed about safety, if not motivated, in order to see them employ safe work procedures. The next few theoretical statements focus on how safety communication should specifically be managed and implemented.

### **7.3.7 Strategic management**

In order for the safety communication at the Precast Yard to be seen as efficient (and excellent) this communication needs to be managed strategically. According to the excellence theory, this firstly implies that the safety communication programmes at the Precast Yard should form part of the long-term strategic

choices that the organisation has set out for itself (Downs *et al.*, 2004:57; Grunig, 1997:290; Lindeborg, 1994:5).

According to management responsible for communicating safety information at the Precast Yard, this aspect of strategic communication is problematic at the Precast Yard. The reason for this is that this operation is not permanent, and that by 2010 it will not exist (in its current form) any longer. It is thus difficult for these managers to put truly long-term strategies, revolving around safety communications, in place.

Employees feel the absence of this long-term reassurance as well, with statements like “Due to the fact that the organisation is not permanent, why should we put so much effort into this company, if they do not have anything else for us in the future” and “I work, as well as I can, but then there is nowhere for me to go – no promotions – as the company is closing down. Why should I then do my best? I just do enough not to get into trouble”.

In the above it is seen how the non-permanent nature of the Precast Yard impacts on the strategic nature of safety communication. Still, this is not the only aspect that contributes to strategic safety communication. According to Downs *et al.* (2004:57), Grunig (1997:290) and Lindeborg (1994:5), in the next theoretical statement, the nature of two-way communication also points to strategic communication and management.

#### **7.3.8 Two-way communication**

The theoretical statement dealing with strategic communication, asserts that safety communication at the Precast Yard should exert two-way symmetrical, as well as two-way asymmetrical communication, dependent on the communication situation perceived.

In safety communications this selection of symmetrical and asymmetrical communication in different situations is seen, as both are needed for the overall communication to be successful.

When relaying safety regulations and rules (for example from legislature) asymmetrical communication needs to be employed. The reason for this is that the employees' feelings towards these rules and regulations do not impact on the fact that these still need to be followed blindly. For example, when management communicates the regulation of wearing hard-hats on site to employees, asymmetrical communication is best suited as it will not impact on this message if the employees feel that it is too hot in summer to wear hard-hats. Put differently, this opinion and feedback from employees cannot impact on the situation and, therefore, the managers of the Precast Yard cannot reposition the stance of the organisation to take the feelings of employees into account. In other instances, however, symmetrical communication is indeed needed. When employees communicate their needs with regard to carrying out these safety regulations and rules, the organisation should take note of these needs and accommodate them as far as possible.

It is, therefore, clear from the above that provision needs to be made for both symmetrical, as well as asymmetrical communications at the Precast Yard. In each instance, this can only be done successfully if the communication makes provision for two-way flow of communication. According to the employees that took part in the focus groups held at the Precast Yard, the greatest rival to this two-way flow of communication is the hierarchical nature of communication there. One employee, in the second focus group commented that employees "feel that the communication does not go any further than the supervisor they report to. The communication does not travel all the way to the top".

This sentiment is echoed by management, as in the interview with the first manager it was stated that "I think, overall, there is a breakdown of

communication. Look, management speaks to foremen, foremen are supposed to speak to team leaders and then they are supposed to go to the rest of the workforce. But it doesn't work that way. Somewhere along the way somebody will miss somebody. I see it all the time in the *Pitstops* people will ask me, and I will say, look it's your foremen's duty to sort out X, Y and Z. And they will say we spoke to the foremen, but they don't speak to the general foremen and so, you see it's, somewhere it doesn't happen. So it's in between where the problem is. But if you look at it from a workforce perspective, they see it as there is not enough communication from management's side."

In this, two-way communication is deterred by the relay of messages, inherently necessary in this kind of hierarchical communication flow. Still, when the communication message from employees is indeed communicated all the way to the management, and feedback is generated and travels all the way back to employees, it still does not mean that the communication will be acted upon, from management's side (symmetrical). Employees in the first and third focus groups felt that management made empty promises, as their communication did not always go over into action. One employee stated: "If we give a problem, nothing is done about it – although they give feedback, it is not acted upon".

Still, a communication channel that is indeed implemented at the Precast Yard to make provision for two way communication, without having to follow the chain of the hierarchical communication flow, is the *Pitstops* channel. This channel allows employees to give written feedback in teams, and then expects management to comment (and if applicable, act) on this feedback from employees.

The applicability of applying the symmetrical versus asymmetrical communication (act upon the two way communication) is mostly assessed by balancing the needs of the organisation with the needs of employees. This will be discussed in the next theoretical statement.

### **7.3.9 Needs of the organisation and employees**

According to literature (specifically from Grunig's (1997) excellence theory) safety communication at the Precast Yard should take the needs of the organisation, as well as the needs of employees into consideration (theoretical statement 2).

According to the second and third managers interviewed, the safety communication at the Precast Yard does indeed take the needs of both the employees and the organisation into account. The manager interviewed first, however, stated that the employees' needs could not always be taken into consideration, as this could be directly detrimental to the functioning of the organisation as a whole – or was just not in the power of the organisation to give. The example used, relates to the demobilisation and subsequent letting go of employees. This manager stated that many employees wanted the organisation to ensure them jobs in the next construction phase of the project – this was not in the power of the Precast Yard's management to offer and thus employees might feel that they were let down by the organisation, or that the organisation did not act upon their needs.

This was indeed how employees stated that they felt, as it was mentioned that the organisation did not care about their employees, but only about the benefit of the organisation itself. In this employees stated that they felt the organisation would first look after itself before it would look to realise the needs of employees.

This aspect talks to the next to be discussed, and will thus be elaborated upon here. This aspect is namely the maintaining of a relationship with employees.

### **7.3.10 Maintaining a relationship with employees**

It is stated in literature that, in order for safety communication at the Precast Yard to be efficient, a relationship between the organisation and employees should be facilitated by the communication therein.

The majority of employees in the organisation (in the questionnaires, as well as in focus groups) stated that they did not perceive that the organisation wanted to maintain a relationship with them, and that they (overall) did not trust the organisation to keep its promises made to them.

The managers interviewed, commented on the relationship of the organisation with employees and stated that this relationship was strained and negative due to the looming demobilisation of the Precast Yard. The fact that the organisation will no longer exist in its current form thus makes the maintenance of a relationship tough, as there will not be an organisation to have a relationship with much longer. This aspect impacts on the commitment of both parties to the relationship (according to employees and management) and thus makes the relationship unsatisfactory in its nature.

This relationship that did exist at the Precast Yard at the moment of research was indicated to be a communal relationship, according to the first manager interviewed, as the organisation was genuinely concerned about the welfare of workers, and thus facilitated the safety relationship in the way that it did.

Contradictory to this, employees perceived the relationship between them and the organisation to be more in the line of an exchange relationship, where the organisation (as well as employees) only offered benefit to the other party, when/if this party offered benefit back.

#### **7.3.11 Integration of employees**

Relating closely to the last statement as above, the next theoretical statement dictates that the organisation needs to communicate and share with employees how they, by working there, benefit the organisation, thus allowing employees to feel integrated in the organisation as their specific place therein is made known to them.

The perception of employees, with regard to this aspect, was indeed very negative. In the questionnaires an overwhelming amount of responses yielded a negative perception in this regard, as employees felt that the organisation did not communicate to employees how their work contributed to the overall operation of the organisation, and even less how doing their work **safely** made a contribution. This aspect was echoed by all focus groups, where employees commented on the fact that workers had “tunnel vision” and did not know where their jobs fitted into the bigger picture of the operations of the organisation.

According to managers, their primary communication effort to integrate employees into the organisation is through the safety competitions that are held. In this, the managers try to show employees (in their respective teams) that they contribute to the organisation, and that their actions are noticed.

According to employees, however, other safety communication channels can be employed better to this end, for example the *Toolbox talks*. In the first focus group it was stated that the *Toolbox talks* contained generic safety topics that weren't always applicable to each team at the Precast Yard. The focus group agreed that if the topics could be more relevant (by being applicable) to each team, the team members might feel that their job, and doing their job safely, was important to the organisation – something that they did not feel when safety topics were generic and not applicable to their specific occupation.

The above starts to address the next statement, where the individuals in the organisation are not the focus, but rather the different teams in the organisation.

### **7.3.12 Working in teams**

The same theoretical statement dictates that the safety communication at the Precast Yard should encourage employees to work together in teams. This is pertinent to the Precast Yard specifically, as this operation divides its entire workforce into teams doing work specifically dedicated to them. In this, the teams

function in much the same way as a production line, with each team being responsible for a specific component in the process of constructing the cement segments being precast here.

The managers interviewed stated that encouraging team work was very important at the Precast Yard, with regard to safety communications as well, as one team member working unsafely could endanger the safety of the entire team. Managers never try to single out employees in their safety communications but rather relate this to the entire team. One example is yet again the competitions where **teams** in their entirety are awarded, rather than individuals. In the same vein the safety bonuses are awarded to an entire team, or not at all – this encourages team members to work together to reach the safety goals, as it is understood that the team is judged as a whole, rather than the individuals who make it up.

The employees echoed this perception of management, where in focus groups a cumulative 84% of employees (*N* being 281) stated that they were indeed encouraged by the safety communication of the Precast yard to work together safely in a team. In the first focus group employees furthermore expressed that safety was indeed a team effort, when one person in the team got hurt, everyone in the team was affected. For this reason, the team members will assist in the safety communication processes that managers employ, by speaking to, helping or correcting other team members that (for example) do not understand safety posters or notice boards on site.

In the second focus group, held with female employees at the Precast Yard, the dilemma of integrating female employees into these teams was commented on, however. This points to the next statement to be discussed, and as such will be elaborated on consequently.



### **7.3.13 Diversity**

The next theoretical statement conditions safety communication at the Precast Yard to reflect the multicultural and diverse points of views of all employees. As mentioned above, the first barrier to incorporating all diversities in safety communications is gender.

The managers responsible for the communication of safety information at the Precast Yard understand the prejudices with regard to gender. One manager stated that "...like when you bring in a woman as a foreman, you know they [employees] will not listen to her, because they believe only men can be leaders". This aspect is very troublesome, as the hierarchic nature of the communication at the Precast Yard sees all safety communications flow through supervisors and foremen. This prejudice, therefore, hinders the flow of communication to employees and subsequently has to be factored in, when safety communication decisions are made. The female employees echo this statement of management in the focus group held, as they verified the fact that male employees do not give female supervisors the same respect they would give a male supervisor.

Gender is, however, not the only aspect of diversity that needs to be factored into the safety communications. The differing languages and literacy levels of employees of the Precast Yard also impact on the safety communications. One specific manner in which it is affected is in the choices of communication channels that can be used, as not all are suitable when the diversity of employees is taken into consideration. The next two theoretical statements focus on this aspect directly, as the utilisation of safety communication channels are discussed.

### **7.3.14 Safety communication channels**

The last statement focuses on the choice of communication channels used to convey safety messages at the Precast Yard. In this, it is stated that safety communications should utilise a variety of formal and informal communication

channels and that this choice must reflect the data, as well as symbol carrying capacity of the channel.

At the Precast Yard, the communication channel used most is that of interpersonal communication. This is due to the fact that this channel will be made use of, even in the presence of other forms of communication (for example written communication). In this way it is ensured that all recipients understand the safety message being conveyed. Examples of this are the use of *Pitstops* and *Toolbox talks*, which combines elements of written, as well as interpersonal, verbal communication. The combination of these different forms of communication allows for the lean and rich qualities of these channels to be suitably united in order to convey the message efficiently.

An example of this is the use of the *Pitstops* as communication channel. The written aspect of this communication channel allows for the use of multiple cues (making it richer in nature). The interpersonal verbal aspects of this communication channel in turn then allows for instant feedback, use of natural language (including making use of the language that recipients understand best, which is not always English), as well as allowing for a personal focus. Having done this, this single communication channel has incorporated all the elements of rich media, according to Daft and Lengel's media richness model (Staw & Cummings, 1994).

