CHAPTER THREE

RESEARCH METHOD

3.1 INTRODUCTION

This chapter discusses about research design of the study, It included the convergent parallel design, study population, sample size, procedure for sampling participant and data collection and instrumentation. It explains validity of the research instrument before data collection that involves face validity, content validity and constructs validity. In the other hand, it gives details about the pilot study, reasons for conducting pilot studies, reliability test of the study as well as the data collection and analysis procedures.

The purpose of this study was to predict the most commonly used and managed communication channels in the Sulfo Rwanda Industries. Based on three factors of richness media theory; role understanding competency, organization's culture awareness competency, and employees' performance competency, the study examined seven different communication channels namely; face-to-face, addressed documents, mobile telephone calls, fixed land lines, SMS, e-mails and Facebook. Therefore, the specific purpose of the study is to;

1. To identify the most perceived rich communication channel among (face-to-face, addressed documents, mobile (cellular) telephone calls, land (fixed) lines

telephone calls, SMS, e-mails and Facebook) based on Office assignments, Company time / schedules and Company official announcements (Role Understanding Competency).

2. To determine the most perceived rich communication channel among (face-to-face, addressed documents, mobile (cellular) telephone calls, land (fixed) lines telephone calls, SMS, e-mails and Facebook) based on Core values of the company, rules of the company and Code of conduct (Organization's Culture Awareness Competency).
3. To examine the most perceived rich communication channel among (face-to-face, addressed documents, mobile (cellular) telephone calls, land (fixed) lines telephone calls, SMS, e-mails and Facebook) based on Company activities (Employees' Performance Competency).
4. To explore the ways of communication among managers and employers in the Sulfo Rwanda Industries.
5. To investigate how and why stakeholders choose particular communication channel instead the others communication in specific circumstances.

The study is guided by the following research questions as reflected in the conceptual framework;

RQ1: What is the most perceived rich communication channel among (face-to-face, addressed documents, mobile (cellular) telephone calls, land (fixed) lines telephone calls, SMS, e-mails and Facebook) based on Office assignments, Company time / schedules and Company official announcements (Role Understanding Competency)?

RQ1a: Is there a significant relationship between Office assignment and Level of effectiveness of communication channel in the Sulfo Rwanda Industries?

RQ1b: Is there a significant relationship between Company time / schedules and Level of effectiveness of communication channel?

RQ1c: Is there a significant relationship between Company official announcements and Level of effectiveness of communication channel in the Sulfo Rwanda Industries?

RQ2: What is the most perceived rich communication channel among (face-to-face, addressed documents, mobile (cellular) telephone calls, land (fixed) lines telephone calls, SMS, e-mails and Facebook) based on Core values of the company, rules of the company and Code of conduct (Organization's Culture Awareness Competency?

RQ2a: Is there a significant relationship between Core values of the company and Level of effectiveness of communication channel in the Sulfo Rwanda Industries.

RQ2b: Is there a significant relationship between the rules of the company and Level of effectiveness of communication channel in the Sulfo Rwanda Industries.

RQ2c: Is there a significant relationship between Code of conduct and Level of effectiveness of communication channel in the Sulfo Rwanda Industries.

RQ3: What is the most perceived rich communication channel among (face-to-face, addressed documents, mobile (cellular) telephone calls, land (fixed) lines telephone calls, SMS, e-mails and Facebook) based on Company activities (Employees' Performance Competency)?

RQ3a: There is a significant relationship between Company activities and Level of effectiveness of communication channel in the Sulfo Rwanda Industries.

RQ4: What are the ways of communication that are used regularly among managers and employers in the Sulfo Rwanda Industries?

RQ5: How and why stakeholders select particular communication channel instead the others communication in one situation or another?

RQ5a: How stakeholders choose specific communication channel instead the others communication in certain situation?

RQ5b: Why stakeholders choose certain communication channel instead the others in particular position?

3.2 RESEARCH DESIGN

Research design is the researcher's road map of how the study will be conducted. Creswell, (2012:627) defines a research designs as "procedures for collecting, analysing, and reporting research in quantitative and qualitative research". Lincoln and Guba (1985:226) stated that research as an effort to plan the possibilities largely without showing what will be done in terms of the each aspect. Compared with Moleong's, he said that research design is an attempt and justification for all possibilities and equipment needed for one qualitative research (Moloeng 1988, p.236). The researcher intended to use a mixed methods research design of both of quantitative and qualitative research approaches.

The quantitative research approach used a questionnaire survey, whereas the qualitative research approach used in depth semi structured interview. Researcher hoped to conduct mixed methods design because both types of approaches provide a better understanding of research problem than one type. According to Creswell (2012) quantitative approach produces exact numbers that can be statistically analyzed, yield results to measure the rate and degree or level of trends, and it can also deliver

valuable information if researcher wants to describe trends about a large number of people. On the other hand, qualitative data, such as semi structured interviews that offer real difference of opinion and words of people in the study; it suggests also many different point views on the study topic provided by the respondents.

