Fontys University of Applied Sciences

Value Chain Empowerment for a better livelihood of smallholder farmers in Nakaseke, Uganda: *A project analysis*

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Preface

The minor Global Development Issues offered in Fontys Rachelsmolen, Tilburg, requires students to do an internship in a developing country. After my three months stay in Uganda in 2015 I was keen to return and found the opportunity to write my bachelors thesis in the country.

Once I completed the minor in Tilburg I was convinced that I would proceed to a master's study in Sustainable Global Development. Therefore, I chose to conduct this graduation internship in an emerging economy and on a topic that is related to development. An internship of this kind would further prepare me for my master's study which I expect to start in September 2017. My experience during this internship again underlined the fact of my postgraduate's choice.

Many graduation internships on development were offered within Europe's borders. From my perspective, I find it more valuable to physically visit the place of where a policy or program for development is carried out at. Otherwise I could have been in an office in Genève for instance, but I preferred to collect data personally in the different villages of Nakaseke, Uganda.

First and foremost, I want to express my gratitude towards Peter Balaba, the manager of the Nakaseke Telecenter. Without Peter I would not have been able to do the data collection in terms of accessing the different villages and translating the survey. Second I appreciate the Uganda Investment Authority to give me the chance to work for one of Uganda's government agencies. The different employees that supported me during my stay have made it a memorable learning experience. Lastly this internship would not have taken place if not for Gerrit Rooks to grand me the opportunity to work with their project.

I wish to thank all my teachers from Fontys Hogescholen. They have prepared for this deliverable through the years, and my fellow students which have motivated me during the study and supported me on my internship decision. This study focuses on a project carried out for farmers living in very minimal conditions. To all readers, I invite you to read this document to get a better insight on subsistence farmer's challenges in sub-Saharan Africa and projects that intent to empower them.

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Glossary and abbreviations

GDP	Gross Domestic Product
ICT	Information Communication Technologies
FDI	Foreign Direct Investment
FSMS	Frontline SMS Cloud
IIRR	International Institute of Rural Reconstruction
KIT	Royal Tropical Institute of the Netherlands
LFA	Less Favored Areas
NWO	Netherlands Organization for Scientific Research
MDG	Millennium Development Goals
MTG	From Muppets to Gazelles Project
MUBS	Makerere University Business School
SDG	Sustainable Development Goals
UBS	Uganda Bureau of Statistics
UIA	Uganda Investment Authority
UWEA	Uganda Women Entrepreneurs Association

Executive Summary

The Netherlands Organization for Scientific Research (NWO) is a non-profit organization that intents to have impact on society via funding scientific research at public research institutions in the Netherlands. The Technical University of Eindhoven is being funded by the NWO to investigate pivotal barriers to dynamic entrepreneurship in Uganda. The NWO believes that innovation can boost local and regional economic growth by the presence of dynamic entrepreneurs. Starting in 2014 TU/e in collaboration with several Ugandan governmental and nongovernmental institutions launched the project. The From Muppets to Gazelles Project (MTG) involves farmers from Nakaseke and surrounding districts, consisting of approximately 1400 farmers.

The MTG, among other objectives, intents to empower subsistence farmers. In short term projects of this kind in sub-Saharan Africa, failure is more prevalent than success (KIT; MaLi, Faida; IIRR, 2006). Any activities in less-favored area's (LFA's) such as Nakaseke County, entail large risks and challenges (European Comission, 2009). It is therefore crucial that the MTG can identify which of its activities are contributing to the desired outcome of the project and which not.

This research has identified the different value adding activities of Porter's model that require improvements which were interpreted via the stakeholders' opinions. Involved personnel were interviewed and project affiliates completed a survey.

The main problem farmers face is not being able to do value added activities on their crops. Their earnings are low and completely depend on the buyers to sell their goods. This issue can be addressed by changing the position of the farmers within the supply chain. The farmer empowerment model of KIT focuses on development of smallholder farmers, specifically in sub-Saharan Africa. It proposes two types of farmer participation in the supply chain:

- Vertical integration: value adding activities farmers undertake in the chain
- Horizontal integration: development of chain partnerships

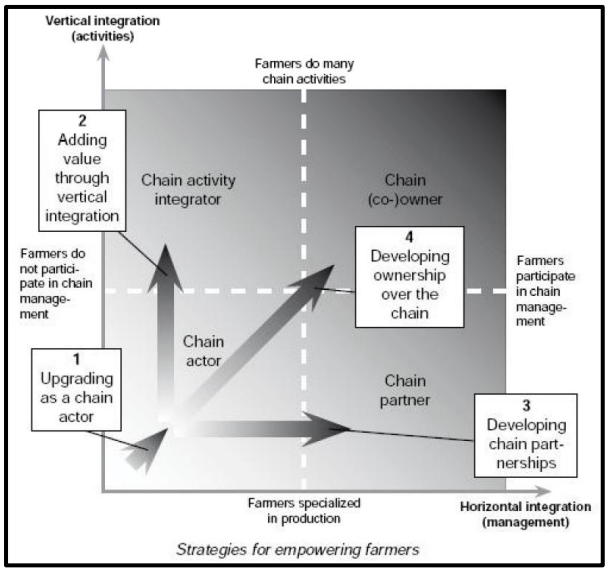

Figure 1 Farmer Empowerment Strategies KIT

Small-scale farmers can improve their position in four different ways within this framework as can be seen in Figure 1. Currently the involved farmers find themselves in the lower left of the Chain actor quadrant. At this stage farmers singularly produce goods with no cooperation among each other.

In this thesis, the MTG was broken down into activities from Porter's Value Chain Model. Porter's model aims to identify how a company's different activities create a "margin" which is of value for its customers. With the activities identified, a survey could be created to measure the MTG's effectiveness on farmer empowerment. Farmer empowerment is the in the context of this study the "margin" created for the "customers".

On an individual level, farmers cannot afford to do value added processes on their goods. There is little room for vertical integration without horizontal integration. As farmers organize themselves among each other (horizontal integration), collectively they have for instance enough funds to transport their crops to a processor. Farmers have not become part of any cooperative/association due to the project. Nor do the output channels provide farmers with the tools to reach a processor. Horizontal integration is achieved by the farmers in a sense that they have more bargaining power when selling their harvested crops. The SMS's with crop price information gives the participants more control over the chain in terms of prices.

The two main channels used by the MTG to distribute agricultural information have a great reach among the interviewed population. These outbound logistics are delivering to its destinations, though in both cases of the Radio and SMS's based system, farmers have made clear to face challenges with them. When these issues are addressed the deliverable will be more effective. Inbound logistics and operations have not been able to collect and process farmer cooperation's information.

Recommendations are made strictly reporting what actions should be taken to bring farmers into the different quadrants. First the project needs to support farmers to upgrade as Chain actors, this is followed by ways to allow them to become better chain partners. The routes to guide farmers to the chain (co)-owner quadrant, the most preferred situation, are also addressed. This report shows what the MTG has achieved up to date and the outcome it has had on the involved farmers. The work will allow the management of the MTG to make clear decisions on how to proceed to reach the desired proposed objectives.

1 INTRODUCTION

1.1 Company and problem background

More than 50% of the world's poorest countries are located in the African Continent. Regardless of their rich natural resources and vast international support, plenty Sub-Saharan countries have not been able to relish significant development. Uganda is one of these states, that over the last decade experienced a decline in gross domestic product (GDP) growth from 7% in the 1990s and 2000s to a 5% on average currently (World Bank, 2016). With rapid population growth of 3.3% a year and 38% of the population below the international poverty line, the country is facing serious challenges. Four out of five people in Uganda are small scale farmers with a mean lower than 1.2Ha of land used mainly for subsistence farming (UBS, 2010). Focus on development of this vast agricultural population should have positive implications on the gross national income per capita.

Information Communication Technologies (ICT) access in developing countries has undergone substantial growth since the beginning of this century (Cieslikowski, Halewood, Kimura, & Zhen-Wei Qiang, 2009). Mobile telephony is the sector with largest increase of ICT usage in the global south, with a coverage of 70% of that population by 2007 and an expected reach of 86% of the total global population by 2020 with 3G (GSMA, 2015). Evidence has shown that greater market participation was encouraged by poor farmers through the use of mobile phones (Mittal & Mehar, 2012). Also better yields are to be achieved when applying mobile-based information services to farmers.

In the United Nations agenda for sustainable development, the seventeen Sustainable Development Goals (SDGs) set to transform the world by 2030 (UNPD, 2015), a relationship can be found with the "From Muppets to Gazelles Project". SDG goals 1, 2 & 9 (No poverty, Zero Hunger and Industry, innovation, infrastructure) are being taken into account indirectly by this project. SDG 1 & 2 are addressed by giving farmers vital data about current prices which could bring them above the poverty line. Information on production can increase efficiency and quality of output leading to larger and more profitable yields. SDG 9 is promoted by introducing and training farmers on the benefits of mobile-based information services. Technology in the form of ICT which prevails in SDG 9 is key for overcoming the SDG 1 & 2, it fosters productivity and leads to generation of jobs (World Bank, 2012).

The MTG funded by the Netherlands Organization for Scientific Research (NWO) and implemented by the Uganda Investment Authority (UIA) among others, aims to improve the livelihoods of smallholder farmers and entrepreneurs in Uganda through access to information via their mobile phones. Information is provided to and for the farmer's respective crops in order for them to make more informed decisions when selling and producing their goods.

The UAI is a semi-autonomous government agency established in 1991. It seeks to initiate and support measures that enhance investment in the country while advising the government on appropriate policies for investment promotion and growth. The agency mainly markets investment opportunities, promotes packaged investment projects, ensures that local and foreign investors have access to information and offers business support, advisory and advocacy services. Since 1991 the UIA has facilitated more than 6000 projects to carry out its businesses in Uganda, from 2002 until 2015 $12.9 billion have been invested in the country through the UIA which constitute out of Foreign Direct Investment (FDI) and local investors (UIA, 2016). Employment generation has summed up to 394,851 new jobs within that same period. The UIA not solely focuses on attracting FDI but also wants to facilitate local entrepreneurs and businesses to grow, this is where the MTG falls within.

1.2 The research objective and main research questions

Evaluation research tries to assess the worth or merit of some object (Trochim, 2006). This approach aims to provide "useful feedback" to various stakeholders which's decision making shall be aided. Among the many evaluation types there is process evaluation, a formative evaluation and outcome evaluation a summative evaluation. The first approach intents to investigate the deliveries of a program as a results of its processes and consequently the second approach inspects whether target outcomes are affected by the program or project.

Research questions.

To what extent MTG contributing to value chain empowerment of involved farmers?