In line with this model, the choice of communication channels such as this one, takes the characteristics of the communicator, as well as the recipient into consideration. In this, the diversity as mentioned above is factored into the equation. Specifically, the inclusion of interpersonal communications in the use of all other channels, arrests the influence of illiteracy. This also allows the message to be communicated in a language other than English (which is the *lingua franca* of all written communications at the Precast Yard), allowing a better understanding of the message by recipients.

Having done all this, however, the satisfaction of employees regarding these choices and their effect will need to be addressed. This is done in the next section, where research question four is answered.

## 7.4 SATISFYING THE SAFETY INFORMATION NEEDS OF EMPLOYEES

Answering specific research question 4:
To what degree does safety communication at the Gautrain project satisfy the safety information needs of employees?

In answering this research question, focus will have to be given to those aspects identified in literature to be contributing and causative factors to the determination of efficient internal communications. These aspects were constructed into constructs and concepts; and discussed as from the perceptions of employees in the findings chapter. These concepts and construct will now be used once again, with the inclusion of the **satisfaction** of employees' safety information needs in an encapsulated manner, in order to answer research question four directly.

The concepts from literature are namely communication effectiveness, satisfaction as well as the construct of relationship building.

### 7.4.1 Communication effectiveness

In terms of communication effectiveness, employees firstly expressed that they were largely satisfied with the information they received regarding the safety objectives of the organisation. Overall employees felt that this was due to the fact that their supervisors were persuasive when communicating safety information to them. On the other hand, however, the majority of employees expressed their dissatisfaction with management of the Precast Yard's ability to communicate safety information persuasively.

Having said this, however, employees were still overall satisfied with the manner in which safety was encouraged, and most employees agreed that they were firstly, encouraged to work safely and secondly, encouraged to work safely in a team.

Linking closely to this, employees expressed their satisfaction with the manner in which their supervisors communicated safety information to them, but articulated an overall dissatisfaction with the manner in which managers did. In this employees felt that management did not always forward clear instructions, and these were not always supported by strong arguments.

Furthermore, employees qualified that they were satisfied with the safety information they received as to **how** to work safely, but that they were not entirely satisfied with **why** they should do this. Herein employees mostly felt that changes in safety strategies and/or procedures were not always explained to them. Conversely they did show a satisfaction with the availability of general safety information, although they would like to see this information be more applicable to their specific job/occupation.

Employees are satisfied with information updating them on the safety successes of the organisation, although they feel that this is due to supervisors talking frequently with people throughout the organisation – whereas managers do not. On the whole employees feel that there is no genuine conversation between the workforce and management, and as a result management does not fully understand employees' safety problems, although supervisors do. This aspect is intensified by the fact that employees do not feel comfortable communicating between status levels in the organisation.

Lastly, in the same vein as the above, employees are dissatisfied with the treatment of diversities in the organisation, as they expressed their opinion that not all races or sexes gets equal treatment.

In brief it can be stated that employees express an overall satisfaction with their supervisor's abilities and efforts in communicating safety information to them, although the same cannot be said for their management. Employees are also in the whole satisfied with the safety information they receive with regard to doing their work safely, although they would like to be made aware of where these processes and rules that they follow come from. Lastly, employees would like to see the communication of safety information to be more inclusive of all diversity groups in the organisation.

These general opinions with regard to the communication of safety information being expressed, employees were next asked about specific aspects related to the communication of safety information.

#### **7.4.2 Communication satisfaction**

Firstly, employees expressed their overall satisfaction with the amount, as well as quality of information that they received about working safely. In addition employees articulated their satisfaction with the manner in which the safety communications of the Precast Yard motivated them to meet the organisation's safety goals. They showed a satisfaction with the amount of information they receive regarding organisational achievement of goals, while the quality of that information was still unsatisfactory.

Also, linking with the findings under communication effectiveness, employees showed a general dissatisfaction with the amount, as well as the quality of information that they received about organisational policies. Furthermore, employees were dissatisfied with the amount, as well as quality of information they received with regard to governmental action impacting on the workings of the Precast Yard. This links back to employees wanting to be made aware of where rules and processes that they follow, come from.

In the same vein, a dissatisfaction with information communicating how decisions were made, and how benefits were bestowed was seen. Lastly, employees communicated their overall dissatisfaction with the information regarding their contribution to the organisation.

Summarising, it can be said that employees do not feel integrated in the organisation (as directly above), and although they are indeed satisfied with the information they receive about doing their work safely, they are unsatisfied with the information they receive explaining why this kind of safety needs to be practised (referring to policies, procedures and governmental influence).

#### **7.4.3 Relationship building**

In this last element, the communication of safety information as it pertains to building and maintaining the relationship between the organisation and employees, will be discussed. Overall, and in the first instance, employees showed a general dissatisfaction with their relationship with the organisation. Employees expressed their dissatisfaction with the organisation's listening skills, as the employees felt that their "voices are not heard". Employees also felt that the organisation did not keep to the promises that it made, and in this did not treat them fairly and just. Despite this fact, the employees were satisfied with the skills of the organisation, and its ability to accomplish what it promised to do.

On the back of this positive response, employees mostly feel that they have control over the situation when they interact with the organisation, and indicate that they are loyal to the organisation. Nevertheless, employees feel that the organisation does not want to maintain a relationship with them and indicated that the relationship that they do have, is more of an exchange relationship than a communal one. Employees feel that the organisation only gives to employees when it knows it will gain something in return. Employees are not wholly satisfied with this, as they feel that the organisation needs to take their needs and welfare

into consideration when decisions are made – as would be the case in a communal relationship.

Lastly, employees indicate that the relationship between the organisation and employees is greatly affected (for the negative) by the demobilisation that the organisation faces, as this impedes any long-term relationship building. In this employees are dissatisfied with the information that they receive with regard to the demobilisation, which in its turn affects negatively on the relationship again.

The above shows that there are clear areas for improvement with regard to the communication of safety information at the Precast Yard. In the next section, these improvements will be articulated as recommendations are made for the improvement of this safety communication. This done, the overall research question will be answered.

## 7.5 RECOMMENDATIONS

Answering the general research question:
<i>How can safety information be efficiently communicated to employees at the Gautrain project?</i>

In order to answer this question, the combined findings from the literature review, as well as all empirical research, will be used. In this light, the theoretical statements from literature are used as the basis for answering this research question. The theoretical statements are eliminated systematically as the findings from the empirical research are taken into account, in order to make recommendations on how safety communication can be done efficiently at the Gautrain Project Precast Yard. The answer to the main research question is offered in terms of recommendations.

Before these recommendations are made, however, it has to be noted that the safety communication channels of the Gautrain project's Precast Yard do reflect many of the guidelines for internal communication, set in literature. Although many aspects are not implemented in the ideal sense of these guidelines, when literature regarding the context of the South African mining and construction industry is taken into account, the less-than-ideal implementation is many times clarified. One such an example is the fact that the Precast Yard makes use of a strict hierarchical system for the flow of communication. This aspect, though it is less than ideal, is necessary for the communication message to reach all recipients it is meant for (see section 5.2.2.3). In this it is seen that the context in which the communication is presented, influences its use greatly. The Precast Yard, therefore, takes this context into consideration and incorporates it into their safety communications.

The Precast Yard has also not just applied their communication channels differently in order to take the context and recipients into account, but has also implemented new channels. One such an example is the *Pitstops* as communication channel. This channel utilises the strengths of both written and verbal communication as it allows for employees with low and higher literacy levels (see section 5.2.2.2).

Having said all of the above, there are still areas for improvement of the safety communication channels used by the Precast Yard. In order to answer the general research question as above, recommendations for the improvement of these channels will subsequently be made and discussed.

### **7.5.1 Recommendation 1: Strategic management**

The first recommendation for the optimal efficient communication of safety information at the Precast Yard is for the strategic management of the **entire** safety communication process. Although the organisation is not a permanent one, and as such cannot truly implement long-term strategic objectives, the



organisation can still implement strategic communication management in the interim. One major point of emphasis for strategic safety communication management is that the communication should allow for two-way communication. As such, the organisation is cognisant of employees' safety needs and is in a position to act on these needs.

Although safety communications at the Precast Yard allow for feedback from employees, and thus two-way communication, these channels do not always function optimally (or as intended by management), and as such need to be managed more closely in order to be strategic in nature. At the Precast Yard (as suggested by literature) supervisory personnel are responsible for ensuring that the programmes set in place by management are implemented in the daily operations of the organisation. This is intensified by the hierarchic nature of communication flow at this organisation where communications from the top moves through every level in the organisation systematically, downwards.

It is, therefore, recommended that this hierarchic process, and the downward, as well as upward travel of information, be monitored and managed at the Precast Yard. This done, the communication blockages that currently result from the message not being relayed somewhere in the hierarchic chain will be identified and can be addressed.

### **7.5.2 Recommendation 2: Interrelated communication**

Secondly, in order for safety communication at the Precast Yard to be as efficient as it can, all forms of communication have to be interrelated and as such should not deliver conflicting messages. Specifically, at the Precast Yard, production communication and safety communication need to be aligned in order to ensure the communication from the organisation can be seen to be consistent. Herein, production communications cannot relay messages that conflict with those of safety communications. In this vein, the quantity of production communication

should not always outweigh the amount of safety communication, as this leaves the impression that the latter is less important.

### **7.5.3 Recommendation 3: Communication of external factors**

Thirdly, it is recommended that those external factors that impact on the safety practices of the Precast Yard be communicated to employees (for example Governmental legislature). Employees have a need for this kind of safety communications, in stating that they do indeed understand how to implement safety procedures and rules in the organisation, but they do not truly understand why they do this, or where these procedures and rules come from.

Linking back to strategic management as discussed above, this kind of communications should not be left to the unions as it takes the control of this part of safety communications away from the organisation, and ensures that not all employees receive this communication (i.e. those who do not belong to a union).

### **7.5.4 Recommendation 4: Management's involvement**

According to the literature, it is specifically management's responsibility to motivate employees to turn the safety vision and goals of the organisation into reality. At the Precast Yard the hierarchic nature of communications does not allow a lot of direct communication between management and the general workforce. Employees have a need for this kind of communication, and the fourth recommendation is, therefore, that management gets **directly** involved in communicating safety information to employees – and inevitably collecting information from this group as well.

### **7.5.5 Recommendation 5: Integration of employees**

The fifth recommendation is for safety communication to allow for integration to take place, in order for employees to feel part of the organisation as a whole, by realising their place in it. Safety communications at the Precast Yard need to allow for communication strategies that demonstrate the “big picture” of safety

operations at the Precast Yard to employees, simultaneously showing the place of the individual in realising this “big picture”. This done, employees will be able to align themselves better to the overall safety goals of the organisation as they will then understand what their place is therein.

#### **7.5.6 Recommendation 6: Reflection of the diverse points of views of employees**

The sixth recommendation is for the allowance of the multicultural and diverse points of views of employees in the safety communications at the Precast Yard. Employees feel overwhelmingly according to the empirical findings of the research, that the safety communications at the Precast Yard are prejudiced in nature, as they do not allow for diversity. This diversity comes in many forms – the greatest of this being gender discrimination (according to employees), as not much allowance is made for female employees in the safety communications. One example of this is the fact that all the visual communication (for example posters), sampled in this research, depicted only male workers. Not one example was found of a visual depiction of a female worker.

#### **7.5.7 Recommendation 7: Management of relationship with employees**

The final recommendation is that the Precast Yard focuses on managing its relationships with employees. Findings of the research indicate that the temporary nature of the operations at the Precast Yard is the greatest deterring force to building relationships at the Precast Yard and management feels that the short-term nature does not allow for a relationship to develop between the organisation and employees.