Mixed model design has six different method designs which are: the convergent parallel design, the explanatory sequential design, the exploratory sequential design, the embedded design, the transformative design, and the multiphase design (Creswell & Plano, 2011). However, researcher intends to use the convergent parallel design.

3.3 THE CONVERGENT PARALLEL DESIGN

The purpose of a convergent parallel or concurrent mixed methods design is to collect both quantitative and qualitative data, combine the data at the same time, and use the results to comprehend a research problem. The underlying principle for this model is that the data collected from quantitative research approach may strengthen the weaknesses of qualitative research approach.

The convergent study works when the researcher collects both quantitative and qualitative data, analyses both information and datasets independently, then he makes comparison from the results analysed from both datasets, and makes an interpretation as to whether the results support or oppose each other (Creswell, 2012). Convergent Parallel Design helps researcher to compare the results from quantitative and qualitative analyses to conclude if the two methods bring out the similar or dissimilar results. The convergent parallel model has been illustrated in Figure 3.1.

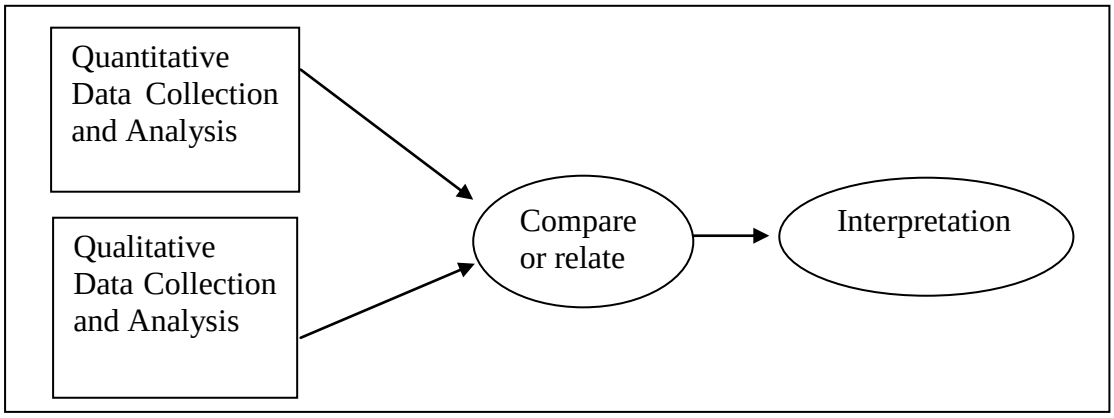

Figure 3.1: Convergent parallel design

3.4 STUDY POPULATION

The population is the set of all individuals of interest for a particular study the entire group that a researcher wishes to study (Gravetter and Wallnau, 2002). The study intends to involve employers and employees of the company. The company employs skilled and unskilled personnel. It has 740 employees and employers including 19 expatriates assigned to key senior positions within the company. The other 721 are all Rwandans (Yassin, 2007). This population includes administrative staff and group employees who are involved in the main stream day-to-day running of the company. However, this study took samples from employees and managers from the main headquarters and its branches situated in Kigali, Rwanda for the study.

3.5 SAMPLE SIZE

The sample size of the study was derived from quantitative and qualitative. The quantitative sample size is derived from Krejcie and Morgan (1970) when the population is 750, a sample size of 254 is recommended. However, the sample size of the study is between 248 and 254 whereby the researcher took an average sample estimated to 251 people (Appendix 2).

This qualitative study used the purposeful sampling technique. Several researchers suggested different samples for qualitative study, for instance Adler and Adler in their two different studies (1998 and 2011) recommend graduate students to sample between 12 and 60. Meanwhile, Crouch and McKenzie (2006) suggest that less than 20 respondents in a qualitative research helps a researcher form and keep up to reach and exchange the truth information. Other scholars like Guest, Bunce, and Johnson (2006) mentioned that when group of people are similar, around 12 participants are recommended. At the same time, Latham (2013) as researcher's experience proposes that around 11 participants on present CEO research is enough. Thus, the researcher was identified eight informers, three managers and five employees as members of big group of people who work in the similar environment. In addition to semi structured interviews, the researcher attempted to use follow up interview questions.

3.6 PROCEDURE FOR SAMPLING PARTICIPANT

The total staffs of Sulfo Rwanda Industries including managers, employees at all level in the company are using communication channels amongst themselves. The researcher intended to use a random sampling procedure where participants were being selected at random from the company's premises.