Which processes are prawn to improvement for greater value added outcomes of the marketing platform?

What information contributes the most to better livelihoods of the farmers?

What are the characteristics of farmers' socio-economic condition and the participation of the Marketing Platform?

How can the interaction and involvement of the farmers be increased?

1.3 Demarcation

A baseline survey has been conducted in southern Nakaseke district, Central Region, Uganda from June 8th until June 21st 2016. This survey involved 1098 smallholder farmers, of which the following information was gathered; demographics; main cash crops grown; agricultural information needed; source of agricultural information; farming methods; income per season; their specific buyers; buyer complaints; financial literacy and financial needs (Mindra, 2016). This survey was followed by a training of 200 farmers and middlemen in the last week of August 2016 on how the marketing platform shall operate and how they are to interact with it.

The study is delimited to the 1098 smallholder farmers that were assessed on the previously mentioned information. Reason here for is because it is the population with which the project interacts with. Furthermore, an aim of the MTG is to conduct a comparative analysis between factors before the implementation of the marketing platform and during. The population may shrink due to lack of data, since the intention is to work with the respondents which could complete all sets of questions.

On the organizational side, the area of interest are all the actively involved personnel of the project. These are from the UIA, MUBS, and the employees on site in Nakaseke. Unit of analysis in this research is the "From Muppets to Gazelles Project".

1.4 Problem statement, objective and deliverable

The main problem statement of this study is: Has the marketing platform had a positive outcome on the livelihoods of the involved farmers, which processes have led to a successful implementation and which not.

One specific objective of the MTG is to develop a handbook entitled "Innovate and break your business barriers" with complementary training manuals and evaluation tools (Rooks & Romijn, 2014). It is intended that the handbook and the manuals will be used by the UIA and the Uganda

Women Entrepreneurs Association (UWEA) for further implementation across the country. More Telecenters such as the current present one in Nakaseke are to be set up. Interaction between farmers and buyers shall be enhanced explicitly by providing agricultural related information. The project time span is from November-2014 until May-2017.

The delivery of this project shall be in a form of advises. It will focus on which processes and procedures of the Marketing platform have the greatest positive impact on the livelihoods of the involved farmers. Porters value chain (Porter, 1985) will be used to analyze the processes of the project's organization. The greatest margin from Porters model in respect to achieving the strategies of the KIT (KIT; MaLi, Faida; IIRR, 2006) farmer chain empowerment model shall be delivered as a main strategy for effective operation of the MTG. A strategy on how farmers can move within the KIT model shall be proposed.

1.5 Definition of terms

Cash Crops: Crop grown for commercial use rather than consumption by the grower.

Smallholder farmer: Farmers owning small plots of land where they grow subsistence crops and not more than two cash crops. Almost only reliant on family labor (Department of Agricultre, Forestry and Fisheries, 2012).

Livelihood: Means of making a living. In relation to this case means of being able securing basic necessities such as water, food, clothing, shelter among others.

Parish: Small district commonly referred as an ecclesiastical district with one church and a pastor. In Uganda Parishes are administrative units than can consist out of one or more villages. A "chairman" is elected as the leader of each Parish which does not have to be a religious leader per se.

Agricultural SMS information: Information sent through SMS's towards farmers. Content includes current crop prices, weather conditions, pesticide information, market, processor data, among others.

Marketing platform: Regularly defined as a software that combines CRM, content management systems, search engine optimization among others. In the context of this study it serves as a platform to inform and bring together farmers, buyers and processors.

2 THEORETICAL FRAMEWORK

2.1 Theoretical Approach: theories, concepts and models

Smallholder farmers in Less Favored Areas (LFA) have difficulties to access any new means to developing and improving their business (Foole, 2008). The LFA's are currently divided in three categories under the Articles of Council Regulation (EC) 1257/1999 (European Comission, 2009). These are Mountain Areas, "Intermediate" Less Favored Areas and Areas Affected by Specific Handicaps. The category under which the Nakaseke's farmers fall is Article 19 "Intermediate" less Favored Areas which is characteristic for; land of poor productivity; production which results from low productivity of the natural environment; and a low or dwindling population predominantly dependent on agricultural activity. This has been proven by the baseline survey (Mindra, 2016), where it is to observe that 40% of the respondents earn below the national poverty level on a yearly basis and the other 60 potentially surpass the below poverty line. The farmers find themselves in a "vicious cycle of poverty" (Berger, 2008) as described by the Swedish economist Karl Gunnar Myrdal. These "backward regions" only serve as suppliers of raw materials such as their unprocessed crops. Value added procedures are carried out by middlemen and others because access to these facilities is often unknown or unaffordable to the farmers.

Four out of five people in Uganda are smallholder farmers (UBS, 2010) (Handwerk, 2012), meaning that out of the 37.58 million, 30 million are actively involved in smallholder farming. This argument underlines the importance of empowering and developing regions with these characteristics.

2.2 Value Chain Model

The From Muppets To Gazelles Project is analyzed by making use of Porters Value Chain model (Porter, 1985). With Porter's tool, it is possible to analyze the current situation of the project and compare it to the desired situation. The value creating process is to be broken down to get a better understanding of what activities provide a competitive advantage to the organization. The value chain analysis framework is regularly used for large companies and organizations, but it is applicable for this project since farmers can be seen as customers and the output generated by the project is of value for them. The model divides the project into a set of activities which then are assessed

individually. The project involves many stakeholders and not only the MTG employees, meaning analyzing all the involved parties is of crucial importance when studying the MTG as a whole.

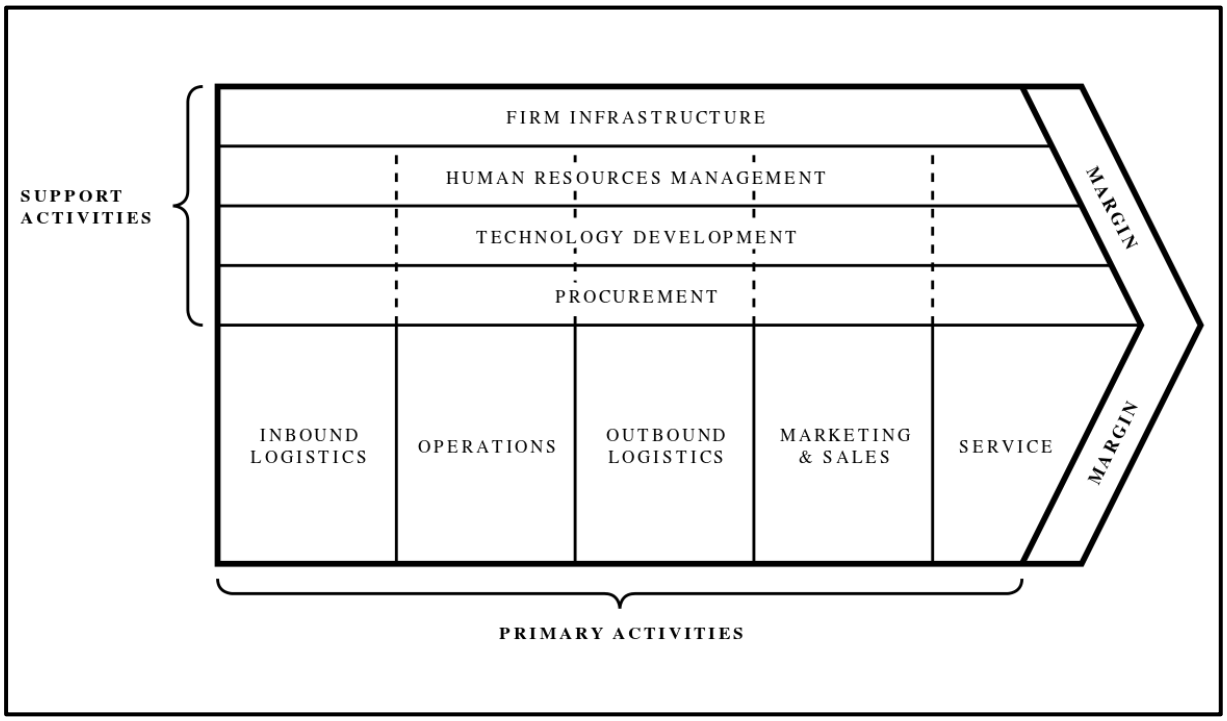

Figure 2 Value Chain Model (Porter, 1985)

Primary Activities

Primary activities consist of five categories which are the following (Porter, 1985):

- Inbound logistics: Processes linked to receiving, storing and distributing inputs internally. In the context of the MTG, inbound logistics are all activities that are associated with collecting/receiving, storing and distributing agricultural/market/cooperative's information.
- Operations: Activities which transform inputs into outputs that are the final product for the customer. In the MTG operations consist mainly of transforming the collected prices information into the final output for the farmers.
- Outbound logistics: Delivery activities. Associated with the collection, storage and distribution of the product to buyers. In the MTG after the information has been processed there are two main channels to distribute it to the farmers, SMS's and the radio station.
- Marketing and sales: Persuasive activities that induce the buyers to purchase the products. Benefits the products has and the way these are communicated are of essential value here. In terms of the MTG what is most important is creating awareness towards the farmers of what the benefits of the Marketing Platform are.

- Service: Activities associated with value maintenance of the product or service towards the customer. This activity in the MTG is achieved by providing farmers with more information if it is requested by them personally trough call-back options.

Support Activities

Support activities are divided into four categories. All of them can have individual influence on each primary activity:

- Procurement: Purchasing of resources used in the value chain.
- Human resource management: Practices related to recruiting, hiring, training, developing and rewarding personnel. Employees are of important value, so companies with good HR practices can have a great advantage.
- Technological development: Management and processing of information. Inputs to improve processes, product and staying current with technological advances.
- Infrastructure: Support systems that include accounting, legal, general management, government affairs among other that are necessary for the infrastructure of a business.

2.3 Smallholder Farmers Value Chain Model

As suggested by KIT (KIT; MaLi, Faida; IIRR, 2006), it is important to differentiate between supply chains and value chains. Farmers which are only part of a supply chain have slight margins, often just one buyer and since this one has a monopoly on their sales, prices tend to be low. For the buyer it also involves greater risk because there is no guarantee of good quality produce due to lack of motivation to improve their product from the farmer's side. On the other hand, farmers involved in a value chain have greater will to invest in the chain. Characteristic are often contracts or agreements, which show intention to support others involved for a lean operation of the supply chain. E. g. a hotel wants quality mango's supplied every week. The hotel supplier tells his mango farmer to provide him with quality mango produce every week. This farmer will get a better price than selling regular mangos and is therefore more committed to satisfy the needs of his buyer.