The basic fact, as illustrated by literature, is that a relationship inevitably forms between an organisation and its employees – no matter how temporary in nature it is. This relationship then influences the degree in which employees are receptive to the communications of that organisation, and how productive they

are in realising its goals. The management of the relationship inherently thus allows for the management of these two factors.

If the Precast Yard would like to optimise the receptiveness of employees towards safety communications and their realisation of the organisation's safety goals, the relationship (that inescapably forms) with these employees will need to be managed. Linking with the first recommendation, this management will need to form part of the strategic management process in the organisation.

Having made the above seven recommendations, the process that lead to these can now be reviewed.

## **7.6 SHORTCOMINGS OF THE STUDY AND RECOMMENDATIONS FOR FURTHER RESEARCH**

### **7.6.1. Shortcomings**

The shortcomings of this study (as contextualised in the delimitation of the study – see section 1.9) are firstly based in the fact that only **one** operation of the Gautrain project, namely the Precast Yard, was chosen for this research. It, therefore, follows that the findings of this project are not generaliseable to the Gautrain project at large, but only to this operation itself.

This operation is mainly concerned with construction work (although it still falls under safety legislation aimed at both the mining and the construction industry). This points to the fact that this study does not include an operation that is only mining-focused as well.

Furthermore, this study only includes those internal communication channels that are used for the conveyance of safety information specifically. This means that all other forms of internal communication were largely omitted from the study and could not be used as a gauging factor to measure the importance of safety

communication within all the overall and general internal communications of the organisation.

These shortcomings give rise to recommendations for further research, amongst others.

#### **7.6.2. Recommendations for future research**

In future, a follow-up study could be constructed to measure the implementation of the recommendations discussed in this study. Having said this, the temporary nature of the operation it refers to will hinder this prospect. The repetition of this study will also be interesting, within the **mining** industry specifically (as the Gautrain project is situated more within the construction sphere). This will allow, a holistic view of safety communications within the South African mining and construction industry to be gained.

In future, this study can also be done with an inclusion of all other forms of communication, not only safety communications. In this way, insight into the place of safety communications within the overall operations of an organisation could be gained.

### **7.7 GENERAL CONCLUSION**

This research was started off by discussing the problem of communicating safety information within the South African mining and construction industry. Herein the importance of safety, and thus its communication was seen. On the back of this problem statement, the literature was reviewed in order to gain insight into this problem. In doing so, the literature review firstly focused on the theoretical framework that gauged the communication of safety information in general terms. Thereafter, the second part of the literature review focused on those aspects which impact on the communication of safety information, in order to understand how the context that this communication found itself in, influenced its fulfilment.

Then, the specific communication of safety information was researched and discussed, with cognisance to the above. In this literature review two constructs with their accompanying concepts were discovered, which were imperative factors in safety communications. These constructs were then tested at the Gautrain project, specifically its Precast Yard, in order to understand how they were fulfilled in practice within the mining and construction industry of South Africa. Naturally, these constructs were then used to construct the discussion of the findings of this empirical research.

Yet again these constructs were used in order to answer research questions one through four, and then lastly used – based on the findings – to construct the recommendations for the improvement of safety information communication at the Precast Yard of the Gautrain project. Hereby, the answering of the problem stated at the outset of the project, was concluded.

## BIBLIOGRAPHY

**ACTS** see SOUTH AFRICA.

**AKPOM, K. & KING, T.A.** 1999. Safety. (*In* Encyclopedia of Public Health, 428-431.)

**ANGELOPULO, G.C.** 2002. A systems approach to Public Relations. (*In* Lubbe, B.A. & Puth, G., eds. Public Relations in South Africa: A management reader. Pietermaritzburg: Heineman. p.40-52.)

**ANGELOPULO, G.C.** 2006. Communication integration. (*In* Barker, R. & Angelopulo, G., eds. Integrated organisational communication. Cape Town: Juta. p.39-70.)

**ARGENTI, P.A.** 1998. Corporate Communication. 2<sup>nd</sup> ed. Boston: McGraw-Hill. 258p.

**ASPAROUHOV, T. & MUTHÈN, B.** 2009. Exploratory structural equation modelling. *Structural Equation modelling: A multidisciplinary journal*, 16(3):397-438, Jul. Available: Informaworld.

**BARKER, R.** 2006. Dynamics of Organisational Communication. (*In* Barker, R. & Angelopulo, G., eds. Integrated organisational communication. Cape Town: Juta. p.73-106.)

**BARKER, R. & ANGELOPULO, G., eds.** 2006. Integrated organisational communication. Cape Town: Juta. 442p.

**BARKER, L.L. & GAUT, D.R.** 2002. Communication. 8<sup>th</sup> ed. Boston, MA: Allyn and Bacon. 406p.

**BATES, B., BOTHA, M., BOTHA,S., GOODMAN, S., LADZANI, W., DE VRIES, C., DE VRIES, L., NOVEMBER, M. & SOUTHEY, L.** 2005. Business management: Fresh perspectives. Cape Town: Lonman.

**BATES, S.** 2009. Whose terms? *Wilson quarterly*, 33(2):15-16.

**BERG, B.L.** 1995. Qualitative research methods for the social sciences. 2<sup>nd</sup> ed. Boston, MA: Allyn and Bacon. 252p.

**BREWER, J. & HUNTER, A.** 2006. Foundations of multimethod research: Synthesizing styles. Thousand Oaks: Sage. 206p.

**BROOM, G.M., CASEY, S. & RITCHEY, J.** 2000. Concept and theory of organization-public relationships. (In Ledingham, J.A. & Brunig, S.D., eds. Public Relations as relationship management: A Relational approach to the study and practice of Public Relations. Mahwah, NJ: Lawrence Erlbaum. p.3-22.)

**BURLESON, B.R.** 1995. Personal relationships as a skilled accomplishment. *Journal of social and personal relationships*, 12(1):575-581.

**CAYWOOD, C.L., ed.** 1997. The handbook of strategic Public Relations & integrated communications. New York, NY: McGraw Hill. 574p.

**CHEN, N.** Internal/employee communication and organisational effectiveness: a study of Chinese corporations in transit. *Journal of contemporary China*, 17(54):167-189, Feb. Available: Academic search premier.

**COSATU** see Congress of South African Trade Unions



**CONGRESS OF SOUTH AFRICAN TRADE UNIONS.** 2005. COSATU Weekly: The newsletter for COSATU-members and the public.  
<http://www.cosatu.org.za/news/weekly/20050318.htm> Date of access: 12 Nov. 2006.

**COX, S. & FLIN, R.** 1998. Safety culture: Philosopher's stone or man of straw? *Work & stress*, 12(3):189-201, Jul. Available: Academic search premier.

**CREAMER, M.** 2002. Don't neglect South Africa, warns union.  
[http://www.miningweekly.co.za/article.php?a\\_id=25344](http://www.miningweekly.co.za/article.php?a_id=25344) Date of access: 21 Feb. 2007.

**CUTLIP, S.M., CENTER, A.H., BROOM, G.M. & DU PLESSIS, D.F.** 2002. Essentials of effective Public Relations: For sub-Saharan Africa. Cape Town: Pearson. 341p.

**DAVENPORT, J.** 2005. Skills dearth will ultimately restrict consulting industry.  
[http://www.miningweekly.co.za/article.php?a\\_id=65585](http://www.miningweekly.co.za/article.php?a_id=65585) Date of access: 05 Mar. 2008.

**DAVID, M. & SUTTON, C.D.** 2004. Social research: The basics. London: Sage. 385p.

**DECROP, A.** 1999. Triangulation in qualitative tourism research. *Tourism Management*, 20(1):157-161, Feb. Available: Science Direct.

**DEPARTMENT OF MINERAL AND ENERGY.** 2008. Mine safety: Accident statistics. [http://www.dme.gov.za/mhs/accident\\_stats.stm](http://www.dme.gov.za/mhs/accident_stats.stm) Date of access: 16 Sep. 2008.

**DE VAUS, D.** 2002. Research design in social research. London: Sage. 279p.

**DI NORCIA, V. & TIGNER, J.** 2000. Mixed motives and ethical decisions in business. *Journal of business ethics*, 25(1):1-14, May. Available: Business search premier.

**DINSBACH, A.A., FEIJ, J.A. & DE VRIES, R.E.** 2007. The role of communication content in an ethnically diverse organisation. *International Journal of Intercultural Relations*, 31(1): 725-245.

**DOLPHIN, R.R.** 2005. Internal communications: Today's strategic imperative. *Journal of marketing communications*, 11 (3):171-191, Sep. Available: Academic search elite.

**DOWNES, C.W. & ADRIAN, A.D.** 2004. Assessing organizational communication: Strategic communication audits. New York: Guilford Press. 292p.

**DOWNES, C.W., DEWINE, S. & GREENBAUM, H.H.** 2004. Measures of organizational communication (*In* Rubin, R.B., Palmgreen, P. & Sypher, H.E., eds. *Communication research measures: A sourcebook*. Mahwah, NJ: Lawrence Erlbaum. p.57-119.)

**DOZIER, D.M., GRUNIG, L.A & GRUNIG, J.E.** 1995. Manager's guide to excellence in Public Relations and communication management. Mahwah, NJ: Lawrence Erlbaum. 249p.

**DME** see Department of Mineral and Energy

**DU PLOOY, G.M.** 2002. Communication Research: Techniques, methods and applications. Lansdowne: Juta. 379p.

**EDMOND, G. & TILLEY, E.** 2003. Beyond role play: Workplace theatre and employee relations. *Prism online journal* Available at:  
[http://praxis.massey.ac.nz/fileadmin/praxis/papers/GEdmondETilleyPaper\\_20.pdf](http://praxis.massey.ac.nz/fileadmin/praxis/papers/GEdmondETilleyPaper_20.pdf)

**EISENBERG, E.M. & RILEY, P.** 2001. Organizational culture. (*In* Jablin, F.M. & Putnam, L.L., eds. *The new handbook of organisational communication: Advances in theory, research and methods*. Thousand Oaks, Calif: Sage. p.291-322.)

**FIELD, A.** 2000. *Discovering statistics using SPSS for Windows: Advanced techniques for beginners*. London: Sage. 1469p.

**FOUCHE, B.** 2009. Better safety talks. <http://sheqafrica.com/ben/better-safety-talks/> Date of access: 1 Sept. 2009

**FRANK, A.L.** 2000. Occupational safety and health. (*In* *Encyclopaedia of public health*, 2:340.)

**FRANCIS, D. & WOODCOCK, M.** 1994. *The audit of communication effectiveness: Exercise*. Hampshire: Gower. 8p. (Management audit series, title IV.)

**FREEMAN, R.E.** 1984. *Strategic Management: A stakeholder approach*. Pitman: Boston. 276p.

**GODDARD, W.D. & MELVILLE, S.** 2001. *Research methodology: An introduction*. 2<sup>nd</sup> ed. Lansdowne: Juta. 148p.

**GRAVETTER, F.J. & FORZANO, L.B.** 2006. *Research methods for the behavioural sciences*. 2<sup>nd</sup> ed. Belmont, CA: Thomson Wadsworth. 534p.

**GRUNIG, J.E., ed.** 1992. Excellence in Public Relations and communication management. New Jersey: Lawrence Erlbaum Associates. 663p.

**GRUNIG, J.E. & HON, L.** 1999. Guidelines for measuring relationships in Public Relations. (Paper read to The Institute for Public Relations commission on PR measurement and evaluation, Gainesville, Florida) Available:  
[http://www.instituteforpr.org/measureval/rel\\_pi.htm](http://www.instituteforpr.org/measureval/rel_pi.htm).