Researcher obtained a letter from the Islamic Science University Malaysia (USIM) to Sulfo Rwanda Industries Ltd in order to get the permission from the management for him to distribute the questionnaires to managers and employees of the company. However, the permission was granted from ministry of education after

obtained approval letter and had been affiliated to Nile Source Polytechnic of Applied Arts (NSPA); the researcher had distributed the questionnaires to all the respondents in departments and to individuals within the premises of the industries.

Creswell (2009) describes simple random sampling technique as a kind of data collection which participant has the same possibility of being selected and the sample can be generalized to the bigger number of population.

3.7 DATA COLLECTION AND INSTRUMENTATION

The researcher intended to collect data using mixed methods of both quantitative (questionnaire survey), and qualitative (semi structured interviews) the researcher had created interviews protocol (Appendix 3). He intended to use a self-constructed questionnaire instrument based on literature. The researcher constructed the questionnaire based on Payne's (2008) study on management and media choice, University of South Alabama, Ju Young Lee's (2009) study on the effect of computer-mediated communication (CMC) interaction on L2 vocabulary acquisition; a comparison study of CMC interaction and face-to-face interaction Iowa State University Ames, Iowa. And Denise D. Jonas's (2011) study on teen perceptions of cellular phones as a communication tool, University of North Dakota (Appendix 4). However, self-constructed survey has been used to collect data. Researcher had been distributed the questionnaire instrument to the participants in groups and personally. Those who were not be accessed physically had been contacted directly by using telephone calls.

The instrument use a 4 point-Likert scale that ranges from 1= Almost Never, 2= Sometimes, 3= Often, 4= Always. The instrument had been divided into five sections. Section 1: covered bio-data of the respondents. It asked five questions including; sex, nationality, marital status, number of years in present position, and level of responsibility in the company. Section II covered the role of communication channels in understanding assignments in the company including office assignment, company time schedule and company official announcement. Section III: covered the role of communication channels in term awareness the company's culture weather core values of the company, the rules of the company and code of conduct. Section IV related to employees' performance through the company's activities, and finally Section, Section V: covered Level of effectiveness of communication channel. The researcher had taken the pilot study to test the validity of the instrument.

3.8 VALIDITY OF THE RESEARCH INSTRUMENT BEFORE DATA COLLECTION

Validity discusses the gradation to which a research study measures and processes what it intends to measure. According to Creswell (2012) validity is the progress of sound confirmation and proof to prove that the test interpretation of scores about the concept or construct that the test is assumed to measure matches its proposed use.

There are two main types of validity, internal and external. Internal validity states to the validity of the measurement and test itself, whereas external validity refers to the ability to generalize the findings to the target population. Both are very important in analysing the appropriateness, meaningfulness and usefulness of a research study.

3.8.1 Face Validity

Hardesty and Bearden (2004) describe face validity as a technique or procedure that looks as if it should measure the variable it expects or intends to measure. However, it determines the value of questionnaire by looking at questionnaire. The researcher had been distributed the questionnaire to senior lecturers and his supervisors in order to seek their opinions on questionnaire and survey.

3.8.2 Content Validity

Content validity refers to the adequacy with which a measure or scale has sampled from the intended universal or domain of content manual (Pallant J. 2007). However, Anastasi & Urbina (1997) described content validity as type of validity which non statistical form involves the examination system of the content test to confirm that the behaviour domain is measured by representative sample. Its evidence involves the degree to which the content of the test contests and matches a content domain associated with the construct. Content related evidence typically includes subject matter experts (SME's) estimating or evaluating test items against the test specifications. Researcher had been submitted the survey instruction to team of expert including supervisor and co-supervisor and others. He had been also verified questionnaire instruction during pilot study at the company.

3.8.3 Construct validity

Cronbach and Meehl (1955) determined that content validity is whether the measurements of a variable in a study behave in exactly the same way as the variable itself. That involves examining past research regarding different aspects of the same variable. In other words it is a determination of the significance, meaning, purpose,

and use of scores from an instrument. Meanwhile, the pilot study had been conducted by the researcher in order to test if the questionnaire and survey work perfectly. The researcher had been used Cronbach' correlation coefficient to test the reliability and validity of the instrument.

3.9 THE PILOT STUDY

The pilot study is smaller version of a larger study that is conducted to prepare for that study. The term pilot study is used in two different ways in social science research. It can refer to so-called feasibility studies which are "small scale version[s], or trial run[s], done in preparation for the major study" (Polit, Beck and Hungler, 2001: 467). However, a pilot study can also be the pre-testing or 'trying out' of a particular research instrument (Baker 1994: 182-3).

One of the advantages of conducting a pilot study is that it might give advance warning about where the main research project could fail, where research protocols may not be followed, or whether proposed methods or instruments are inappropriate or too complicated.