In the KIT Chain Empowerment report a framework can be found that strategizes smallholder farmers' participation in the supply chain. Farmers are stratified into four levels of participation. The model is divided into two main dimensions (KIT; MaLi, Faida; IIRR, 2006):

- Activities that farmers undertake in the chain (Vertical Integration)
- Farmers' involvement in chain management (Horizontal Integration)

Vertical integration

Is defined as the range of activities in the supply chain the farmers are involved in. Chain activities are for example besides planting, growing and harvesting the crops, drying them, sorting and processing them. Vertical integration is representative of value added processes.

Horizontal integration

Is to be interpreted as the level to which farmers are or not involved in the decision making process. Decisions may be made upon price, buyers, how much and what they produce, payment terms, etc.

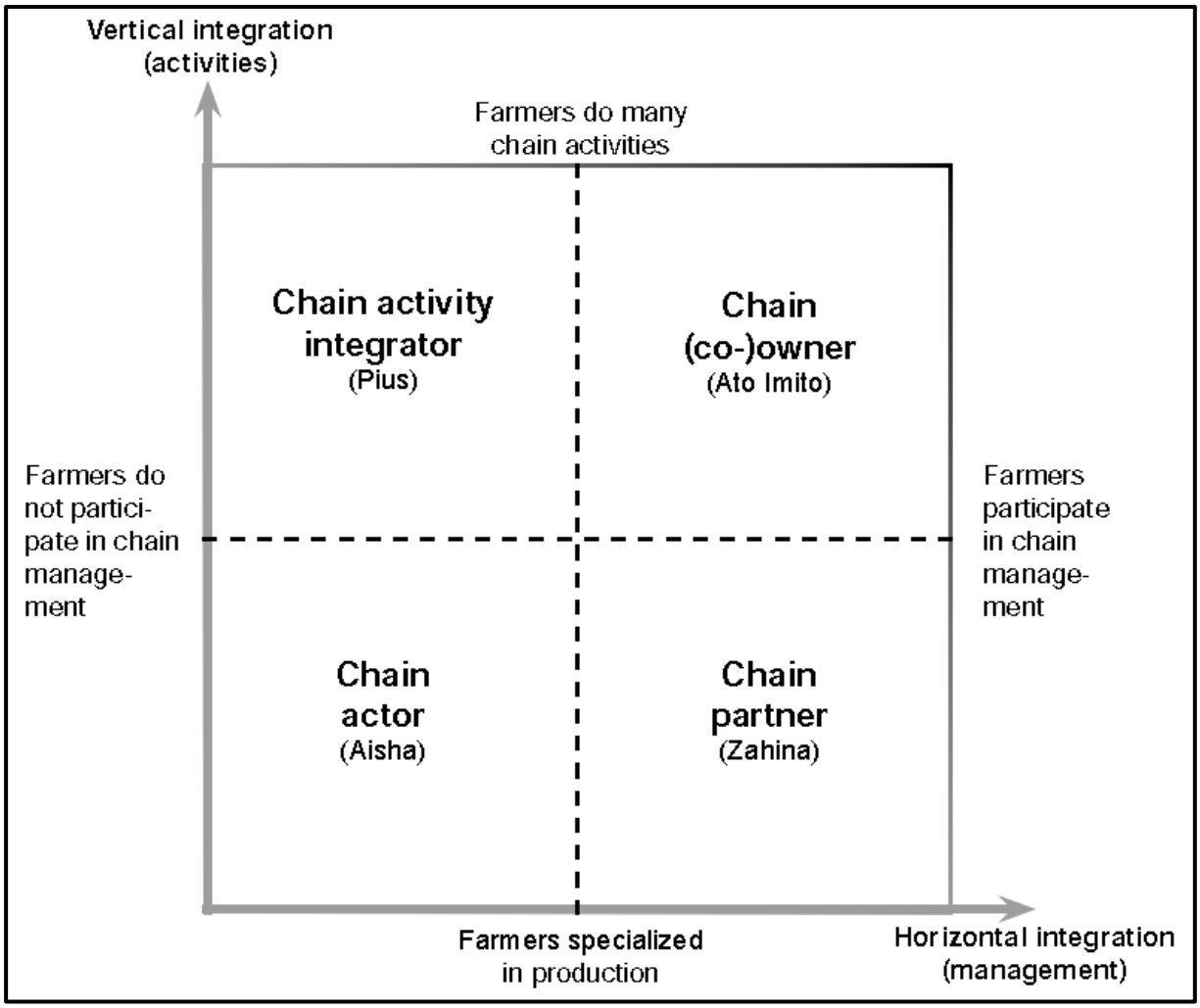

Figure 3 Chain Participation Forms by small scale farmers (KIT; MaLi, Faida; IIRR, 2006)

2.3.1 *Classification of possible stages within the value chain*

a. ***Chain actor***

A Chain Actor is solely involved in the production of goods. Prices are dictated by the middlemen and there is no choice but to sell the goods to this person by the farmer.

b. ***Chain activity integrator***

At this stage a farmer proceeds from regular harvesting and selling to value added processes. These involve drying, milling and other post-harvest activities. Nevertheless, managerial decisions such as quality management, innovation or consumer targeting are not in their control. The chain activity integrators often are organized into groups to collectively process or market produce yet without exercising influence on the management of the chain.

c. ***Chain partner***

Chain partners have more control over the management of the chain. There is no vertical integration because they only focus on the production of goods. They have long term relationships with traders, processors or retailers which allows them to have some control over the price and amount of produce they sell.

d. ***Chain (co-)owner***

Farmers that have increased influence and also do more than just one activity are named chain co-owners. There is evidence of vertical integration due to value added processes and these farmers also organize themselves in cooperatives or contracts that allow them to have impact on the decision-making process. It comes to a level where they develop new products and brands which possibly are sold to end-consumers.

2.3.2 *Ideal positions for involved farmers*

The aim is to first upgrade the farmers as Chain Actors. If farmers have achieved this level they are able to meet requirements in terms of quality and consistency of the buyer. This means they are satisfying the buyers needs and therefore are becoming part of the value chain. Part of the problem

are farmers themselves which for a start should meet market requirements. Once farmers have reached a certain level of chain actor they can become part of the management of the chain or carry out value adding activities on their harvests. Between becoming a chain activity integrator or chain partner there is not on definite better option. Both are routes to empower farmers, and depending on which route is more convenient or available to them it will lead to better livelihoods.

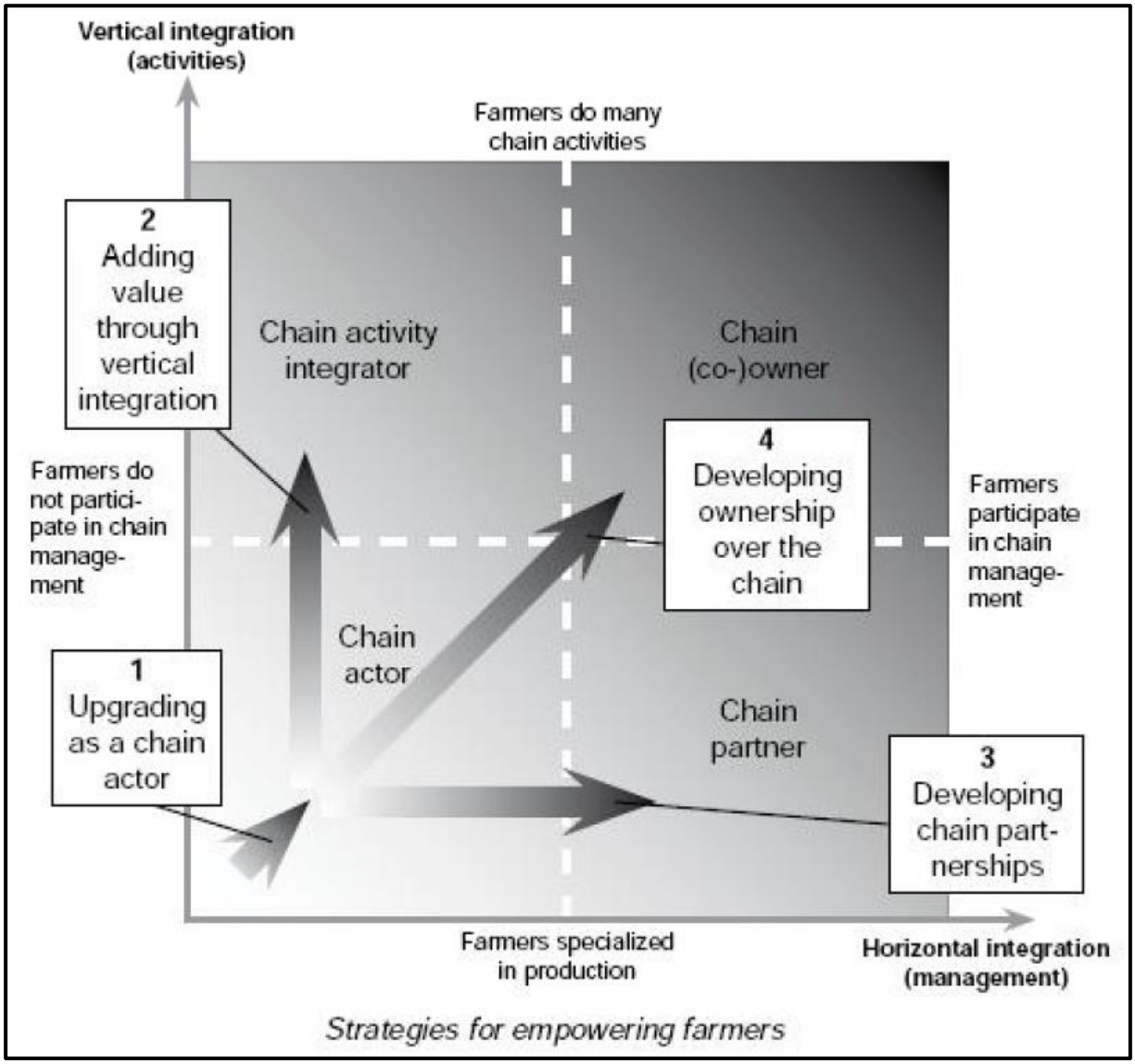

Figure 4 Smallholder farmers position Improvements within the chain (KIT; MaLi, Faida; IIRR, 2006)

The above matrix illustrates possible position changes a farmer can experience within the chain. The process is far more complex than just the four grey quadrants, but this provides us with a broad perspective of the movement along the chain. Farmers may move within the same quadrant by

adopting ether a little of horizontal or vertical integration but still staying in the Chain Actor quadrant for example (KIT; MaLi, Faida; IIRR, 2006). The arrows mainly represent positive changes along the chain but negative position variations are also possible. This for instance is the case when a farmer stops processing his goods and only focuses on production, meaning that he would move down in the vertical integration.