**GRUNIG, J.E. & HUANG, Y.** 2000. From organizational effectiveness to relationship indicators: Antecedents of relationships, Public Relations strategies, and relationship outcomes. (*In* Ledingham, J.A. & Brunig, S.D., eds. Public Relations as relationship management: A Relational approach to the study and practice of Public Relations. Mahwah, NJ: Lawrence Erlbaum. p.23-53).

**GRUNIG, J. & WHITE, J.** 1992. The effect of worldviews on public relations theory and practice. (*In* Grunig, E., ed. Excellence in relations and communication management. Hillsdale, NJ: Erlbaum. p.31-64.).

**GRUNIG, L.A.** 1997. Excellence in Public Relations (*In* Caywood, C.L., ed. The handbook of strategic Public Relations & integrated communications. New York, NY: McGraw Hill. p.286-300.)

**HALL, R.** 1998. Virtual statistician: Tukey's HSD post hoc test.  
<http://web.mst.edu/~psyworld/tukeysexample.htm> Date of access: 25 Oct. 2009

**HAMILTON, S.** 1987. A communication audit handbook. London: Pitman. 197p.

**HEALTH AND SAFETY FOR BEGINNERS.** 2009. Toolbox talks.  
[http://www.healthandsafetytips.co.uk/Toolbox\\_Talks.htm](http://www.healthandsafetytips.co.uk/Toolbox_Talks.htm) Date of access: 1 Sep. 2009.

**HERTING, S. & STEIN, L.** 2007. The evolution of Luhmann's systems theory with focus on the constructivist influence. *International journal of general systems*, 36(1):1-17, Feb.

**HOLTZ, S.** 2004. Corporate conversations: A guide to crafting effective and appropriate internal communications. New York: Amacom. 292p.

**HSFB** see HEALTH AND SAFETY FOR BEGINNERS.

**HUYSAMEN, C.A.** 2003. The behavioural and personality correlates of transactional and transformational leadership. Johannesburg: RAU. (Thesis - BCom) 94p.

**IABC** see International Association of Business Communicators.

**ICEM** see International Federation of Chemical, Energy, Mine and General Workers' Unions.

**INTERNATIONAL ASSOCIATION OF BUSINESS COMMUNICATORS.** 2007. Excellence in Public Relations management: IABC excellence project summary. <http://www.iabc.co.za/docs/events/taken%20place/20%20feb%20'08/Sej%20Motau%20Presentation.pdf> Date of access: 13 May 2008.

**INTERNATIONAL FEDERATION OF CHEMICAL, ENERGY, MINE AND GENERAL WORKERS' UNIONS.** 2008. NUM Files strike on 3 South Africa Mining Houses; Safety strike looms at Gold Fields. Houses;-Safety-Strike-Looms-at-Gold-Fields Date of access: 16 Sep. 2008.

**JABLIN, F.M. & PUTNAM, L.L., eds.** 2001. The new handbook of organisational communication: Advances in theory, research and methods. Thousand Oaks, Calif: Sage. 911p.

**JICK, T.D.** 1979. Mixing Quantitative and Qualitative methods: Triangulation in action. *Administrative Science Quarterly*, 24(4):602-612. Available: Academic search elite.

**JONES, M.** 2004. Maslow's hierarchy of needs can lower recidivism. *Corrections today*, 66(4):18-21, Jul. Available: Academic search premier.

**KEYTON, J.** 2006. Communication research: Asking questions, finding answers. 2<sup>nd</sup> ed. Boston, MA: McGraw-Hill. 357p.

**KOEKEMOER, G.** 2009. Verbal communication with the author. Potchefstroom. (Unpublished interview.)

**KURTYKA, J.** 2005 . A systems theory for business intelligence. *DM Review*, 15(12):30-34, Dec. Available: Business search premier.

**LAWS** see SOUTH AFRICA.

**LEDINGHAM, J.A. & BRUNING, S.D., eds.** 2000. Public Relations as relationship management: A relational approach to the study and practice of Public Relations. Mahwah, NJ: Lawrence Erlbaum. 253p.

**LESCH, M.F.** 2005. Remembering to be afraid: Applications of theories of memory to the science of safety communication. *Theoretical issues in ergonomics science*, 6(3):173-182, Mar. Available: Academic search premier.

**LEVERETTE, M.** 2007. Spirits in a material world: Hauntology, historical materialism and phenomenological medium theory. *Western journal of communication*, 71(4): 336-358, Oct. Available: Academic search complete.

- LE ROUX, T.** 2005. Simultaneous methodological triangulation as research approach in a third world country context: A case study. (Paper read at the annual SACOMM conference 19-21 September 2005.) Pretoria, South Africa. 27p. (Unpublished)
- LE ROUX, T., NAUDÉ, A.M.E., FOURIE, L.M., & VAN HEERDEN, L.** 2004. Lonmin employee questionnaire. 9p. (Unpublished).
- LIN, S.H., TANG, W.J., MIAO, J.Y., WANG, Z.M. & WANG, P.X.** 2008. Safety climate measurement at workplace China: A validity and reliability assessment. *Safety Science*, 46 (7): 1037-1046, Aug. Available: Academic search elite.
- LINDEBORG, R.A.** 1994. Excellent communication. *Public Relations quarterly*, 39(1):5-11, spring. Available: Academic search complete.
- LITTLEJOHN, S.W. & FOSS, K.A.** 2005. Theories of human communication. 8<sup>th</sup> ed. Canada: Thomson Wadsworth. 388p.
- LOGSDON, R.K.** 2009. Happier trails through PPE. *Rock products*, 112(7):12-12, Jul. Available: Academic Search Premier.
- LUBBE, B.A. & PUTH, G., eds.** 2002. Public Relations in South Africa: A management reader. Pietermaritzburg: Heineman. 297p.
- LUSTIG, M.W. & KOESTER, J.** 2003. Intercultural competence: Interpersonal communication across cultures. Boston, NJ: Allyn and Bacon. 384p.
- MACHARIA, J.** 2008. South Africa's miners union starts safety strike. <http://makeitfair.org/the-facts/news/south-africas-miners-union-starts-safety-strike>  
Date of access: 15 Sep. 2008.

**MADAUS, M.** 1997. Women's role in creating the field of health and safety communication. *Technical communication quarterly*, 6(3):261-280, Jul. Available: DOI.

**MARSH, T. s.a.** Proactive safety culture: The role of human behaviour and six essential habits for a world class safety culture.  
<http://209.85.229.132/search?q=cache:ZYC-6Th2lXgJ:www.ewi.org.uk/files/news/Pro%2520active%2520safety%2520culture%2520%2520Tim%2520Marsh.pdf+%22Parker+and+hudson+model%22&cd=1&hl=en&ct=clnk&gl=za> Date of access: 7 May 2009.

**MATHIS, T.** 2008. What does safety success look like? *Occupational hazards*, 70(9):43-48, Sep. Available: Academic search premier.

**MILLER, K.** 2006. Organizational communication: Approaches and processes. 4<sup>th</sup> ed. United States of America: Thomson Wadsworth. 364p.

**MINTER, S.G.** 2003. Have you heard about safety? *Occupational hazards*, 65(10):44-48, Oct. Available: Academic search premier.

**MISHRA, K.E. & LI, C.** 2008. Relationship marketing in Fortune 500 US and Chinese web sites. *Journal of relationship marketing*, 7(1):29-43. Available: Academic search premier.

**MITCHELL, R.K., AGLE, B.R. & WOOD, D.J.** 1997. Toward a theory of stakeholder identification and salience: Defining the principle of who and what really counts. *Academy of management review*, 22(4):853-886. Available: Business search premier.



**MOHAMED, S.** 2002. Safety climate in construction site environments. *Journal of Construction Engineering and Management*, 128(5):375-385. Available: Business search premier.

**MONEY BIZ.** 2008. The new BEE codes of good practice – what fits where. [http://www.moneybiz.co.za/bee/bee\\_codes\\_what\\_fits\\_where.asp](http://www.moneybiz.co.za/bee/bee_codes_what_fits_where.asp) Date of access: 05 Mar. 2008.

**MOUTON, J.** 2006. Understanding social research. 4<sup>th</sup> ed. Paarl: van Schaik. 272p.

**NAUDE, A.M.E. & LE ROUX, T.** 2005. Communicating with diversities: Gender issues in the South African mining industry. (Paper read at the 12<sup>th</sup> International World PR Festival op 28-30 June 2005.) Trieste, Italy. 31p. (Unpublished)

**OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION.** 2008. ID: What is PPE. <http://www.free-training.com/OSHA/ppe/Intro/DEF101.HTM> Date of access: 19 Oct. 2009

**OLSEN, W.** 2004. Triangulation in social research: Qualitative and quantitative methods can really be mixed. (*In* Holborn. M. 2004. Developments in sociology. Ormskirk: Causeway Press. Full display: <http://www.ccsr.ac.uk/staff/triangulation.pdf>) Date of access: 7 Nov. 2006.

**OOSTERHOFF, R.** 2001. Meyrowitz, McLuhan, Medium theory and me: Why medium theory needs to be taught alongside techniques for new communication technologies.  
Available full text on ERIC: the Educational Resource Information Center.  
[http://www.eric.ed.gov/ERICWebPortal/custom/portlets/recordDetails/detailmini.jsp?\\_nfpb=true&\\_ERICExtSearch\\_SearchValue\\_0=ED456470&ERICExtSearch\\_SearchType\\_0=no&accno=ED456470](http://www.eric.ed.gov/ERICWebPortal/custom/portlets/recordDetails/detailmini.jsp?_nfpb=true&_ERICExtSearch_SearchValue_0=ED456470&ERICExtSearch_SearchType_0=no&accno=ED456470) Date of access: 05 Mar. 2009

**OSHA** *see* OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

**POLLARI, R.** 2008. Are your employees sick of hearing about safety?  
*Occupational Health & Safety*, 77(6):22-24, Jun. Available: Academic Search  
Complete.

**PRINCETON** *see* PRINCETON UNIVERSITY

**PRINCETON UNIVERSITY.** 2009. WordNet Search 3.0.  
<http://wordnetweb.princeton.edu/perl/webwn?s=efficient> Date of access: 19 Oct.  
2009.

**RBS** *see* REPORTERS WITHOUT BORDERS

**RENSBURG, R.** 2002. Public Relations communication media. (*In* Lubbe, B.A. &  
Puth, G., *eds.* Public Relations in South Africa: A management reader.  
Pietermaritzburg: Heineman. p.142-167.)

**RENSBURG, R.** 2003. Public Relations in South Africa: From rhetoric to reality.  
(*In* Sriramesh, K. & Verčič, D., *eds.* 2003. The global Public Relations handbook:  
Theory, research and practice. Mahwah, NJ: Lawrence Erlbaum. p.145-178.)

**RENSBURG, R. & CANT, M., eds.** 2009. Public Relations: African perspectives.  
2<sup>nd</sup> ed. South Africa: Heineman. 313p.

**REPORTERS WITHOUT BORDERS.** 2008. Press freedom index 2008.  
<http://www.rsf.org/en-classement794-2008.html> Date of access: 28 Jul. 2009.

**RHODES, K. & BAKER, V.** 2002. Public relations in South Africa: Inventory and  
future perspectives. (*In* Lubbe, B.A. & Puth, G., *eds.* Public Relations in South  
Africa: A management reader. Pietermaritzburg: Heineman. p.285-297.)

**ROBERTS,P., PRIEST, H. & TRAYNOR, M.** 2006. Reliability and Validity in Research. *Nursing Standard*, 20(44):41-46. Available: Academic search elite.

**RUBIN, R.B., PALMGREEN, P., & SYPHER, H.E., eds.** 2004. Communication research measures: A sourcebook. Mahwah, NJ: Lawrence Erlbaum. 400p

**RUBIN, R.B., RUBIN, A.M. & PIELE, L.J.** 2000. Communication research: Strategies and sources. 5<sup>th</sup> ed. Belmont, CA: Wadsworth. 317p.