In the words of De Vaus (1993: 54) said that "Do not take the risk, Pilot test first". These are important reasons for undertaking a pilot study, but there are additional reasons, for example convincing funding bodies that your research proposal for the main study is worth funding. Thus, pilot studies are conducted for a range of different reasons.

Creswell (2012) mentioned the steps of validity that researcher would like to flow in order to perform pilot study properly:

- Identify an instrument (or test) that researcher would like to use.
- Look for evidence or prove of validity by examining prior studies that have reported scores and use of the instrument.
- Look closely at the purpose for which the instrument was used in the previous studies.
- Look as well at how the researchers have interpreted (discussed if the instrument measured what it is intended to measure) the scores in light of their intended use.
- Evaluate whether the authors provide good evidence that links their interpretation to their use.

3.9.1 Reasons for conducting pilot studies

Edwin, Teijlingen, and Hundley (2001:2) determined reasons for conducting pilot studies as below:

- Developing and testing adequacy of research instruments.
- Assessing the feasibility of a (full-scale) study/survey.
- Designing a research protocol.
- Assessing whether the research protocol is realistic and workable.
- Establishing whether the sampling frame and technique are effective.
- Assessing the likely success of proposed recruitment approaches.

- Identifying logistical problems which might occur using proposed methods.
- Estimating variability in outcomes to help determining sample size.
- Collecting preliminary data.
- Determining what resources (finance, staff) are needed for a planned study.
- Assessing the proposed data analysis techniques to uncover potential problems.
- Developing a research question and research plan.
- Training a researcher in as many elements of the research process as possible.
- Convincing funding bodies that the research team is competent and knowledgeable.
- Convincing funding bodies that the main study is feasible and worth funding.
- Convincing other stakeholders that the main study is worth supporting.

Pilot studies can be based on quantitative and/or qualitative methods and large-scale studies might employ a number of pilot studies before the main survey is conducted. In establishing the validity of the instruments, the researcher conducted a small pilot study to determine if the questionnaires used greatly answered the posed questions. The pilot test was carried out first among 52 respondents in communication

channels in the Sulfo Rwanda Industries. The details of result from the pilot study revealed in the reliability test table according to three competencies namely: role understanding competency, organization's culture awareness competency and employees' performance competency.

3.10 RELIABILITY TEST FOR THE STUDY

Reliability's purpose is to analysis the goodness of conceptual and operational definitions (Neuman, 2006; Wimmer & Dominick, 2006). It concerned on the consistency of the measurement (De Vaus, 2001). However, this study analysed reliability test of both of quantitative and qualitative research approaches. Moreover, it was tested for pilot and final study in order to make sure that results of this study were reliable.

3.10.1 Reliability test for quantitative

Reliability is essential to the effectiveness of any data gathering procedure (Best and Kahn, 2003). Reliability is the degree of consistency that the instrument of procedure demonstrates. Whatever it is measuring, it does so consistently. For the purpose of this study, the researcher carried out a pilot test on the instrument in December, 2013. Responses from the pilot study were thus exposed to a reliability test using Cronbach's alpha coefficient. The results of scaled items used in this study for both pilot test and final survey data collection are presented in Table 3.1.

The results for reliability test to determine the effective of the result of the study. The Cronbach's alpha internal consistency on various part of instrument has been divided into five sections. Section 1: covers bio-data of the respondents. It asks

five questions including; sex, nationality, marital status, number of years in present position, and level of responsibility in the company. Section II covers the role of communication channels in understanding assignments in the company including office assignment, company time schedule and company official announcement. Section III: covers the role of communication channels in term awareness the company's culture whether core values of the company, the rules of the company and code of conduct. Section IV relates to employees' performance through the company's activities. And finally Section V covers level of effectiveness of communication channels.

Items included in the scaled constructs used in the study achieved high reliability coefficient. The Cronbach's alpha ranged from .607 to .777 in the pilot study. There was a tremendous improvement in the final data collection with Cronbach's Alpha ranging from .720 to .850. Company activities, Company time/Schedules, The rules of the company, Core values of the company and Office assignment which display a low Cronbach's Alpha in the pilot test was factor analysed. The five variables on the measured items failed to converge. However, the reliability of the other three variables yielded Cronbach's Alpha from .734 to .777.

The reliability for Office assignment moved up from .693 at pilot test stage to .730 at the final data correction stage. However, Company time / schedules progressed from .641 at pilot test stage to .731 at the final data correction stage. But, Core values of the company improved from .673 at pilot test stage to .720 at the final data correction stage. On the other hand, the rules of the company increased from .677 at pilot test stage to .742 at the final data correction stage. Meanwhile, Company

activities developed from .607 at pilot test stage to .724 at the final data correction stage. This pattern was similar to these variables were reliable in pilot study, which Level of effectiveness of communication channel inclined from .777 at pilot test stage to .850 at the final data correction stage. However, Company official announcements grew up from .734 at pilot test stage to .766 at the final data correction stage. At the same time, Code of conduct advanced from .700 at pilot test stage to .746 at the final data correction stage.