2.4 Summary and implications for the research

Prevalent strategies that address poverty in LFAs have proven to commonly fail. Mingled strategies that tackle several factors at once in a systematic way are more likely to succeed. More important is the development of farmers to become attractive business partners, by either working together in groups and farmer associations or offer quality crops that can be sold at a competitive price in the market.

Porters Value Chain Model main goal is identifying the chain that creates value to the customer to further develop a competitive strategy (Porter, 1985). The "Chain Empowerment" for smallholder farmers report by KIT has developed two main strategies (Vertical or Horizontal Integration) that contribute to smallholder farmer's empowerment along the value and supply chain. Knowing what value means in the context of empowering smallholder farmers the two models can be merged. The combination of these two models enables us to identify what processes and procedures from Porters model contribute to achieving any or both of KIT's proposed strategies. When visualizing this combination, the KIT strategy model can be found within the Margin quadrant of Porters Value Chain Model.

By using Porter's model research entailed not only analyzing MTG's processes and procedures but also the farmers' current status. This is significant because determining farmers' current status provides a guideline to what strategy they are able to adopt. By identifying the primary and secondary activities of the project it permits us to view the organization as a set of activities. These activities need to stimulate to pre- and post-harvest assistance which are essential to stimulate rural agricultural growth (Department of Agricultre, Forestry and Fisheries, 2012).

Research involved literature review, quantitative field research and interviews with the involved experts. Literature review to orientate and make conclusions from previous similar projects and researches carried out. The quantitative field research provides an insight of the current "margin"

the MTG project is generating for the farmers. Involved experts were great value to assess the organization in terms of its activities that contribute to the vale chain.

3 RESEARCH METHODOLOGY

3.1 Research objective and research questions

KIT's farmer empowerment strategies should be achieved by the MTG project. The objective is to assess whether the primary and support activities of the MTG are contributing to any value chain empowerment of the involved farmers and where there is room for improvement. The farmers' perception of the MTG project is to be assessed to conclude what in their eyes has a positive impact on their livelihoods.

Research questions

- Q1: To what extent is the MTG contributing to value chain empowerment of involved farmers?
    - To what extent farmer been able to experience vertical integration?
    - To what extent been able to experience horizontal integration?
- Q2: Which processes are prawn to improvement for greater value added outcomes of the marketing platform?
    - Which of the Primary activities are not contributing to the value added outcome of the MTG?
    - Which of the Support activities are not contributing to the value added outcome of the MTG?
- Q3: What information contributes the most to better livelihoods of the farmers?
    - To what extent is price related information allowing farmers to experience horizontal integration?
    - To what extent is market information providing the farmer a better platform to sell his goods at a fair price?
    - To what extent is weather information helping in planning and increasing the output of cash crops?
    - What other information does, according to the farmer, support them the most to a better livelihood?

- Q4: Is there a relationship between farmers' socio-economic condition and the participation of the Marketing Platform?
    - To what extent has the farmer experienced a better pay from the middleman since participating in the MTG project?
    - To what extent has the MTG project have had an impact on the farmer's income?
- Q5: How can the interaction and involvement of the farmers be increased?
    - To what extent is the agricultural SMS information system being used/implemented by the farmer?
    - To what extent is there a trust issue with the provided information from MTG?
    - Are there any technological hinders?
    - Does the farmer have enough knowledge about the agricultural SMS information system?

3.2 Research approach

This study uses an interpretivist approach, which seeks to understand and interpret a certain situation. This will be the paradigm used when consulting different experts in order to analyze the current situation of the MTG project in relation to Porters Value Chain Model. A qualitative and inductive approach shall be of importance here (Hellin & Meijer, 2006). Interpretivism shall also apply for the quantitative survey. It will allow understanding of the extent to which the MTG has had an outcome on the farmers and where it need to improve upon.

3.3 Research strategy and design

For the determination of the current status of the MTG project qualitative semi-structured interviews with actively involved personnel were carried out. This method allowed the interviewee to answer without constraints for identification of all primary and support activities of the project as described by Porter. For identification of possible processes and procedures that achieve the stallholder empowerment strategies (KIT; MaLi, Faida; IIRR, 2006) relevant literature has been reviewed.

Change along the value chain by involved farmers has been investigated with quantitative questionnaires. This refers to the outcome evaluation research method, where we investigate whether the project has caused any effects on the defined target outcomes (Trochim, 2006). The

statistical method is relative frequency to determine the percentage of farmers which have endured either both or one of the value chain empowerment possibilities.

Question	*Approach/design*
Question 1 and sub-questions	Quantitative: Field research: Questionnaire
Question 2 and sub-questions	Qualitative: semi-structured interview Desk research
Question 3 and sub-questions	Quantitative: Field research: Questionnaire Desk research
Question 4 and sub-questions	Quantitative: Field research: Questionnaire
Question 5 and sub-questions	Quantitative: Field research: Questionnaire

3.4 Population and Sample

3.4.1 *Population*

The farmer population that is of interest are 1098 people which were interviewed in the baseline survey (Mindra, 2016). The group of 1098 farmers are defined as the population because the project has gathered information about them which is required to compute a comparative analysis after implementation of the SMS based agricultural information services.

Second population of interest are the actively involved members of the MTG project. This includes three employees at the "Telecenter" in Nakaseke, three employees of the UIA, two members of the

MUBS and two teachers from the TU Eindhoven. This is the population of experts that have access to explicit and tacit knowledge of the project.

3.4.2 *Sample and Sampling Method*

The reach of MTG in Nakaseke district is 19 Parishes. Each parish can be considered as a cluster of the population since similar crops are grown uniformly across the district (UIA, 2016). Convenience sampling was used in four parishes. Convenience sampling is used when one collects information of the available respondents (Kwanjai, 2016). The four parishes were Mifunya Parish, Kigegge Parish, Kiruga Parish and Kasambya Parish, which were selected due to their proximity to the Nakaseke Telecenter. Farmers were informed beforehand through the active SMS system about the upcoming survey. Nevertheless, some respondents were out working in their fields or just not interested, therefore we operated with the conveniently available respondents in every Parish. Aim was to survey all farmers from the four selected Parishes which would have been 179. Important was to reassure that the respondents had received SMS through the system, so the 179 were narrowed down to 113 people. Commitment per Parish has shown to fluctuate (Mindra, 2016) therefore we had high variability in terms of participation per Parish. In the end 48 farmers could attend the survey.

The MTG employees and member's population sums up to ten actively involved people. One respondent of each of the following institutions (UIA, MUBS, and the Nakaseke Telecenter) were used for the qualitative semi-structured interviews. Every institutions angle needed to be assessed to obtain a wide perspective of the MTG status according to Porters Value Chain Model.

3.5 The research instrument

The instrument to collect information of the farmers were structured questionnaires. Focus groups would lead to better answers and give the interviewee more freedom of expression, but language is a major hurdle. Furthermore, truth is not always spoken by the farmers, only if a person of trust is present to conduct the interview (Kiriisa, 2016). Structured questionnaires supervised by one or more of the employees of the Telecenter to ensure full understanding of the questions were used.

Research instrument for the qualitative semi-structured interviews was me as the interviewer. Interviews were conducted and recorded to collect information about the current processes and procedures of the primary and support activities of the Value Chain as suggested by Porter. Semi-

structured interviews provide data that better represents the reality of a project (Hellin & Meijer, 2006). Guided conversations are predetermined by certain topics but it might occur that new topics or questions will arise as the result of the discussion.

3.6 Procedure for data collection

Quantitative data was collected through surveys carried out in the four Parishes. At first use of two tablets and an app were planned for carrying out the surveys in the villages. Internet connection was needed and due to non-consistent network access, regular A4 papers with the questions were printed to carry out the survey.

From the Nakaseke Telecenter Peter Balaba and I would travel to the different Parishes. His assistance was essential for not only translating the questions but also accessing the locations and giving explanations to the farmers if enquiries would arise. Farmers were informed one week in advance about the upcoming survey. In some situations, we would visit the farmers at their homes and in others they gathered at a communal place in the village.

Qualitative data to assess the current status of the MTG was gathered trough conducting interviews of the four stakeholders. The interviews took place at MUBS and UIA and were conducted when the respondents hat a slot free in their agendas.

3.7 Data analysis and interpretation

Collected data serves as descriptive information that describes the project on the topics of the research questions. The questions of the survey were coded to import data on excel and then process it in SPSS. Frequencies were run and presented as percentages. The data collected is categorical and not numerical therefore this approach of data analysis (Patel, 2009).

The research is a combination of problem analyzing and evaluation. It tries to understand the situation and tries to evaluate how well it fits with the KIT model. The qualitative data was analyzed using coding based on content analysis by looking at the main themes.

3.8 Validity and reliability

3.8.1 *External validity*

The gathered data through the surveys reflects the "reality" as close as possible by having assisted the interviewees during their assessment. A supervisor (Peter Balaba) clarified questions and asked reinsuring questions to guarantee the respondent is answering according to his real situation. The supervisor's role is essential for providing valid data, since it has been shown that farmers might give a certain answer to not embarrass themselves in front of others. This confidentiality was achieved by creating some space in between of the respondents.

The reality of the current situation of the project was obtained through the qualitative semi-structured interviews. Triangulation ensure more validity due to interviewing stakeholders that have different roles in the project. The interviewees are all aware of the situation of the project and there're can reflect a real interpretation of it. If there are divergences among the responses a crosscheck between several individuals took place to ensure only the real data is being used.

3.8.2 *Internal validity*

Internal validity refers to the level of which a study is avoiding confounding variables. Results from the semi-structured interviews with the experts are unbiased since they are responding objectively about the current status of the project.

Previous researches have shown that ICT has a positive impact on the livelihoods of smallholder farmers (Mittal & Mehar, 2012). The study only intents to analyze the effect the participation of farmers with the MTG project has had. Respondents are asked to only give answers related to the MTG and no other institutions they may be cooperating with.

3.8.3 *Reliability*

Reliability of the questionnaire is achieved by asking reassuring questions to the farmers. It has been shown that farmers often do not tell the truth (Kiriisa, 2016), therefore while conducting the questionnaire supervisors observed and identified any anomalies. Questioning environment and design was uniform across the different Parishes so environmental and test factors should not have

had an impact on the consistency. Conducting the quantitative research within a short period (21 days) added to reliability since it minimizes differences of MTG involvement time of the farmer for instance, what could have effect on their output and understanding of the project.