**RYDER MARSH.** 2008. The psychology of industrial safety: Safety culture assessment and organisational development.  
[http://www.rydermarsh.co.uk/safety\\_culture.html](http://www.rydermarsh.co.uk/safety_culture.html) Date of access: 16 Sep. 2008.

**SANTOS, J.R.** 1999. Cronbach's alpha: A tool for assessing the reliability of scales. *Journal of extention*, 37(2):7-9, April.

**SAUNDERS, R.** 1992. The safety audit: Designing effective strategies. London: Pitman. 292p.

**SCHOLES, E., ed.** 1999. Guide to internal communication methods. Hampshire: Gower. 156p.

**SCHULTZ, E.** 2009. Verbal communication with the author. Midrand. (Recording in the possession of the author.)

**SITKIN, S.B., SUTCLIFFE, K.M. & BARRIOS-CHOPLIN, J.R.** 1992. A dual-capacity model of communication media choice in organizations. *Human communication research*, 18(4):563-598, Jun. Available: Business search premier.

**SOUTH AFRICA.** 1996. The Mine Health and Safety Act 29 of 1996. Pretoria: Government Printer.

**SPENCER, C.** 2005. Relationships are reputation. *Strategic communication management*, 9(4):9-10, Jun/Jul.

**SRIRAMESH, K. & VERČIČ, D., eds.** 2003. The global Public Relations handbook: Theory, research and practice. Mahwah, NJ: Lawrence Erlbaum. 564 p.

**SRNKA, K.J. & KOESZEGI, S.T.** 2007. From words to numbers: How to transform Qualitative data into meaningful Quantitative results. *Schmalenbach Business Review*, 50(1):29-58, Jan. Available: Business source complete.

**STABLUM, A.** 2009. Workers in mining companies are coming down with AIDS. *Herald tribune*: 11 Jul.  
<http://www.iht.com/articles/2007/07/11/business/mines.php> Date of access: 19 Mar. 2009.

**STAW, B. & CUMMINGS, L.L., eds.** 1994. Research in organizational behaviour. Greenwich: JAI. 295p.

**STEYN, B & PUTH, G.** 2000. Corporate communication strategy. Sandown: Heinemann. 241p.

**SUHR, D.D.** 2003. Exploratory or confirmatory factor analysis? (Paper delivered as part of the course on Statistics and data analysis at the University of Northern Colorado) Colorado. 17p. Available:  
<http://www2.sas.com/proceedings/sugi31/200-31.pdf> Date of access: 06 Aug. 2009.

**THEUNISSEN, N.** 2007. The role of the internet at Lonmin Platinum: The perceptions of middle management. Potchefstroom: NWU (Dissertation) 102p.

**UCLA** see University of California Los Angeles.

**UNIVERSITY OF CALIFORNIA LOS ANGELES: TECHNOLOGIES SERVICES.**

2006. What does Cronbach's Alpha mean?

<http://www.ats.ucla.edu/STAT/SPSS/faq/alpha.html> Date of access: 7 Nov. 2006

**VAN DER WALT, L.** 2006. Organisational change and management. (*In* Barker, R. & Angelopulo, G., eds. Integrated organisational communication. Cape Town: Juta. p.105-130)

**VAN DER WALT, L. & BREET-VAN NIEKERK, T.** 2006. Assessing organisational communication. (*In* Barker, R. & Angelopulo, G., eds. Integrated organisational communication. Cape Town: Juta. p.331-365.)

**VAN RIEL, C.B.M.** 1995. Principles of Corporate communication. Harlow: Prentice Hall. 239 p.

**VAN STADEN, E., MARX, S. & ERASMUS-KRITZINGER, L.** 2005. Corporate communication: Getting the message across business. Paarl: Van Schaik. 206p.

**VAN TONDER, E.** 2008. Verbal communication with the author. Midrand. (Unpublished interview.)

**VENTER, I.** 2008. No contract stipulating that any part of Gautrain be completed by 2010.

<http://www.engineeringnews.co.za/article/no-contract-stipulating-that-any-part-of-gautrain-be-completed-by-2010-2008-03-14> Date of access: 17 Mar. 2009

**WAYNE, S.** 1999. Liberty, let me write your name. *Unesco sources*, 1(112):22-23, May. Available: Academic search premier.

**WILLIAMS, J.J.** 2008. Commentary: Changing society by changing the thinking culture about mining hazard: A review essay on „Safety-culture and the logic of hazard’. *Critical arts*, 22(20):235-241.

**WOOD, E.** 2006. Excellent in-house journals in South Africa: Case studies of five leading publications. Potchefstroom: NWU. (Dissertation - Bks.) 203p.

**WOOD, J.T.** 2004. Communication theories in action: An introduction. 3<sup>rd</sup> ed. Canada: Thomson Wadsworth. 374p.

## **APPENDIX A**

### **Questionnaire**

#### **Safety Communication and Relationship Questionnaire for Bombela Civil Joint Venture**

Please fill out the questionnaire with care and honesty – the intention is to benefit everyone in the organisation.

Your answers are completely confidential, so be as frank as you wish. This is not a test – your opinion is the only right answer.

We appreciate your time in answering these questions. It should take you about 20 minutes to do so.

**General questions:**

Please tick the grey block. Select only one per question, unless prompted otherwise.

1. **Gender:** Male ☐ 1 Female ☐ 2

2. **Age:** Younger than 20 ☐ 1 40-49 ☐ 2  
20-29 ☐ 3 50-59 ☐ 4  
30-39 ☐ 5 60 and older ☐ 6

3. **Classification:** Asian ☐ 1 Black ☐ 2  
Coloured ☐ 3 White ☐ 4  
Other \_\_\_\_\_

4. **Which of the following applies to your current position?**

Fulltime employee of BCJV ☐ 1 Contractor under BCJV ☐ 2

5. **Please indicate your current job level.**

Operator ☐ 1  
Supervisor ☐ 2  
Manager ☐ 3 Other \_\_\_\_\_

6. **Which language(s) can you read and understand? Select as many as necessary.**

	Understand	Read
Afrikaans	<input type="checkbox"/>	<input type="checkbox"/>
English	<input type="checkbox"/>	<input type="checkbox"/>
isiNdebele	<input type="checkbox"/>	<input type="checkbox"/>
isiXhosa	<input type="checkbox"/>	<input type="checkbox"/>
isiZulu	<input type="checkbox"/>	<input type="checkbox"/>
Northern Sotho (Sesotho sa Leboa)	<input type="checkbox"/>	<input type="checkbox"/>
Sesotho	<input type="checkbox"/>	<input type="checkbox"/>
Setswana	<input type="checkbox"/>	<input type="checkbox"/>
siSwati	<input type="checkbox"/>	<input type="checkbox"/>
Tshivenda	<input type="checkbox"/>	<input type="checkbox"/>
Xitsonga	<input type="checkbox"/>	<input type="checkbox"/>
Fanagalo	<input type="checkbox"/>	<input type="checkbox"/>
Other	_____	
Other	_____	

7. **Are you a member of a union / association?**

Yes ☐ 1 No ☐ 2

8. **Are you happy in your current position?**

Yes ☐ 1 No ☐ 2



**9. What is your highest qualification?**

None	<input type="text" value="1"/>
ABET/Class 1 - Standard 5 (Primary school)	<input type="text" value="2"/>
Standard 6 - 10 (High school)	<input type="text" value="3"/>
ABET 4	<input type="text" value="4"/>
Tertiary (After school)	<input type="text" value="5"/>

**10. If you had the opportunity of doing the same work, would you work for another company?**

Yes	<input type="text" value="1"/>	No	<input type="text" value="2"/>
-----	--------------------------------	----	--------------------------------

**When referring to THE ORGANISATION please think of Bombela Civil Joint Venture you work for / under.**

**11. How do you feel about the AMOUNT of safety information you are receiving from the following SOURCES?**

	Too much	Enough	Too little
a. Immediate work colleagues_____	<input type="text" value="1"/>	<input type="text" value="2"/>	<input type="text" value="3"/>
b. Supervisors_____	<input type="text" value="1"/>	<input type="text" value="2"/>	<input type="text" value="3"/>
c. Middle management (example surveyor, safety officer)_____	<input type="text" value="1"/>	<input type="text" value="2"/>	<input type="text" value="3"/>
d. Senior and top management (example site manager, safety managers)_____	<input type="text" value="1"/>	<input type="text" value="2"/>	<input type="text" value="3"/>
e. Training department_____	<input type="text" value="1"/>	<input type="text" value="2"/>	<input type="text" value="3"/>
f. Human resources department _____	<input type="text" value="1"/>	<input type="text" value="2"/>	<input type="text" value="3"/>
g. Unions / associations_____	<input type="text" value="1"/>	<input type="text" value="2"/>	<input type="text" value="3"/>
h. Safety department as a whole_____	<input type="text" value="1"/>	<input type="text" value="2"/>	<input type="text" value="3"/>

**12. Answer this question only if you are a MANAGER OR SUPERVISOR.**

**Indicate your satisfaction with the following:**

	Very dissatisfied	Dissatisfied	Satisfied	Very satisfied
a. Extent to which my subordinates are responsive to my communication_____	<input type="text" value="1"/>	<input type="text" value="2"/>	<input type="text" value="3"/>	<input type="text" value="4"/>
b. Extent to which my subordinates felt free to supply me with information_____	<input type="text" value="1"/>	<input type="text" value="2"/>	<input type="text" value="3"/>	<input type="text" value="4"/>
c. Extent to which my subordinates are responsive to my safety communication_____	<input type="text" value="1"/>	<input type="text" value="2"/>	<input type="text" value="3"/>	<input type="text" value="4"/>
d. Extent to which my subordinates felt free to supply me with safety related information _____	<input type="text" value="1"/>	<input type="text" value="2"/>	<input type="text" value="3"/>	<input type="text" value="4"/>

**13. How would you rate the AMOUNT of safety information you usually receive through the following METHODS?**

	Too much	Enough	Too little	Not applicable
a. Informal face-to-face contact _____	1	2	3	4
b. Telephone calls _____	1	2	3	4
c. Written communication from managers (letters, memos) _____	1	2	3	4
d. Team briefings / Structured meetings / Special talks / Shift meetings _____	1	2	3	4
e. Policy statements _____	1	2	3	4
f. Notice boards _____	1	2	3	4
g. E-mail _____	1	2	3	4
h. Intranet _____	1	2	3	4
i. Company Website _____	1	2	3	4
j. Induction programmes _____	1	2	3	4
k. Billboards in the community _____	1	2	3	4
l. Annual reports _____	1	2	3	4
m. Safety training _____	1	2	3	4
n. Posters _____	1	2	3	4
o. Newsletters _____	1	2	3	4

**14. How satisfied are you with the AMOUNT of information that you get from the organisation on the following ISSUES?**

	Very dissatisfied	Dissatisfied	Satisfied	Very satisfied
a. Personal news about my colleagues _____	1	2	3	4
b. Information about organisational policies _____	1	2	3	4
c. Information about how my job compares to others _____	1	2	3	4
d. Recognition of my efforts _____	1	2	3	4
e. Information about government action affecting my organisation _____	1	2	3	4
f. Information about benefits and pay _____	1	2	3	4
g. Information about our organisation's achievements against goals _____	1	2	3	4
h. Information as to how to do my work safely _____	1	2	3	4

**15. How satisfied are you with the QUALITY of information that you get from the organisation on the following ISSUES?**

	Very dissatisfied	Dissatisfied	Satisfied	Very satisfied
a. Personal news about my colleagues _____	1	2	3	4
b. Information about organisational policies _____	1	2	3	4
c. Information about how my job compares to others _____	1	2	3	4
d. Recognition of my efforts _____	1	2	3	4
e. Information about government action affecting my organisation _____	1	2	3	4
f. Information about benefits and pay _____	1	2	3	4
g. Information about our organisation's achievements against goals _____	1	2	3	4
h. Information as to how to do my work safely _____	1	2	3	4