Table 3.1: Reliability Test for Scaled Variables

Variables	No. of Items	Reliability Tests			
		Pilot		Final	
		N	Alpha	N	Alpha
Role Understanding Competency					
Office assignment	7	52	.693	459	.730
Company time / schedules	7	52	.641	459	.731
Company official announcements	7	52	.734	459	.766
Culture Awareness Competency					
Core values of the company	7	52	.673	459	.720
The rules of the company	7	52	.677	459	.742
Code of conduct	7	52	.700	459	.746
Employees Performance Competency					
Company activities	7	52	.607	459	.724
Level of effectiveness of communication channel	7	52	.777	459	.850

Source: researcher's computed

3.10.2 Reliability of Themes from Inter-Rater

It is important to ensure that validity and reliability do not get confused. Reliability is the consistency of results when the experiment is replicated under the same conditions, which is very different to validity. Researcher used to code the interview answers by using to write and gathering the meaning of participants' answers. The reliability of quantitative was through pilot study. Whereas, the reliability of qualitative semi structure interview was through entering letters to verify the themes.

3.10.3 Reliability test for qualitative

The researcher used Cohen's Kappa Method to test reliability test of themes from inter-rater. The inter-rater reliability test is a way of judging used to look at the agreement between two people or groups of observers or raters on how level of a categorical variable. The measurement is needed in order to determine how great of coding and implementation of variables. The measurement ranged generally from 0 to 1.0, the higher level of reliability of data depends on high number of scored from calculation.

Landis and Koch (1977) mentioned the more complete list of how Kappa might be interpreted. The following Table 4.33 gives the details.

Table 3.2: List of Cohen's Kappa interpreted

Kappa	**Interpretation**
< 0	Poor agreement
0.0 – 0.20	Slight agreement
0.21 – 0.40	Fair agreement
0.41 – 0.60	Moderate agreement
0.61 – 0.80	Substantial agreement
0.81 – 1.00	Almost perfect agreement

Source: Landis and Koch (1977)

The researcher used kappa calculation to estimate the level of data reliability which is confidential interval minus expected number divide 1 minus expected number. He distributed six copies of inter-rater to three lecturers and three PhD students in order to get their observation about themes. The Table 3.3 and Kappa Formula display bellow for more details how kappa reliability test conducted.

Table 3.3: Cohen's Kappa reliability test

D/U	LECTURERS			PHD STUDENTS			TOTAL
	1	**2**	**3**	**1**	**2**	**3**	
2 & 6	1	1	0	1	0	1	6
8	1	1	0	0	1	1	6
10	0	1	0	1	0	0	6
12	1	0	1	1	1	1	6
2	1	1	0	0	0	1	6
4	0	1	1	1	1	0	6
6	0	0	0	1	0	0	6
4	1	1	0	1	0	1	6
6	1	0	1	0	1	1	6
8	0	1	0	1	0	1	6
10	0	1	0	1	0	0	6
12	1	0	1	1	1	1	6
14	0	1	0	0	0	1	6
6	1	1	0	1	0	1	6
8	0	0	1	0	1	0	6
12	1	0	1	1	1	1	6
14	1	0	0	1	0	1	6
4	0	1	1	0	1	0	6
6	1	1	0	1	0	1	6
8	1	1	1	1	1	1	6
6	1	0	0	1	0	1	6
8	0	1	0	0	0	0	6
16	1	0	1	1	1	1	6
18	0	1	0	1	0	1	6
8	1	1	1	0	0	1	6
14	1	1	0	1	1	1	6
18	0	0	0	0	0	0	6
2	1	1	1	1	0	1	6
6	1	0	0	1	1	1	6
8	0	0	0	0	0	0	6
10	1	1	1	1	1	1	6
12	0	1	0	1	0	0	6
	18	20	12	20	13	22	192

Source: researcher's computed D/U=Discourse Unit

$$K = \frac{Pr(a) - Pr(e)}{1 - Pr(e)}$$

Pr (a) = 192

Pr (e) = -87

$$K = \frac{Pr\ (a) - Pr\ (e)}{1\text{-}Pr\ (a)}$$

$$K = \frac{105\text{-}\ 192}{1\text{-}192}$$

= 87/191= 0.46

According to the result from calculation of reliability test, the agreement between groups of observers shows that the level of agreement is moderated meaning that the themes are moderately accepted by observers.