3.8.4 *Generalizability/Usability*

Generalizability only applies to those populations that are part of a project with a similar approach as MTG. Results of the farmer's value chain empowerment condition can be generalized to those populations that have been able to participate in a similar agricultural SMS information program. Current status according to Porter's value chain model cannot be generalized in any form. The situation of the MTG project is unique and dependent of many factors.

3.9 Limitations and Ethical Concern

Privacy of the participant farmers is being protected by conducting anonymous questionnaires. Speaking freely is very important therefore we want to ensure their anonymity what would have no consequences on what has been said or answered.

Main limitation is language. The spoken language in the study region is Luganda, although English is widely spoken around the country, for purposes of this study Luganda explanations of the questionnaire allowed to better understanding for the interviewees. This limits me as acting as a supervisor and controlling the data collection process of the farmers.

Second limitation is the respondent availability which is expected to vary among parishes. Some groups of people are more involved in the MTG than others as has been proved by the training sessions in the end of August 2016.

4 RESULTS

4.1 Current situation of the MTG project

4.2 Introduction

In this chapter the current situation of the Muppets to Gazelles Project shall be described. As mentioned in chapter 2.2 the methodology for analyzing the project is Porters Value Chain model. The different activities of the model have been identified through Qualitative semi-structured interviews with various stakeholders of the MTG. Also, observation during the internship has contributed to the breakdown of the MTG into the different activities.

4.3 Primary Activities

4.3.1 *Inbound Logistics*

Information of crop prices are collected by Peter Balaba. On a weekly basis, he carries out physical visits to buyers and agro-processors in Nakaseke, Wobulenzi and Luweero. These are close by towns, information from the capital Kampala does not reflect the real prices rural areas operate with. Furthermore, Peter establishes contact with local middlemen to obtain their current prices and the website www.infotradeuganda.com which provides market information services.

Agricultural information such as planning, techniques, pests, etc. are received by experts. These are agricultural officers and district commercial officers that visit the center to provide this data. Weather trends are obtained through a Norwegian website www.yt.no which the center is familiar with. Information on markets are known by the Telecenter, these do not change unless a new market is set up.

4.3.2 *Operations*

Primarily, all gathered data needs to be translated in the local language. Sources such as the websites provide information in English, although English is the primary language in Uganda, in the rural areas

local languages are still more prevalent than English and to ensure understanding everything is provided in Luganda.

Peter Balaba and his two business advisors in the Telecenter transform the price information to the final output. The collected data from the different sources (Markets, processor, buyers and middlemen) are analysed to find a common number. Prices from middlemen trend to be lower than the others, this is because they incur transport costs when preparing an offer for the farmers.

The agricultural officers and district commercial officers provide the center with information that is ready to be distributed.

4.3.3 *Outbound Logistics*

With the conducted Baseline Survey contact information of 1098 farmers in Nakaseke was collected. This information allows the project to contact them via their mobile phones.

First is the provision of crop prices through SMS's. The software that is being employed is FrontlineSMSCloud, a web-based system that allows dissemination of Bulk SMS's. SMS's are distributed on a weekly basis, reason here for is that prices of goods do not change as much in a shorter period than a week. Next to this, weekly SMS's will become a routine for the farmers, so they can expect a message a certain day every week.

The Nakaseke Community Radio 102.9fm airs two shows a week. The topics covered are agriculture, model entrepreneurship and gender equity. Commonly the presenters are the agricultural officers and district commercial officers. For the other two topics successful entrepreneurs are brought to the center and experts on gender equity attend the radio station.

4.3.4 *Marketing and Sales*

In this part of Proter's Value Chain Model persuasive activities that induce the buyers to purchase the products are characteristic (Porter, 1985).

The first method used were brochures distributed to various parishes to inform about the existence of the center and what it is about. Second step were trainings held in 10 parishes giving detailed explanations of the MTG and its activities. Main points were to tell the farmers about how the

Marketing Platform works, what it will do for them, what is the importance and what the benefits are.

Among one of the programs of the Nakaseke Community Radio is the promotion of the Marketing Platform. Awareness is again created with further encouragement to ensure higher participation of the farmers with the MTG.

4.3.5 *Services*

This part deals with activities associated with providing service to enhance and or maintain the value of the offered product (Porter, 1985). The only mechanism that is trying to maintain value/contact with the farmers are the inbound calls. When farmers receive an SMS they often call back to that number to consult for further information mainly on where they can go and sell their produce. Through these inbound calls the MTG also obtains feedback which is the only way the MTG can see if it is having a positive impact.

4.4 Support Activities

4.4.1 *Procurement*

Procurement involves purchasing of inputs used in the value chain (Porter, 1985). In the MTG procurement is concerned with the purchase of goods that allow dissemination of information to the farmers.

A one-time purchase to upgrade the radio from 100W to 1kW was done. Radio coverage will increase from one district to reach five districts (Nakaseke, Luwero, Wakiso, Kiboga and Mityana).

The Bulk SMS system consists out of software and hardware. Hardware is one laptop, a cellphone and a modem which provides the internet. FrontlineSMSCloud as a contact managing system with making use of Africa's Talking Bulk SMS to send the SMS's are the software that enable the distribution of agricultural information to the farmers. Monthly purchases of credit for the Africa's Talking account take place, the price per SMS is UGX35, around 5000 SMS are sent a month. The FrontlineSMSCloud account was purchased in July 2016 and is in effect until July 2017.

4.4.2 *Technology Development*

Technology developments can be broadly described as activities that make effort to improve a product and process (Porter, 1985). The MTG has implemented two main innovations in the Telecenter.

First is the upgrade of the radio signal coverage from 5km to a 30km radius. This involved training of the personnel on how to operate the new machines and installation of several radio devices. Second improvement is the upgrade from the FrontlineSMS to FrontlineSMSCloud system. The previous system had limited interaction with the respondents and the new cloud based software also decentralized the operations.

Not only MTG personnel was part of the technological development improvements, but also a group of 200 farmers. These people were given training sessions on how to operate their phones in relation to the SMS's sent by the Telecenter. A set of computers are present at the Telecenter to perform trainings for the farmers on how to use them.

4.4.3 *Human Resource Management*

Practices related to recruiting, hiring, training, developing and rewarding personnel. The only employees at the Nakaseke Telecenter are Peter Balaba and two business advisors. Peter Balaba was recruited as an existing manager of the centre. An advert was placed to hire two business advisors from the local area with a background of entrepreneurship. To be familiar with Nakaseke and its surroundings was a strict requirement when recruiting personnel for the Telecenter. Official training lasted one day "covering technological aspects, field duties, among others" (Lokeris, 2016) and informing them n their duties and expectations.

On the other organizations side, MUBS, UIA, TU/e and Uweal, people are part time involved in the activities of the MTG Project.

4.4.4 *Firm Infrastructure*

The firm Infrastructure are support systems that are necessary for a business. In the case of the MTG thee systems are relatively small and in some cases non-existent. The data collected on this activity is restricted.

"Generally, MTG is managed by the lead partners is Eindhoven" (Rebecca, 2016). Funds are transferred through TU/e from NWO to Uganda. The Marketing Platorm in Nakaseke is managed by the team itself. On a legal perspective, all parties signed a memorandum of understanding. Each organization does accounting separately on their behalf's.

4.5 Survey Results

The findings are described in the order the analysis was proposed. First the value chain empowerment of farmers either horizontal or vertical integration is presented. Second, we identify the outputs of the MTG such as Radio and SMS's and the challenges the farmers face with them. Subsequently the most valuable information for a better livelihood from the farmers' perspective are identified. Fourth the change of the socio-economic condition of the farmers since being part of the project were noted. Finally, the farmers were evaluated on their knowledge about the project and mobile phone usage.

Exact frequencies can be found in the Appendix 7.5.

4.5.1 *Value chain empowerment*

When selling their crops, farmers bargain with their middleman/buyer. In 35,4% of the cases price is still determined by the middleman leaving no room for the farmers to decide upon the price.

Answers b) and c) of Q3 are a level of horizontal integration the respondents might have achieved. The options consist of b) Price is as it says in the SMS and c) Price is increased but not as high as the SMS. For option b) the result is 52,1% and answer c) 12,5% so in total 64,6% of the respondents have been able to stand a stronger ground when bargaining the prices of their crops due to sending them SMS's with crop prices. In the Figure below we can observe the change within the model 64,6% of the farmers have undergone.