**16. Please indicate how SATISFIED you are with the following:**

	Very dissatisfied	Dissatisfied	Satisfied	Very satisfied
a. Extent to which my superiors understand my safety problems _____	1	2	3	4
b. How the organisation's safety communication motivates me to meet its goals _____	1	2	3	4
c. How supervisors offer me guidance for solving safety related problems _____	1	2	3	4
d. Extent to which conflicts are handled appropriately through the proper communication channels _____	1	2	3	4
e. Emergency communication procedures _____	1	2	3	4
f. Safety communication as a whole _____	1	2	3	4

**17. How often do you have to opportunity to SEND information about the following topics?**

	Never	Seldom	Often	Always
a. Reporting on my success and achievements related to safety _____	1	2	3	4
b. Reporting safety problems in my work / requesting clearer instructions _____	1	2	3	4
c. Expressing opinions about doing my job safely _____	1	2	3	4
d. Giving my opinions on the safety performance of my immediate manager _____	1	2	3	4
e. Reporting safety irregularities / incidents _____	1	2	3	4
f. Reporting health issues _____	1	2	3	4
g. Reporting human rights issues _____	1	2	3	4

**18. If you did report a safety problem (or did send some information) how would you describe the ACTION TAKEN by the relevant people / departments?**

	Always bad	Mostly bad	Mostly good	Always good
a. Immediate work colleagues _____	1	2	3	4
b. Supervisors _____	1	2	3	4
c. Middle management (example surveyor, safety officer) _____	1	2	3	4
d. Senior and top management (example site manager, safety managers) _____	1	2	3	4
e. Training department _____	1	2	3	4
f. Human resources department _____	1	2	3	4
g. Unions / associations _____	1	2	3	4
h. Safety department as a whole _____	1	2	3	4

**19. How do you feel about the AMOUNT of information you are RECEIVING on the following ISSUES?**

	Very dissatisfied	Dissatisfied	Satisfied	Very satisfied
a. My safety performance and what is expected of me _____	1	2	3	4
b. How decisions that affect the safety of my job are reached _____	1	2	3	4
c. Pay, benefits of employment, conditions of employment _____	1	2	3	4
d. Performance appraisal systems/ promotional opportunities _____	1	2	3	4
e. Career development opportunities _____	1	2	3	4
f. Training _____	1	2	3	4
g. News about the organisation's safety success and failures _____	1	2	3	4
h. The safety goals of the organisation _____	1	2	3	4
i. How my job contributes to the organisation _____	1	2	3	4
j. How doing my job safely contributes to the organisation _____	1	2	3	4
k. Health issues _____	1	2	3	4
l. Safety issues _____	1	2	3	4
m. Environmental issues _____	1	2	3	4
n. The handling of human rights issues by the organisation _____	1	2	3	4
o. My production performance and what is expected of me _____	1	2	3	4



20. How do you feel about the following statements?

	Totally disagree	Disagree	Agree	Totally agree
a. Almost everyone, no matter what their job level, can accurately describe the safety objectives of the organisation _____	1	2	3	4
b. Supervisors are convincing when communicating safety information to me _____	1	2	3	4
c. Management is convincing when communicating safety information to me _____	1	2	3	4
d. When changes in safety procedures / strategies are made, great efforts are made to explain the reasons to me _____	1	2	3	4
e. I am encouraged to work safely _____	1	2	3	4
f. I am encouraged to work safely in a team _____	1	2	3	4
g. Supervisors forward clear safety suggestions/ instructions supported by strong arguments _____	1	2	3	4
h. Managers forward clear safety suggestions / instructions supported by strong arguments _____	1	2	3	4
i. Managers at every level make great efforts to keep in touch with everyone in their department _____	1	2	3	4
j. Information that I need (to do my job safely) is easily available _____	1	2	3	4
k. Information on general safety is easily available _____	1	2	3	4
l. I am frequently updated with news about the safety success of the organisation _____	1	2	3	4
m. I feel comfortable communicating between status levels _____	1	2	3	4
n. There is a genuine conversation between representatives of the workforce and management _____	1	2	3	4
o. Everyone has equal treatment regardless of race colour, sex or creed _____	1	2	3	4
p. Those lower down in the organisation feel that top management fully understand their safety problems _____	1	2	3	4
q. Those lower down in the organisation feel that supervisors fully understand their safety problems _____	1	2	3	4
r. Supervisors talk frequently with people throughout the organisation about safety _____	1	2	3	4
s. Managers talk frequently with people throughout the organisation about safety _____	1	2	3	4
t. Managers frequently collect information on the thoughts and feelings of the workforce about safety _____	1	2	3	4
u. Supervisors frequently collect information on the thoughts and feelings of the workforce about safety _____	1	2	3	4
v. Safety communication changes the way I do my job _____	1	2	3	4

21. How do you feel about the following statements?

	Totally disagree	Disagree	Agree	Totally agree
a. This organisation can be relied upon to keep its promises _____	1	2	3	4
b. I feel very confident about this organisation's skills _____	1	2	3	4
c. This organisation treats me fairly and just _____	1	2	3	4
d. Whenever this organisation makes an important decision, I know it will be concerned about me _____	1	2	3	4
e. This organisation has the ability to accomplish what it says it will do _____	1	2	3	4
f. This organisation does not mislead me _____	1	2	3	4
g. I believe this organisation takes my opinions into account when making decisions _____	1	2	3	4
h. In dealing with me, this organisation has a tendency to push me around _____	1	2	3	4
i. The organisation really listens to what I have to say _____	1	2	3	4
j. I can see that this organisation wants to maintain a relationship with me _____	1	2	3	4
k. When I interact with the organisation, I have some control over the situation _____	1	2	3	4
l. I am loyal to this organisation _____	1	2	3	4
m. I am happy with this organisation _____	1	2	3	4
n. This organisation usually helps non-employees _____	1	2	3	4
o. Both the organisation and I benefit from this relationship _____	1	2	3	4
p. In general, I am happy with my relationship with the organisation _____	1	2	3	4
q. I am important to this organisation _____	1	2	3	4
r. This organisation is very concerned about my welfare _____	1	2	3	4
s. This organisation takes advantage of people who are vulnerable _____	1	2	3	4
t. This organisation helps me without expecting anything in return _____	1	2	3	4
u. This organisation will accommodate me, only when it knows that it will gain something _____	1	2	3	4
v. This organisation takes care of people who are likely to reward the organisation _____	1	2	3	4
w. This organisation expects me to work safely _____	1	2	3	4
x. The working environment enables me to work safely _____	1	2	3	4
y. This organisation only use people to reach their goals _____	1	2	3	4
z. Whenever this organisation gives or offers me something, it generally expects something in return _____	1	2	3	4

22. Please circle the number which accurately describes if you TRUST each of the following in terms of working together.

	Never	Seldom	Often	Always
a. Immediate work colleagues _____	1	2	3	4
b. Supervisors _____	1	2	3	4
c. Middle management (example surveyor, safety officer) _____	1	2	3	4
d. Senior and top management (example site manager, safety managers) _____	1	2	3	4
e. Training department _____	1	2	3	4
f. Human resources department _____	1	2	3	4
g. Unions / associations _____	1	2	3	4
h. Safety department _____	1	2	3	4

23. How would you rate the organisation's BEHAVIOUR with regards to:

	Very negative	Negative	Positive	Very positive
a. Employee benefits _____	1	2	3	4
b. Community relations _____	1	2	3	4
c. Safety training _____	1	2	3	4
d. Applying safety procedures in the work environment _____	1	2	3	4
e. HIV/Aids _____	1	2	3	4
f. Other health risks e.g. STDs, TB _____	1	2	3	4
g. Housing _____	1	2	3	4
h. Environmental issues _____	1	2	3	4
i. Training to do my job _____	1	2	3	4
j. Training for personal development (e.g. ABET) _____	1	2	3	4
k. Career development and planning _____	1	2	3	4
l. Affirmative action _____	1	2	3	4
m. Transformation _____	1	2	3	4
n. Labour relations/ dispute management _____	1	2	3	4
o. General business conduct _____	1	2	3	4
p. Human rights _____	1	2	3	4
q. Production _____	1	2	3	4

[illegible]



## **APPENDIX B**

### **Focus group questions**

1. How does Bombela Civil Joint Venture (BCJV) communicate to you about safety?
2. How do you feel about the way in which safety is communicated to you?
3. What do you think could be done to better safety communication?
4. Do you feel that you have a relationship with Bombela Civil Joint Venture (BCJV)? Why or why not?
5. Please describe your relationship with the organisation.
6. Does the safety communication that you receive influence or change the way you do your job?

## **APPENDIX C**

### **Structured questions of interviews**

1. Tell me about your safety communication.
2. What/which goals do you try to reach with safety communication?
3. Which communication channels are used to communicate safety information at Bombela Civil Joint Venture (BCJV) and why?
4. Is feedback from employees encouraged? Why?
5. Are there any channels which you have found to be specifically suited for the communication of safety information? Why do you say so?
6. How would you evaluate BCJV's relationship with employees?
7. Does this relationship play a role in safety communication? / Do you think that the relationship between the organisation and employees influences the effectiveness of the communication of safety information?
8. How do you try to overcome obstacles like the different languages spoken by employees and the differing literacy levels?
9. Can you provide other examples of strategies that BCJV or workers have used that influences their relationship with each other?

## APPENDIX D

### Letter of permission from Precast Yard – Gautrain project

March 3, 2009

#### Memorandum

**To:** Mrs. WJ Greeff  
**From:** Mr F. van Tonder  
**Date:** 03/03/2009  
**Re:** Communication Research for Bombela Civil Joint Venture at Precast Yard - Midrand

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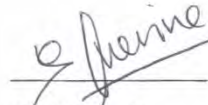
#### PERMISSION TO CONDUCT FIELD RESEARCH AT THE PRECAST YARD IN MIDRAND

Permission is granted to Mrs. WJ Greeff, along with two facilitators, to conduct field research at the Bombela Precast Yard in Midrand in the second week of March 2009. Permission is granted on the basis that the data generated be published in a dissertation, of which a copy will be made available to Bombela Civil Joint Venture.

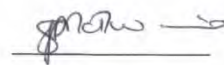
As all persons take responsibility for their own safety whilst conducting the research, the safety regulations of the Precast Yard should be strictly adhered to. Neither Bombela Civil Joint Venture, its affiliates or subsidiaries, nor the North-West University, its affiliates or subsidiaries, take any responsibility for damage or loss to person or property during this time.



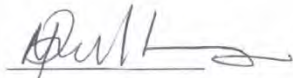
Mr. F. van Tonder  
Construction manager



Mrs. WJ Greeff  
Researcher



Mr. AP Mcilwaine  
Research facilitator



Ms. N Pillay  
Research facilitator

## APPENDIX E

### Transcription of interviews with managers of the Precast Yard

#### Interview with first manager:

Communicator:	Message:
Researcher:	Can I record our interview? I will not make your name known, if you wish to be anonymous you can be. Is that O.K?
Manager:	Yea sure.
Researcher:	All right, you already know who I am and why am I here, so let's just get right into it.
Manager:	OK.
Researcher:	Tell me about your safety communication. Anything that you would like to say about safety communication in a whole.
Manager:	Well, uhm, I must say before December I was really focussing on safety communication, because the closer, the closer they get to the annual shutdown the more reckless they get. We did this through the <i>Pitstops</i> . You have seen the <i>Pitstops</i> ? I actually have some copies for you. And, umh, I just try to remind them that they have got to take into consideration the safety of themselves, and others. I don't think that a lot of times they realise that what they do affects others. We have that problem all the time. I mean they will pull the pipes out of the shutters and

not look if somebody is behind them, and end up knocking somebody's tooth out. It's a common occurrence. They don't... you know they don't wear their safety goggles... so if you see something you have to tell them. I mean there is no point in walking past them. Everybody has got a responsibility when it comes to safety.