3.11 OPERATIONAL DEFINITIONS FOR THIS RESEARCH

The operational definition is an explanation of theory, variables, terms and items that guide process of a study. The operational definitions used in this study are unformed by the theory applied and the conceptual framework. Therefore, all terms used in the study are eight as earlier mentioned in the objective section. These terms are embedded in role understanding competency, organization's culture awareness competency, employees' performance competency and communication channels. The study was guided by the following definitions: Office assignment, Company time / schedules, Company official announcements, Core values of the company, the rules of the company, Code of conduct, Company activities and Level of effectiveness of communication channel.

3.11.1 Office assignment

This refers to task or amount of works assigned to and undertaken by the less superior officers in an organization such as assignment given by managers, superiors or authority of Sulfo Rwanda industries to its employees. 4 liket scales was used to measure terms under each IV variable of the study. For instance, the scale was applied on the seven measurable items under office assignment in the context of the present study.

3.11.2 Company time / schedules

This indicates the list of planned activities, programmes projects and business events which arranged in the following order each of these is phase over the selected period. It also shows the timetable of activities as well as things to be done. This is achieved through the displaying of times or dates of the management of Sulfo Rwanda industries intend to be carried out as specified. Similarly, 4 liket scales was used to measure terms under each IV variable of the study. For example, the scale was applied on the seven measurable items under company time/schedules in the context of the present study.

3.11.3 Company official announcements

It is a written or spoken statement that tells employees about the official or public act which could be in the form of up or downward communications using the seven channels in the Sulfo Rwanda industries. This includes announcements which could be made in response for instance the introduction of a new product or practice in the company. In the same vein, 4 liket scales was used to measure terms under each IV variable of the study. For illustration, the scale was applied on the seven measurable items under company office announcements in the context of the present study.

3.11.4 Core values of the company

The above indicates the culture and reflects the company values that support the vision of the Sulfo Rwanda Industries. It involves the principle of the company's identity, the essentials, beliefs or philosophical values, which appear to encourage the communication channels between managers and employees. In the like manner, 4 liket scales was used to measure terms under each IV variable of the study. For instance,

the scale was applied on the seven measurable items under core values of the company assignment in the context of the present study.

3.11.5 The rules of the company

This demonstrates a statement that defines or describes some aspect of the Sulfo Rwanda industries. It is planned to affirm the company structure or to control and influence the behaviour of the staff of the industries. This appears to be supported by communication channels between superiors and subordinates. In the same manner, 4 liket scales was used to measure terms under each IV variable of the study. For example, the scale was applied on the seven measurable items under rules of the company in the context of the present study.

3.11.6 Code of conduct

This a term used for code of ethics and practice which ensure that every single staff in the Sulfo Rwanda industries knows and follows as a matter of discipline. The industries' code of conduct that maintains that staff proper dressing to the office, punctuality among others. This encourages the communication channels between and among the executives and staffs. Similarly to the above, 4 liket scales was used to measure terms under each IV variable of the study. For illustration, the scale was applied on the seven measurable items under office assignment in the context of the present study.

3.11.7 Company activities

The above relates to company's activities which include any activity that is encourages profit making by the company. The activities involve the following:

operations, marketing, production and administration, which are collectively known as “business operations". This is run and operated by the management and employees of the company through the aforementioned communication channels. Similarly to the previous terms, 4 liket scales was used to measure terms under each IV variable of the study. For instance, the scale was applied on the seven measurable items under office assignment in the context of the present study.

3.11.8 Level of effectiveness of communication channel

This a term refers to the level of effectiveness of seven communication channels that use to carry messages as well transfer intended meaning between managers and employees of the company. The communication channels support internal and external communications flow in three directions downward, upward, and horizontally between superiors and staffs. The level of effectiveness of communication channel affects the choice of certain communication channel to deliver message and understand each another. 3 liket scales was used to measure terms under DV variable of the study. Therefore, the scale was applied on the seven measurable items under level of effectiveness of communication channel in the context of the present study.

3.12 DATA COLLECTION PROCEDURE

Approval letter which has reference number 4313/1200/2013 to conduct research in Rwanda was obtained from Ministry of Education in Rwanda through affiliation to Nile Source Polytechnic of Applied Arts (NSPA). See Appendix 5 and 6. The researcher was given the permission to carry out the research study in Rwanda from

Acting Director General, Science, Technology and Research Ministry of Education to The Sulfo Rwanda Industries (See Appendix 7).

Survey data were collected between 22nd and 30th January 2013 as permitted by company's management in this limited period. Data were collected by the researcher and 1 colleague who was doing his second degree in the university of Rwanda which known before as the National University of Rwanda. However, the company's management assisted the researcher in contacting the sampled managers and employees. These assistants were well briefed about the study and their roles. Meetings were held with various staffs in the company, subsequently follow-ups, through phone calls and SMS, were carried out. Assistants were also supported with logistics such as pens and call cards to motivate the respondents and facilitate easy communication with the researcher.