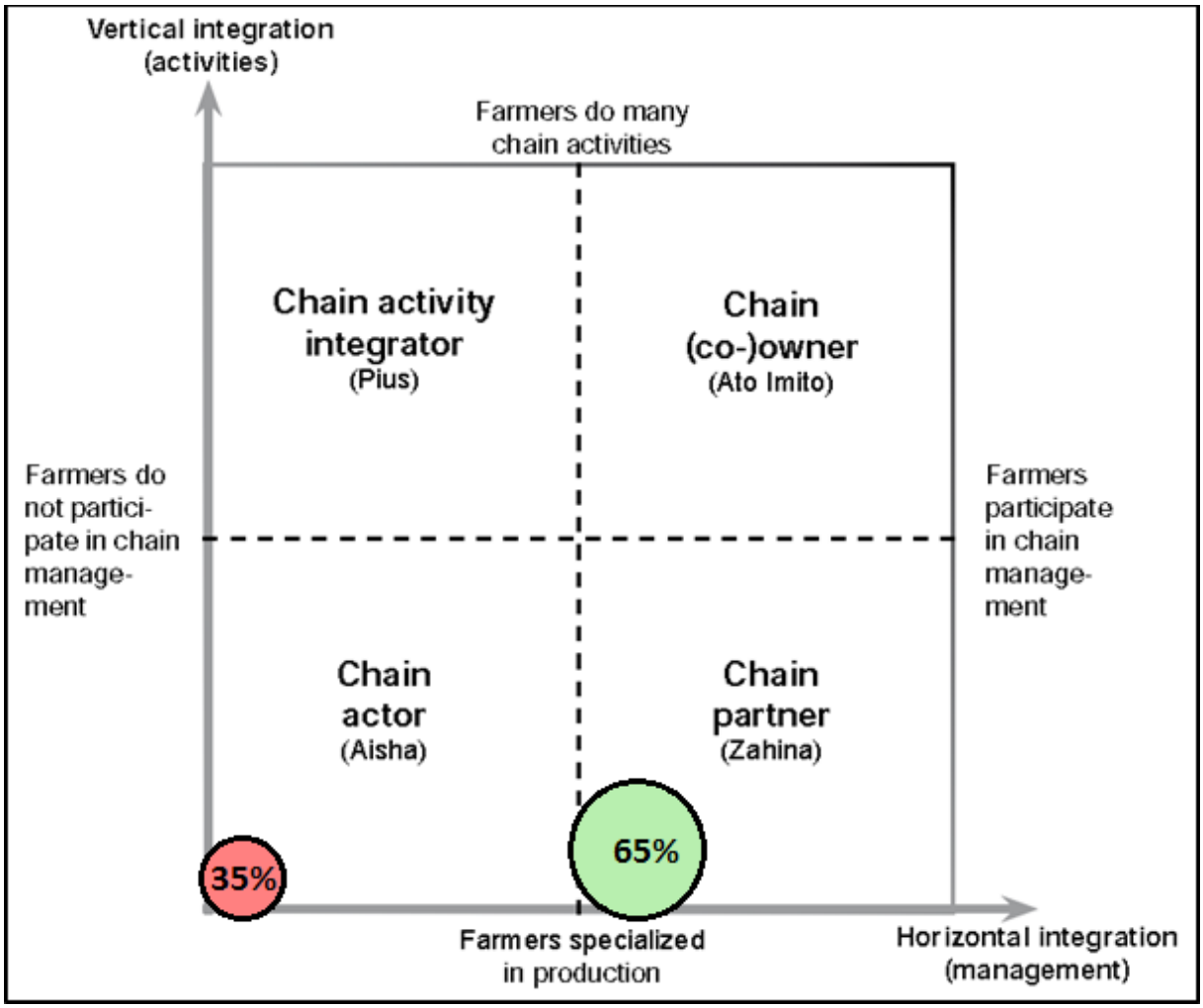

Figure 5 Horizontal integration of the farmers

Question 11 tries to identify if farmers have become part of any association due to the project. Most respondents did not understand the question well, leading to answers of the association or cooperative they were part of already before the MTG project started. Nevertheless, the information is still of value for the outcome of this research. The Sakabusolo Parish is the only Parish where all respondents that said that they are part of a cooperative/association actually were part of the same farmers' association called Busana. In the other three Parishes (Mifunya, Kasambya and Kigegge) the number of respondents consisted of 34 together. The amount of cooperatives/associations they were part of are 13 different farmers' associations. 25% of the farmers said they do not belong to a cooperative or have not become part of one due to the project.

Vertical integration is achieved when a farmer does added-value activities on his crops. Q10 was of similar nature than Q11 therefore we encountered the same issue. Farmers just mentioned the value adding activities they are currently doing and not because of being part of the MTG project. 54% of

the respondents are involved in drying their crops. This is an activity that all farmer with dryable crops do in this region. Only 4 out of the 48 respondents keep their crops in a store, this is not particularly a value adding activity but it allows farmers to collect crops over time and sell in bulk. 4% of the farmers grind their goods, this is in the case of crops such as maize and ground nuts. All surveys have option a) as an answer meaning that everybody is doing value added activities on their crops, the remaining 42% of respondents failed to specify the type of activity they do after harvesting.

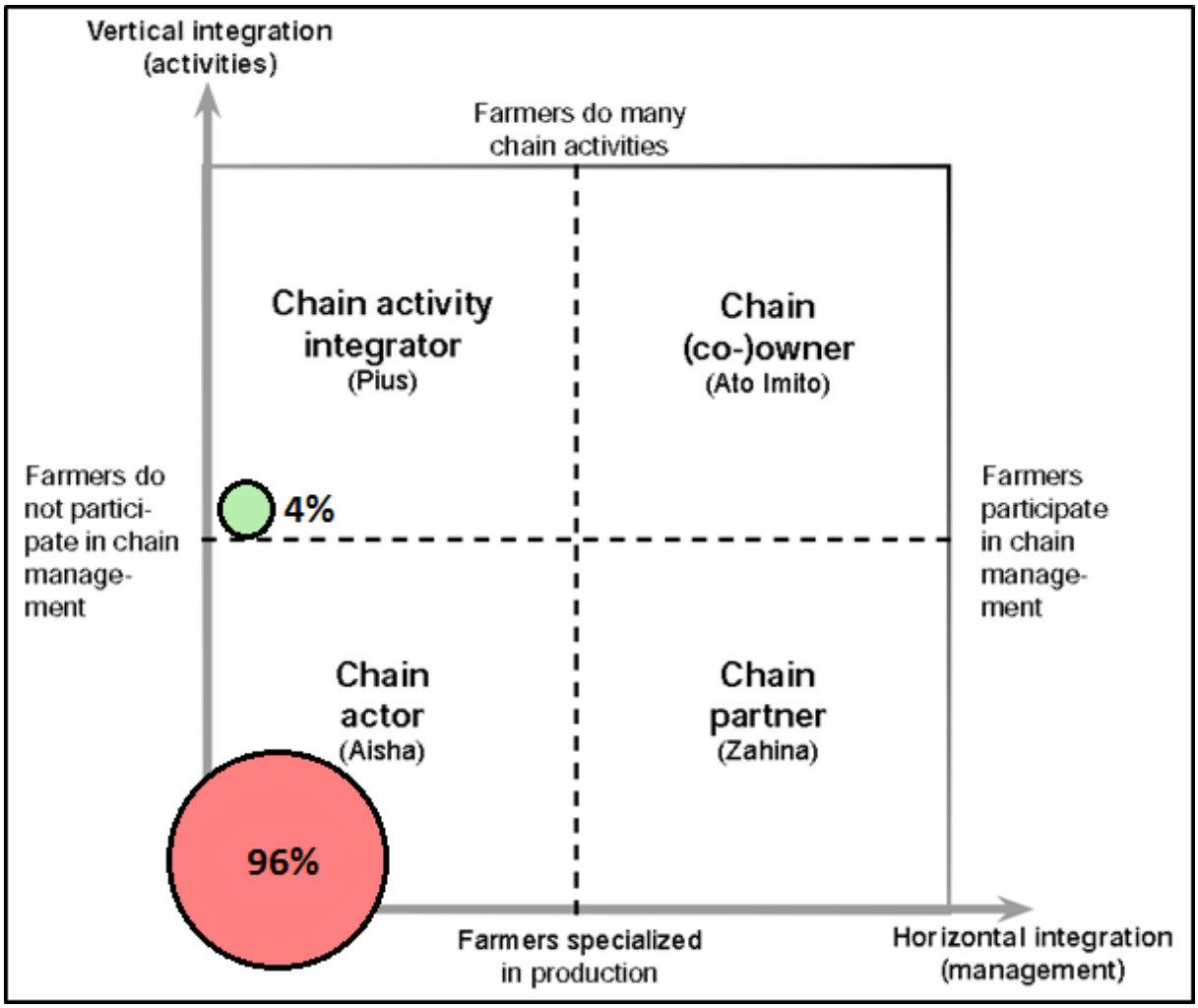

Figure 6 Vertical integration of the farmers

Amount of people that listen to the Nakaseke 102.9 FM Radio Station are 38 out of 48 representing 79,1%. From these radio listeners 56,4% have a positive answer regarding the quality improvement of their crops due to listening to the radio station. 18,8% have a neutral opinion meaning that they do not feel any significant difference of their crop's quality because of the radio programs. The remaining 24,8% disagree with the fact that the quality of their produce has improved.

4.5.2 *Agricultural information channels*

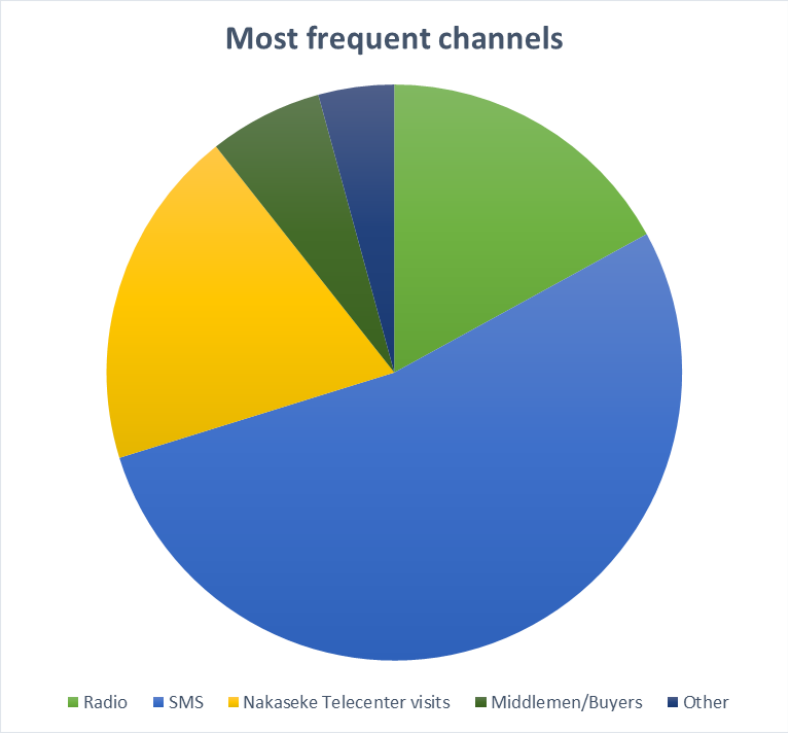

Figure 7 Most frequent information channels

The most prevalent channel through which the smallholder farmers obtain agricultural information are the SMS's with 52,1% of frequency occurrence. Second but substantially less significant are the physical Nakaseke Telecenter visits with 18,8%, followed by the Radio with 16,7%. Agricultural information obtained through middlemen/buyers or others (Friends, Family, Neighbours) add up to just above 10%.

As mentioned in previous sub-chapter, the radio is being used by 79,1% of the farmers. Yet the frequency of this channel to provide agricultural information tends to be lower than the SMS's which has had a reach to 89,6% of the farmers. The survey shows that the most useful channel is the SMS's with more than 50% of preference. On the other hand, the radio still has a solid 37,5% meaning that it is an important channel as well.