Researcher: Right.

Manager: And uhm, yea, and then I send out the *Toolbox talks* and we do the safety competitions where we try and make them more aware of the safety. And we try and get them to *process* the safety. So instead of just trying to tell them what safety is, we try and get them to tell us what they think safety is.

Researcher: Oh, ja, getting them to...

Manager: Yes, so we get them to interact from their side as well. And then a lot of times you will get people complaining, I mean, last week I got that this person does not want to partake in the *Toolbox talks* – which is, by law, they have to do it. An uhm...

Researcher: So they take responsibility for...

Manager: Ja, and then, anyone that comes into your office – if anyone has gotten hurt, try and encourage them to report near-misses. And, uhm, little things, you have to. If you see it, you have to correct it. There is no point in leaving it.

Researcher: You are specifically involved in the pit stop. Could you tell me what the pit stop is, what the purpose of the pit stop

is?

Manager: Well, it's just to... it's just to uhm assist communication from managers all the way down to all workers, and then all the way up again. So, I mean, if there is something that they need to know, from management's side, management will tell me *Please* like, we have our meetings on Fridays so they will tell me *Listen please, this week just make sure that they know that they have to pay more attention to... the... their housekeeping* I mean their cleaning up. Because that it also a big hazard.

Researcher: Yes...

Manager: If you leave things lying around you could trip over it and... I don't know knock yourself unconscious and end up with twelve stitches and... or whatever they want us to tell them. Like, uhm like safety braais, or to say congratulations for a team that has performed exceptional... exceptionally well or uhm... anything really. Or they will say that their wife has gotten a little baby, and we will say congratulations. And it's also... it's supposed to be more production but as you will see in our books there has been no problem with production and you can see it in our targets as well. We have really performed well this last month. So in the beginning of the month you will send out the targets, and they will asked how the targets are set up and you will explain to them. You tell them. It's just communication in general.

Researcher: OK. Like their own forum

Manager: Yes, it's very nicely managed I think, cause you have a

way of congratulating somebody for doing a great job. And they can moan about whatever it is that they want to moan about and they can ask for answers. I see that they get stuck on the IR issues a lot. Like they want to know about their pay, the demobilisation process, rates and all sorts of things and then we can give them the answer. So...

Researcher: All right. The next question that I would like to ask you is what or which goals do you try to reach with safety communication?

Manager: Well uhm I think we want to... we don't want any LTI's. Besides the fact that its bad for the company and they don't get bonus and whatever the case may be personally, its... you know you have got to look after them. Because I think to myself I don't think that they understand that if they hurt themselves, that they can't work, that their families are going to suffer.

Researcher: Ja...

Manager: So, uhm, from an industry side no LTI's will be fabulous, but I think more from a personal point of view if you think about their families, I think... Most of them do not live with their wives, they live in hostels. So their little minds tend to wonder, tend to wonder off so what ends up happening is they get hurt because they are thinking about the wife or they drink too much the night before, and I don't think that they get how much it will affect them personally.

Researcher: Yes.

Manager: So the only goal that I would like to reach is for them not

to get hurt, because it affects them personally. A lot of the time in the families there is only one person working. And they've got kids to look after. I know it should be an overall... but I think if you focus more on how it affects them, it gets through a lot better, because they don't really care what's going to happen to the company. If they do get hurt I think that they must realise that they will sit without a job. Not be able to support their families, basically.

Researcher: Ok, so you try to make it personal...

Manager: Yea, with everything... its with people if they do not know how it will affect them personally it will not register at all. If they do not feel that they are important and their work is important it will not affect them. I mean everything in life, if you do not know how it affects you personally, I don't think it actually registers... as important, anyway.

Researcher: Next question, what safety communication channels are used to communicate safety, here at the Precast Yard?

Manager: Well, uhm in the mornings. At about seven o'clock people,... they gather together, and they just get a basic, you know production is going well, you have to do this today, just a basic itinerary for the day. But then, after the group has gotten together they start with their *Pitstops* and they discuss issues. During the *Pitstops* or after it, it depends on the teams, they have to do their *Toolbox talks*. Usually one person is selected and they read the *Toolbox talks*, and they explain to them how it affects them. So I can say you need to wear your PPE, but then somebody.... Usually.... I means sometime during the



week you can maybe go down and take a look at Thomas' team specifically. He is a safety rep. Then he sits and explains that PPE does not just mean, oh you are going to get into trouble if you haven't got your overall on, or your hardhat on. You might end up with a little piece of glass in your eye, you might end up losing an eye. And it could be... that could be seen as unsafe on the site, and you could be stuck without a job. He also tries to explain to them... he tries to make it personal. I think, anything that they do... When you say make use of the right tools, you use people as examples. There is one foreman that, uhm on the previous project, he was using a grinder and the disc came loose and cut his leg, sliced his leg, completely open and he was demobilised for quite a long time, I mean you sit at home and you've got no income. You could lose your leg. I think that what we are trying to say to them is that safety has not got to do with messing up your work, it has got to do with harming yourself, so...

Researcher: Right...

Manager: But then besides that, uhm after the *Toolbox talks* they've got a... all the foremen and the supervisors and the team leaders they gather up, and the general foremen speak to them. So we've got Isizo, so it will be Johnson that sits and talks to them, and then we've got the viaducts, and that's Corrie's team and then we have everything else basically and that is Gideon's team. That will be the lower part of the site.

Researcher: Oh, OK.

Manager: And then they will sit and talk to the foremen, I mean,

because a lot of times what happens is I do what I see. And if they don't see the junior foremen doing what they are supposed to be doing... so then they get lectured about what they should, and should not do. And I mean if... if you can make an example of one, unfortunately, it works. It sounds terrible, but it happens all the time. We hand out... another thing is we hand out these *Absolute shockers of the week* and we get pictures about people that have been hurt at previous jobs, not just here on our site and you show them, I mean you shock them visually. And then sometimes they will have a guy back-chatting them and then they take the photo and show them *this is what could happen*. I think the picture gets the point across a lot better a lot of the times. Because they don't actually listen to us, I mean I am not being nasty now, but they just don't. They are here to work, get paid and take that home at the end of the month. They don't really care what happens in between that.

Researcher: OK, I've seen these *Lessons Learned* is that something that you put up on site?

Manager: Yea, there are boards, what is it...

Researcher: Notice boards?

Manager: Yea, notice boards up on site and then little... I mean these lessons learned also gets sent out. If I get a nice one, I send it out to every team. It doesn't necessarily all get put up... I mean there is not enough billboards for all the information that comes through the office every day. So I do, I do send them out. Additional pictures and posters and ... I don't know... like behavioural instructions

get sent out with the *Toolbox talks*...its competitions its pictures...

Researcher: So it differs from day to day.

Manager: And also, Safety walks around on sites on Fridays, and if they see something wrong they will take a picture and tell the guy listen this is wrong... you know what can happen. And then they use the pictures almost as an example. And the guys don't like that, so if there is any reason for them to behave it is actually that. I cannot speak for them, I cannot tell you how it gets through to them... there are a few... you can see the things that come back as far as the competition is concerned, but I can't tell you overall what gets through to them.

Researcher: So, the next question we have already touched upon, it's whether or not feedback is encouraged and why. I guess the *Pitstops* is an example..

Manager: It is encouraged, because a happy workforce is important, especially to management. I think the happier they are the more productive they are. I mean you could see that after the strike, a perfect example again. Everything was very gloomy, everything that they said it wasn't very positive. And as its becoming something of the past... even though it is just a few weeks ago, uhm the mood is lifting a bit. And, uhm the communication is very important because if you are not keeping people happy, you end up with strikes which is unnecessary. If they, you know... If they do not keep their minds on their work one hundred percent, on their surroundings, they end up getting hurt. We have had a lot of problems with safety over the last couple of weeks,

since after the strike. But that could also just be due to the fact that the project is coming to an end, so they've got a lot of things on their mind. Their minds are filled with things that have got nothing to do with work. When you stand outside here, you can see that they start fooling around. I suppose they are only trying to make life a little more interesting, but it is not safe. Uhm, but you get a lot of great ideas, like they will write back to you about the safety topic of the day. And if you can get it in their words, and carry it across in their words, they will understand it a lot better. So you can apply it to what they are encountering every day. They actually give really lovely ideas. You also try and use the nice ideas, because when they see their idea being used that also motivates them to... act policeman almost. I think communicating with each other is also very important, because there is a language barrier and there are trust issues, they do not want to trust management. I mean there is no reason for them not to trust management, but I suppose they see it as management is on top and they are at the bottom, like they are lower down in the food chain and that they are affected more by managements' decisions, and that management is untouched. So there is a bit of a trust issue there. So if they talk to each other it is a lot better – I mean you can say well, you are not spiting management if you get hurt, you are spiting yourself. So...

Researcher: Ok, question five is, is there any channel for safety communication that you have found to be specifically suited to it, and why do you say so?

Manager: Well, uhm I must say I think the safety competitions, because they think up great ideas. We have the monthly

safety team of the month, and we hand out the trophy and they get all excited, but besides that in the competitions they... they have to put an effort in, and then they have to apply what they have done. And when they start applying it, they take pride in what they have discovered. They learn that there is actually a connection between what they say, and what they do. Not all of them take part in it, but the ones that do, you can see a great difference. I mean, sitting up here you know there are hazards, you can say this is a hazard, this is a hazard, but then you ask them to make posters and things that you would not even have thought of, they will say *this can happen* and that makes a huge difference. Last time... with the last competition they got little tool bags, which they absolutely loved, but this time we want to get something a little more personal.

Researcher: So what happens with the competition, do you send out a general topic or...

Manager: No, well you don't even have a general topic you say we want nice posters to use and they will then draw all kinds of pictures and tell you what the picture is trying to say. Then the ideas come up and then you go down and ask the people to discuss it in their teams and then you almost advertise that this person has done such a great thing, because they have come up with such great ideas..

Researcher: Right, and then these posters go up on site?

Manager: Well, they do go up on site, but they don't stay there long. Especially with the drawn pictures, they guys take them down and keep them for themselves, I don't know why,

but they do. And then sometimes, the typed ones we make a lot of copies of and the foremen put them up on their boards, because every foreman has a board where they do their *Pitstops* so...

Researcher: Uhm, question six sort of changes the direction slightly, but what would you say the relationship is like between the organisation and employees? You sort of touched on it when you talked about trust between management and employees, but what would you say the overall relationship is like at the moment?

Manager: It's very tense at this moment. Because there are rumours running around that people are going to be demobilised, also uhm, with... with the elections coming up, things are very tense. It's just frustration right around. I mean we try very hard with communication, I mean... Communicating stupid things is very easy, but trying to build a relationship is something completely different. I know communication is the first step to building a relationship, but in this environment it is going to take a lot more... one thing is that they want to see management. I mean that is very hard, „cause management is running around doing other things. I mean things don't always run smoothly here, there are things that need to be sorted out all the time. A lot of things.... Like for example World Aids Day allot of them said they were disappointed that we... that they were not addressed on World Aids day. Little things like that. So they would like to see their management, but the problem is they think that if they talk to their management they can get all their problems sorted out. But there are always steps to getting things sorted out, and they always want to override somebody. Another thing that I can tell

you is that a lot of times it's the unions. Unions don't give feedback to the people and then they think that it is management's responsibility. I think... overall... there is a breakdown of communication. Look, management speaks to foremen, foremen are supposed to speak to team leaders and then they are supposed to go to the rest of the workforce. But it doesn't work that way. Somewhere along the way somebody will miss somebody. I see it all the time in the *Pitstops* people will ask me... and I will say, look it's your foremen's duty to sort out X, Y and Z. And they will say we spoke to the foremen, but they don't speak to the general foremen and so... you see it's... somewhere it doesn't happen. So it's in between where the problem is... but if you look at it from a workforce perspective, they see it as there is not enough communication from management's side. But like I said, there is a language barrier, everything has to be explained, so there has to be a foremen that explains management's answer. Just an answer from management means nothing to them.