The questionnaire surveys were distributed to managers and employees of Sulfo Rwanda Industries at headquarters (Marketing Street) as well as Ihema Street and Gikondo. Interestingly, the big number of respondents returned the questionnaires to the researcher as the company has accepted request for conduct the study.

Additionally, this study adopted in-depth interview method to gain data from managers and employees of Sulfo Rwanda Industries. This method is valuable because in-depth interview in its simplest meaning is a conversation with a purpose (creswell, 2007). In-depth interview is a form of qualitative research technique, using structured and unstructured conversation that allows in-depth investigation of the matter (Rubin & Rubin, 2012). Field research such as interviewing tends to have

better reliability than other approaches such as experiments or questionnaires as they are more likely to measure what the study try to find out because meanings can be discussed in details in order to reach a mutual understanding between the researcher and participants (Babbie, 2007). This study employed mixed method including the in-depth interviews to obtain the most perceived communication channels and how as well as they are used in the Sulfo Rwanda Industries Ltd.

The respondents of qualitative approach (in-depth interview) were primarily contacted by face-to-face as the company's management arranged the meeting between them and the researcher. In order to get agreement from the potential respondents, the researcher explicated to them that the findings would strictly be used for academic purposes. All respondents wished that their identities be hidden (request for anonymity) and researcher agreed to that. Some respondents wished to be given clues of the interview questions earlier and as such they were mailed an interview guide.

Interviews were conducted at participants' most appropriate location so as to allow a comfortable and friendly meeting. Before the beginning of each interview, participants were informed on the objectives of the study, and given room to ask questions and seek explanations. Then they were given an informed consent form which states their right to participate and also withdraw at any point they deem fit, so respondents do not harbour any feeling of obligation. The recorder was used to record the interview sessions, with minimal note taking to complement the audio recording. Participants who do not understand English have given the interpreted questionnaire in local language (Kinyarwanda see attachment in Appendix 8) as well as interviews,

all that interpretations was approved by Isaie Nzeyimana, Rector of NSPA (See Appendix 9).

3.13 DATA ANALYSIS PROCEDURES

The quantitative data analysis was analysed by descriptive statistics and simple linear regression analysis (SLR) using SPSS vision 16. Whereas, the qualitative data of semi structured interviews had been analysed by coding system. The researcher had transcribed the interviews into texts, code, and create themes from many ideas extracted from informants; responses. In regression analysis there is regularly the independent, or explanatory or predictor variable and a dependent or outcome or response variable. The effects of one or more independent variables combine to determine the response variable. According to Rawlings et al. (1998) Simple linear regression analysis is used when researcher needs to predict or explain one variable in terms of another. This type of analysis helped the researcher to predict the most common used communication channels of the company against the three competencies namely; role understanding competency, organization's culture awareness competency and employees' performance competency. However, researcher used to compare themes or main ideas from semi structure interview from and simple linear regression analysis in order to come out with discussion and predictable results.

The research used each competency as a continuous independent variable and communication channels as a continuous dependent variable. Therefore, the research had run seven analyses as flows;

Independent variables that will be used separately to predict are;

- Role understanding competency

1. Office assignment
2. Company time / schedules
3. Company official announcements

- Company's culture awareness competency

    1. Core values of the company
    2. The rules of the company
    3. Code of conduct

- Employees' performance competency

    1. Company activities

Dependent variable is level of effectiveness of communication channels which combined all communication tools;

1. Face-to-face
2. Addressed documents
3. Mobile telephone calls
4. Fixed line calls
5. SMS
6. E-mails
7. Facebook

Mann (1995) described descriptive statistics as the discipline of quantitatively telling the key features of a collection of data or the quantitative explanation itself. Dodge (2003) mentioned that descriptive statistics are notable from inferential statistics or inductive statistics, in that descriptive statistics target to summarize a sample, rather than use the data to learn about the population that the sample of data is thought to represent.

Simple linear regression, researchers practice the correlation statistic to predict future scores. To realize which effect one independent variable has on an outcome, researchers should use regression analysis. It can be considered much easier situation than where multiple independent variables might combine to correlate with dependent variables. Simple linear regression or one correlation is a statistical procedure for observing the relationship of one independent variable with a single or multiple dependent variables Creswell (2012).

The second stage of the data analysis was to analysis the interviews. The analysis procedure of the study began after gathering data from the participants about most common used communication channels in the Sulfo Rwanda Industries. The participants answered the face-to-face interview questions which provided their perceptions about the most common used communication channels in the company during their everyday performance between superiors, supervisors and employees. However, the interviewer used recorder to record the interviewees' voices and responses.