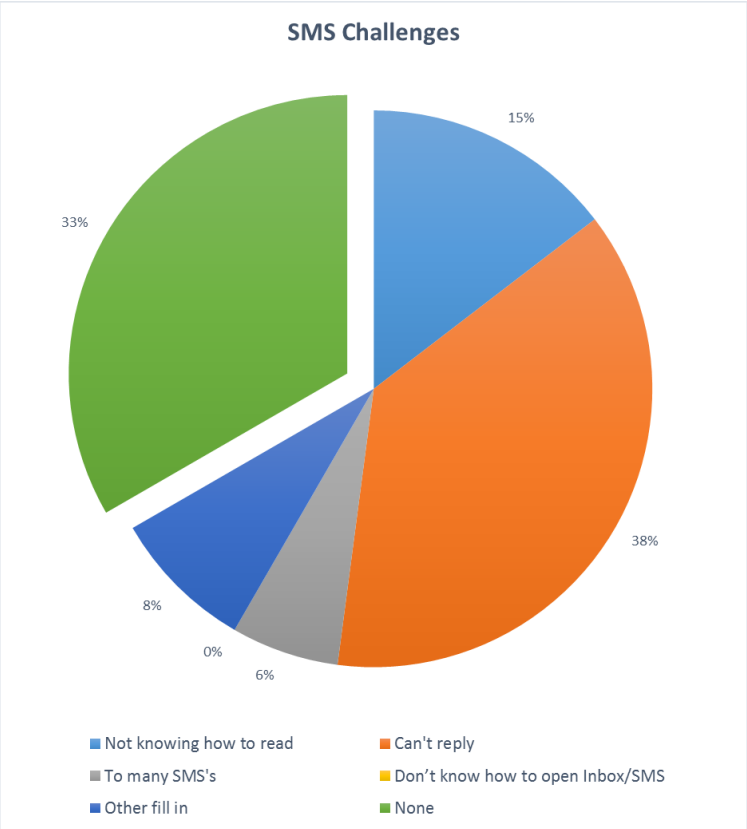

Figure 8 SMS Challenges

The mayor challenge with the SMS's system is not being able to reply, 37,5% of farmers believe this to be the main difficulty. One third of the respondents have no issues with the SMS's. Next is illiteracy, 14,6% do not know how to read the information provided through the SMS. Furthermore 6,3% believe that they receive to many SMS's.

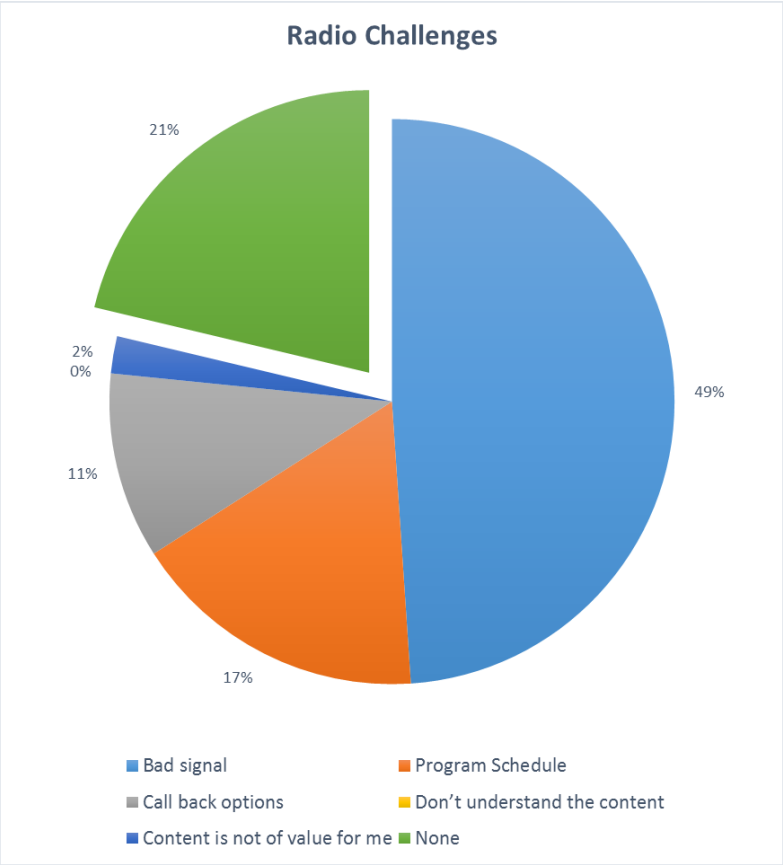

Figure 9 Radio Challenges

In regards to the radio there is one prevalent issue with 47,9% of occurrence, bad radio signal. Next largest issue is the Program Schedule with 16,7% of the respondents ticking that answer. 20,8% of the interviewed farmers face no issues with the radio system.

4.5.3 *Information of value to the farmers*

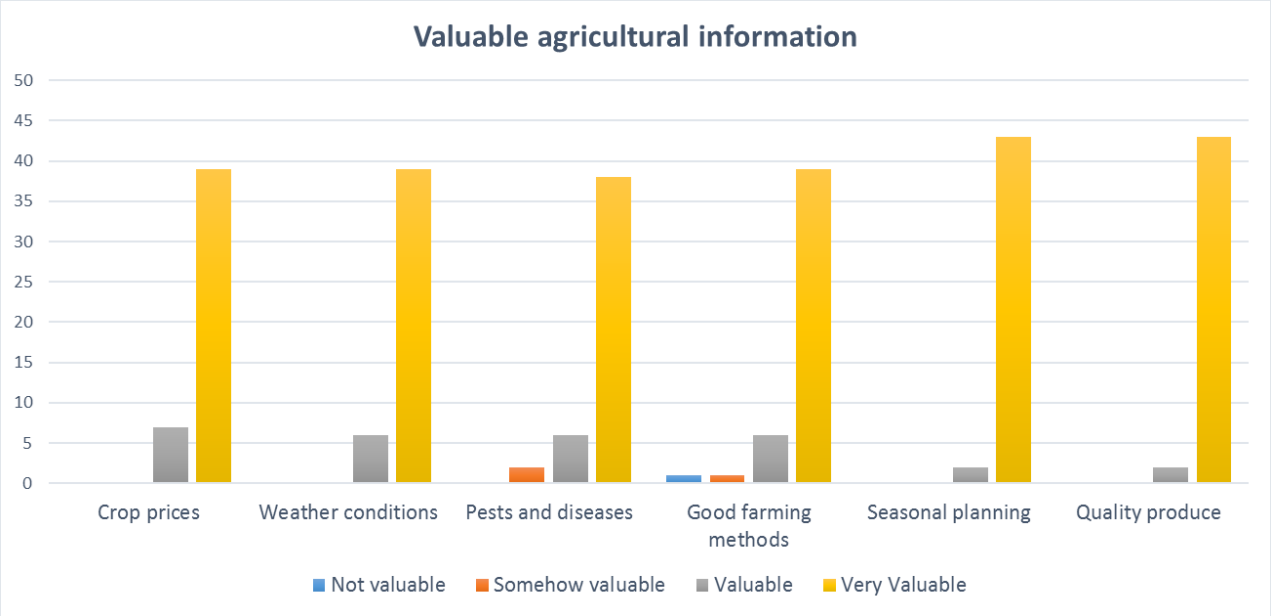

Figure 10 Information of value for better yields

As can be observed in the graph above, in the eyes of the smallholder farmers all sets of information are of high value in relation to better yields. There is proof that every type of information is significant to them. There is a slight preference of "Seasonal planning" and "Quality produce" which 89,6% in both cases, respondents believe are very valuable. Yet the difference is smaller than 10% with the other information types. Apart from one person, farmers consider that they need all sets of information for better yields of their crops.

4.5.4 *Change in economic condition*

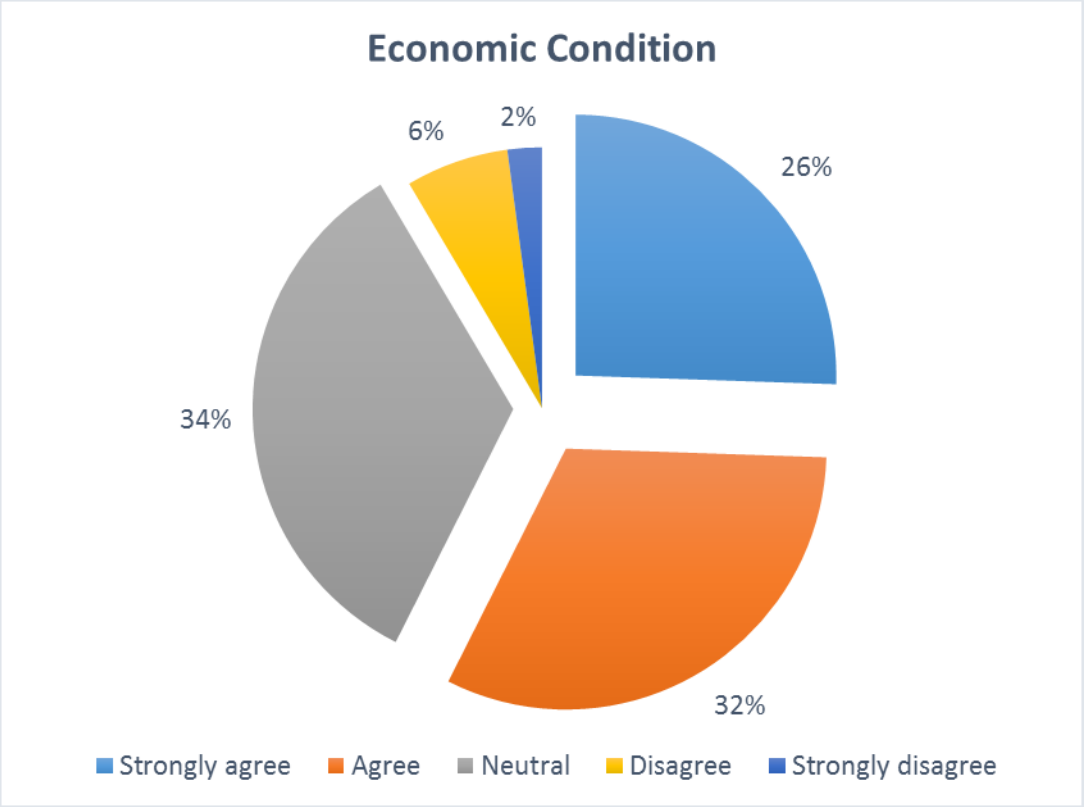

Figure 11 Economic condition change

Options “Strongly agree” and “agree” refer to a positive change in the socio-economic condition of the farmers. The two options added sum up to 56,3% of the farmers experiencing a positive economic change since joining the MTG project. A third has a neutral opinion and the remaining 8% disagree with the fact that they are better off economically due to the project.

4.5.5 *Farmers phone usage and project awareness*

Question 14 intended to recognize the number of farmers that are aware of what the Nakaseke Telecenter is doing. Out of 48, 44 answered the question correctly. Only 8,3% of the interviewees believed that the Telecenter buys crops from farmers.

Cellphone usage is of crucial importance for this project, therefore Q15 focuses on this matter. 60,4 % use their phone daily. One quarter of the respondents uses their mobile phones every other day and 4,2% once a week. Only 8,3% make use of the device in special occasions.

4.6 Analyses

Results are presented in the order of Chapter 3 research questions. Each question is answered individually.