Researcher: Do you think that this relationship plays a role in safety communication?

Manager: It does. I mean... it... people will come in and they will say that they feel undervalued and that they want to look for other jobs. They become distant.... And when they become distant, I mean it's bad, because they are not focussing on what's at hand, and they end up hurting themselves. Or I get it all the time, the guys say they do not know where the future is in the company... and you can't really blame them. And look, as soon as their mindset is affected, it affects safety.

Researcher: Oh, OK.... Well you have already spoken about this, but how do you try to overcome barriers to safety communication, like the different languages spoken by employees and the differing literacy levels?

Manager: Well, believe it or not, that is not such a big issue, it really is not. I mean with people... at first they might feel that Oh well somebody is going to judge me because I don't understand... but then there are different levels.. I mean one guy might say well I see you don't really understand and then he will explain it to his team, or to his four friends and then the next guy will say well, what does this actually mean. So if you get one literate person, they will explain it well and to a lot of people. So the communication, I think, among themselves it is... is very good. I mean if one person can start a strike, I think, the communication is pretty good. So you will also get that they come up in teams, like two or three, because one person can't explain themselves properly, or the one doesn't speak English, so they will come up in teams. So I think that they understand their limits and they work around them.

Researcher: So everyone kind of takes it on themselves?

Manager: Ja. I think they also underestimate the workforce a lot. I mean... like environmental... they are very interested in that... I mean I don't know where that comes from but they do. And when you see stuff like that, you realise that we are all just human... we all have the same abilities. Like I say I think they really underestimate the intelligence of the people. It doesn't mean that if they are illiterate that they are not intelligent.



Researcher: So are there any long term strategies that the organisation, or you employ to better the relationship with employees?

Manager: I mean I think there has been a great improvement since the pit stop has started... yes long term... Since it has started, I think the foremen tend to... they have to communicate better with their teams. So, ja, it does, there is accountability. So I think they see, oh wow, I can actually speak to him. He is not just here to bark instructions, I can talk to him. Also, like in the beginning they could not even tell you who was in their team so, ja it's improved a lot.

And like we send out a certificate to the best performing team every month, and then we send out a trophy for the man of the match, I mean its... they really like that... being noticed... your actions being noticed. So, ja I think the communication is going up, but unfortunately with the project coming to an end, its like... ja it will not go up again, it might actually go backwards.

### Interview with second manager:

Communicator:	Message:
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Researcher: The first question that I would like to ask is, tell me about the safety communication at the Precast Yard.

Manager: Well, as far as I am concerned the safety communication is all right, because we have our meetings, for all levels. For instance we have an early morning meeting with all the foremen. So the foremen have to convey the meeting with the place where they work. That's one. Then we have the safety reps meeting, every Friday, the safety representatives meeting, where we sit and communicate safety because what we do is we do inspections first and whatever we found wrong we communicate to one another and we take action as well. So that's also communication. Then we have our management meeting which is a production meeting where management sort of communicate sort of more important things to us... which is sort of good communication between management and middle management. And then we have, sort of, different meetings like the pit stop meetings and then every Friday we have the pit stop meeting where we, uh, communicate about different complaints that came up during the week, different questions that came up. So we discuss it with the workers, plus the safety officer, plus the foremen, general foremen and so forth, so...so I think there is good communication where that is concerned. So I don't think the actual problem lies with communication. It's a matter of, sort of, enforcing it. Because you know you can communicate as much as you want, if it is not enforced, then it stops right there... and that is our main problem as

far as I am concerned.

Researcher: O yes I see... Uhm, what or which goals do you try to reach with communication?... What is the ultimate aim?

Manager: Well the ultimate aim is zero accidents, zero incidents, zero accidents. So the ultimate aim is zero... zero.... whether you call it incidents or accidents, the aim is zero. It must be zero. Because any accident is unwanted, but it is made by people like you and me. It's not the machine that is causing the accident, it's me that is working with the machine that is causing the accident. So, uhm zero tolerance is the answer actually. So the aim is, we set ourselves a target of five hundred thousand accident free hours. So uhm that's quite a lot of hours but we've reached it once, but then we had two lost-time injuries, in January one and in February one. So, uhm we are going for the goal again, but we started right from scratch. Now things like that is also influencing people, because they work so hard to get there and then some stupid accident causes it to fall flat again against our faces. So our two main goals is then zero tolerance and then five hundred thousand injury free hours.

Researcher: What kind of safety communication channels are used to communicate safety?

Manager: Ja, well its, sort of both verbal communication and...

Researcher: Written?

Manager: Ja, written communication, because with written you have your *Toolbox talks*. Every morning we have a different *Toolbox talks*. And, uhm people must sign for it, because

the different foremen give them the *Toolbox talks* and after everybody, sort of, knows what's going on, they sign for it. So in other words, if a man gets injured we go back to the day that he was injured to see, sort of, see whether he was present and to see if he was there or if he sort of used his own... his own initiative to do something wrong. So the *Toolbox talks* is a very good written communication factor. And then we also have safety communication in talks, we, sort of, walk around on the site and talk to people about safety, and tell them this is wrong, this is right. Look in safety you can't tell a guy look, this is the wrong way if you cannot tell him the right way. So you have to know both: When is this thing wrong, when is this thing right? And then we talk to people... we... we all have a, sort of, an open door policy where you can come and discuss your safety. So that is the main way of getting the safety message over.

Researcher: Oh OK... Now we are sort of changing the direction here, but we are still trying to find out about safety communication. What would you say is the relationship like between the employees and this organisation?

Manager: Look, I would say that there is a good relationship between management and lower management, but as far as lower down in the ranks, like the labourer himself, and the more senior labourer... look there is a language barrier and different cultures. You might talk to a guy and he sees it as you are, sort of, demanding something. But like, every single person that is working here has gone through an induction session. So in the induction class we tell him in his own language, because we have an interpreter there. But still, due to culture problems, it doesn't always work as well as we would like it to work – and then also, these guys

can stand together like nobody knows, just like that, you know. So there is always friction, you know.

Also, like when you bring in a woman as a foremen, you know they will not listen to her, because they believe only men can be leaders.

Researcher: So you think that this relationship that you have now explained has an impact on the way that the employees will work safely?

Manager: Ja, definitely, if you look at the type of work that we are doing, if you look at the nature of operations, it's all, sort of, manual hand work. And, it's very dangerous work, there are a lot of hazards involved in what we do. So, you can just make one mistake and its gone – like if I for instance lift a segment, just one mistake and I can kill, say twenty persons. And you do get failure with machinery, I mean it's just machinery, so...

Researcher: You have already started to talk about it, but how do you try to overcome the obstacles of diversity?

Manager: Ja, like say for instance you see a labourer doing something wrong, then you have to call the foreman, because it is no good telling him, because again he thinks that you are demanding him, and then again you are not his boss and so he will think, you know. Again, you have to sort of, follow the steps of communication you see. So the foremen is very important as far as the safety is concerned.

Researcher: Can you describe the strategies that you employ with regards to safety communication?

Manager: Well, we've got on a monthly basis we have different posters focussing on falls, the next month we have on safe positioning, the next month we have on tools and so forth. But, you have to explain it first of all, at your early morning meeting, because it is no good you have a poster, but... you have to explain it first before you post it somewhere. And I mean, we all see pictures, but how do you see pictures? For a guy that has never been to school, you know, so the pictures are more important to him than the language on the poster, so you have to explain it to them first. And then sometimes we all grew up in different places, in a different world, so with a picture you have to explain to them what a picture means – why, what is the reason behind it. You know that is the only way it will work, otherwise it will not.

### Interview with third manager

Communicator:	Message:
Researcher:	The first question is, tell me about your safety communication... In general, how does it work?
Manager:	Safety communication basically works through your <i>Toolbox talks</i> , you give it to the foremen, he communicates it to his people. If there is a language problem, then the safety rep comes into play and then he does the whole talk in their own language. It is the best way, you get all people together at the same time. So it is more effective, as you talk to everyone.
Researcher:	Ok. Is it only through the <i>Toolbox talks</i> that you communicate safety?
Manager:	Mostly yes, but then I also do an action plan, I take pictures and I put it on an action plan and give it to their foremen.
Researcher:	OK. What goals do you try to reach with safety? What are the main goals?
Manager:	We want to get everyone so involved in safety, that we get a zero incident rate.
Researcher:	So basically the safety <i>communication</i> goals are the same as the safety goals?
Manager:	Yes. The safety goals are put into place, and then the communication is supposed to bring it to that level.
Researcher:	OK, do you encourage feedback from the people?

Manager: Yes, I encourage it, because then you can see what... well, you can see where they misunderstand, so then you can actually explain to them.

Researcher: OK, so how do you facilitate that?

Manager: Well in the morning they talk to their supervisor, or their foreman. If the foreman doesn't know he is more than welcome to call me and I can come and talk to the whole team, or if the person sees me on site they can talk to me, or they are always welcome to come to the office and talk to me.

Researcher: Are there specific ways channels that you found are more suited for communication? Any specific...

Manager: I think verbal communication works better for me, like with posters it doesn't work because people don't actually go to the posters and go and look at them. Or they only see the picture, but do not read what goes along with the picture so... Ja, verbal works better for me, and you can actually see that the person is listening.

Researcher: Ok, well we are sort of changing the direction now, but we are still trying to find out about the safety communication. What would you say the relationship between employees and the organisation is like at the moment?

Manager: <Laughs> Very negative.

Researcher: Why would you say so?



Manager: Well you can see people's attitude towards management on site is very negative, you know and management directly translates to the company. They have a disregard towards management, you know. The problem started getting worse as from January of this year. I think it has to do with the demobilisation.

Researcher: Do you think that this relationship that you have just described has a influence on the way that safety is...

Manager: I definitely do. Negative attitudes reflects negative safety.

Researcher: OK. How do you try to overcome obstacles with regards to diversity when communicating safety?

Manager: The big thing is, every section has their safety rep every Friday after inspection, where everyone walks around and then you get all the safety reps together and talk about what is wrong and then you get the safety reps to go out and talk to their people. Also, the unions talk to their own people. Like when government gives instructions we let the shopstewards talk to the people and let them know what is going on... so then, then they can see that it is not coming from us, you see, they can see that it comes from them.

Researcher: OK. The last question has to do with the strategies, the long term strategies that you employ to better the relationship between the employees and the organisation. What do you do?

Manager: Well, uhm of course the main thing is we give them safety bonuses, so that is the main thing. Then we give them trophies, to show that we actually recognise what they do.

Last month we actually got the Bombela newspaper to come and take photos of where we are actually handing out the trophies and that will be handed out to everybody, so that they can see themselves in the... the paper. They can take it home, they can go and show their families. I see that they actually like having pictures that they can take home.

Researcher: And that helps with the safety?


Manager: In some sections. But then you see that with some people, their attitudes, you can do nothing about that.

## APPENDIX F

### Letter from language practitioner

#### To whom it may concern

This is to certify that I have language edited a MA Thesis "Efficient communication of safety information: The use of internal communication by the Gautrain-project" by WJ Greeff.



**Prof SW Vorster**, Pr Eng, BA(Hons)(PU),  
BSc(Hons)(Chem)(UP), MMet(Sheffield),  
MSc(Eng)(Wits), PhD(UP)

**SATI Accredited Language Practitioner**

Member No 1000923

Tel. 018 293 1272

Cell 072 719 7025

[vorstersw@telkomsa.net](mailto:vorstersw@telkomsa.net)

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