According to Bernard (1988) semi-structure interview is preferred when researcher do not want many interviewees, he use several interviewer on field to correct data. It also offers a perfect set of instructions for researchers and can provide dependable, comparable qualitative data. However, Drever (1995) mentioned that semi-structured interviews provide a very flexible technique for small-scale research. This study takes information from employees as well as managers. The study involved more than 450 respondents which is large number. The semi interviews involved eight respondents including three managers and five employees. However, since the study interviewed only eight participants, it was recommended to use semi-structured interviews in terms of interviews. Alvarez and Urla (2002) explained that semi structure model seems to bring and provide more useful data when the sample size is comparatively small. It also allows coding system analysis of the qualitative data.

Analysis if interview data started with a complete transcription of all recorded participants' interviews. Recorded interviews were listened to and transcribed verbatim to obtain rich data. Verbatim transcription refers to the word-for-word reproduction of verbal data, where the written words are the exact replication of the audio recorded words (Poland 1995). This study used verbatim transcription to increase its reliability. It has been cited (Maclean et. Al., 2004; Silverman, 1997) that combination of verbatim transcription and the researcher's natation of nonverbal cues are crucial to the reliability of qualitative data. Thematic analysis is one of systematic method for analysis to offer reliable, credible and trustworthy analysis (miles & Huberman, 1994). The first step is to read all interview transcripts to be aware with the subjects and the contents. Second, statement in the transcripts is underlined and coded briefly in order to decide the importance patterns to answer the research

questions. Third, every code is examined, collated and catalogue separately to recognize significant broader patterns of meaning or themes. A general coding scheme is created based on the general domains covered by the research questions and the interview protocols. The codes allow the researcher to develop patterns and categories in which themes would have to be developed.

The researcher observed the classifications of data by categorizing the original codes into broader themes. This classification procedure combines the smaller, more specific categories and codes into larger groups through discovering repeated patterns (Braun & Clarke, 2006). The patterns of information, which results in overarching themes, formed common ideas within the codes (Creswell, 2013). For the purpose of confidentiality the researcher uses pseudo name of all respondents.

The researcher analysed and interpreted the data and information collected from study participants, by using the transcripts, as well as thematic analysis. In addition, notational conventions were utilized for interview transcription in order to describe the informants' words in the coding paper. The Appendix 10 illustrated those notational conventions.

Through qualitative analysis, the researcher wrote down discourse units, code and interview transcription in order to come out with repeated words, that helped the researcher to compare ideas and perception from respondents which displayed most common used communication channels in the organization. The Appendix 11 presents the transcription from interview.

Interview transcriptions were examined, by looking at the ideas and types of communication which are most common used regarding the organizations' individual staff experiences and perceptions. Moreover, the researcher examined discourse units from interview questions; those have given many points from data which summarized into summary many points. From that stage, the researcher developed themes which have given to the rating groups by using number one (1) means agreed with the theme and zero (0) meaning that observer disagreed with the theme. The Appendix 12 presents the inter-rater table.

The researcher generated themes from the main ideas of the respondents by addressing research questions to interview questions, and he observed summary of many ideas and many points comparing with participants perceptions using respondents' code. Three interview questions about the most used communication channels between colleagues whether among managers or among employees, the most used types communication between managers and employees and the most used tools of communication employees and managers expressed to research question one which look for most communication channels used among the seven channels based on role understanding competency.

However, other three interview questions about the most common communication channels used in the company, the most used types of communication between company and government authorities and the most used tools of communication between company and publics stated to research questions two (2) which to look for most communication channels used among the seven channels based on organization's culture awareness competency. Finally, the interview question about

the most used communication channels between company and customers directed to research question three, which looks for most communication channels used among the seven channels based on employees' performance competency. The themes were found by analysing manually, looking for frequent answers, seeking to categorise arrangements of thoughts or themes of most and lowest common communication channels in the organization. The Appendix 13 illustrates the themes table.

3.14 SUMMARY OF CHAPTER THREE

This chapter contents with introduction of the chapter which included theory used in the study, Purpose of the study, Research questions, Research Design, Questionnaire as quantitative methods approach and semi-structured interviews as qualitative methods approach. However, the chapter discusses the study population which mentions the respondents, the number of them, the location of them, sample size, Procedure for Sampling Participants, type of Sampling and instrumentation used which involves questionnaire and open ended survey. In addition the chapter mentions the data collection procedure in the field, validity of the research instrument before data collection, the pilot study as well as reliability test of both quantitative and qualitative. Finally, it shows the quantitative data analysis procedures of simple linear regression analysis and use of thematic system for interviews analysis.