- Q1: to what extent has the MTG contributing to value chain empowerment of involved farmers?
    - To what extent has the farmer been able to experience vertical integration?
    - To what extent has the farmer been able to experience horizontal integration?

Vertical integration has not been achieved for the farmers by the project as desired. 54% of the respondents dry their crops, which is an activity they already did before the project started. Only 4% of the farmers take their produce to a processor for the value adding activity grinding. A remaining 42% are either not doing value added activities or simply failed to specify them.

Horizontal integration is achieved to a certain extend by the project. I terms of cooperatives and associations farmers become part of due to the project we cannot observe any substantial results. The result that is of value is that the survey identified that in all parishes besides Sakabusolo, almost every third farmer is part of a different cooperative. Meaning that there are too many cooperatives within a parish. Sakabusolo was the largest Parish of this survey with the fewest cooperatives, only two, setting an example for the other parishes.

The horizontal integration that has been achieved is bargaining power. Bargaining power of the farmers has been influenced by the SMS's with crop prices in a positive way. 64,4% of the respondents have been able to negotiate the price with the middlemen by using the SMS. 52,1% could sell the crops with the price as stated in the SMS. Other 12,5% could increase the sales price to a certain level but not as high as stated in the SMS. Nonetheless, 35,4% of the transaction prices are still determined by the middlemen.

- Q3: What information contributes the most to better livelihoods of the farmers?
    - To what extent is price related information allowing farmers to experience horizontal integration?

- To what extent is market information providing the farmer a better platform to sell his goods at a fair price?
- To what extent is weather information helping in planning and increasing the output of cash crops?
- What other information does according to the farmer support them the most to a better livelihood?

As identified in previous research question, price related information has contributed to better livelihood of the farmers in 64,4% of the cases. Market information such as processors, markets, cooperatives, and others have not influenced the farmers in any way. Yet the aim of the project is to influence all the involved people's bargaining power.

The respondents view on which kind of information is of most value for them to create better yields has no clear-cut preference. Only Seasonal Planning and Quality produce have a slight advantage on the other sets of information which are provided to the farmers. It can be identified that farmers need to be educated on how to plant, grow and harvest within the seasons and the quality that is expected from them to produce. Quality is of most importance to the middlemen, so farmers should be aware of what is meant by quality and how they can achieve these standards.

- Q4: Is there a relationship between farmers' socio-economic condition and the participation of the Marketing Platform?
  - To what extent has the farmer experienced a better pay from the middleman since participating in the MTG project?
  - To what extent has the MTG project have had an impact on the farmers income?

Certainly 56,3% of the involved farmers have the opinion to be better off economically because of the project. On the other hand 43,7% have a neutral vision on this fact or disagree.

In terms of better pay from the middlemen 64,6% of the respondents have been able to increase the price offered by the middlemen trough the SMS's based price information. There is a relationship between the farmers socio-economic condition and the participation of the Marketing Platform. Still the amount of relationship is not achieved to a full 100% of participants.

- Q5: How can the interaction and involvement of the farmers be increased?
    - To what extent is the agricultural SMS information system being used/implemented by the farmer?
    - To what extent is there a trust issue with the provided information from MTG?
    - Are there any technological hinders?
    - Does the farmer have enough knowledge about the agricultural SMS information system?

In terms of trusting a source of agricultural information 70,8% of the farmers trust the Nakaseke Telecenter the most. This lays a foundation for them to start implementing the data the project provides them without having second thought about the genuity of the information. Also farmers are very aware of what the Nakaseke Telecenter's intentions are for them, with only 8,3% responding an erratic answer. 64% of the farmers have been able to implement the SMS's for renegotiating prices. This is 25% short of the 89,6% o people that are actually receiving the SMS's.

As observed in previous chapter the main issue with the SMS's based agricultural information system are the callback options. Through this callback options farmers want to enquire about further information of where to sell their crops, process them or other consults. Interaction between the Nakaseke telecenter and the farmers is crucial, since they give valuable feedback to the center and can raise issues they might be facing. The mayor challenge the radio is facing is bad signal followed by the program schedule. Assuming the bad signal issue is solved and most of the farmers have clear access to the radio station, the program schedule will prevail as the biggest challenge for the farmers.

5 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

The From Muppets to Gazelles Project intents to empower farmers. Farmer empowerment in these circumstances of Nakaseke, is achieved through the model proposed by KIT. This study analyzed the extent to which the participating farmers have been empowered in accordance to the KIT model. It also researched upon value chain activities proposed by Michael E. Porter that the MTG performs.

Mobile Phone usage is of critical importance to this Project. Without being actively making use of a cellular device the project will have a limited impact on the farmers. In terms of the MTG a minimum mobile phone usage of one time per week is required. 87,5% of respondents use their phone at least once every other day and when adding the 4,2% of people that use it once a week it adds up to 91,7%. This percentage stands for the amount of people that operate their mobile phones within the projects required standards.

Vertical integration is not being achieved by the project. Farmers only do one basic value adding activity to their crops which is drying, and this activity has been done ever since they started farming. As the survey results show a small amount, only 2% of respondents, find themselves in the Chain activity integrator quadrant and another 2% in the Chain (co)-owner quadrant. This means that knowledge and or accessibility to processors is limited. It leads to lack of possible larger revenues they could obtain in the value chain. Reason for this situation is not that the project is not delivering information on processors, because on an individual level farmers don't have the funds to transport their goods. The bigger reason behind the lack of vertical integration is related to the horizontal integration, only when horizontally integrated, farmers can engage in value added activities.

Horizontal integration is classified into two segments; first farmers being part of a cooperative/association that creates long term relationships with buyers, and second an increase in bargaining power due to quality crops or information based decisions. The project has had an impact on the second option of horizontal integration. Almost 65% of the surveyed farmers have been able to exert more influence in the chain as can be seen on Figure 5 Chapter 4.5.1. Meaning that SMS's with crop price information allows them to renegotiate the sales price and have more influence upon the decision that is made by the middlemen/buyer which was not the case in the past. On the other hand, linking farmers to associations has not yet been an outcome of the project. It can be concluded

that with exception of the Sakabusolo Parish there are too many associations/cooperatives within a single parish. This leads to isolation of small groups, instead of cooperating in large amounts within one parish. The farmers are not well organized among each other and therefore lack the linkage to markets, lack cooperation with traders, retailers, and processors.

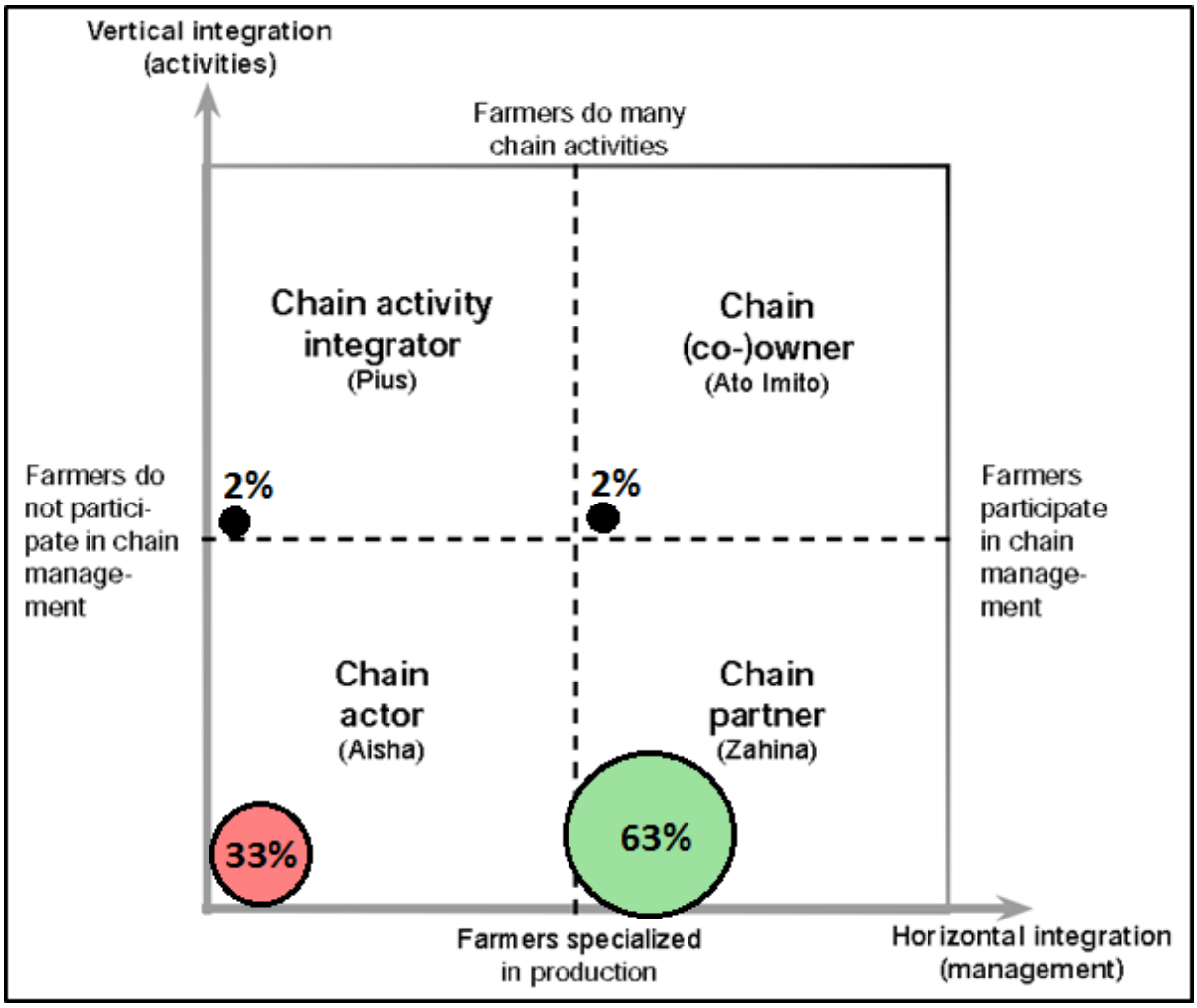

Figure 12 Current status of the farmers involved in the MTG

The figure above visualizes the current situation of the involved farmers. As can be observed all circles find themselves in the lower left part of the different quadrants. This means that for instance the 63% of Chain Partners have more power on the price decision, but still lack substantial management of the chain. The 2% of Chain Activity Integrator do a basic value added activity and miss any sort of management of the chain, similar situations should be interpreted for the other two quadrants.

Conclusions that can be made upon the Value Chain Model in relation to the MTG principally focus on the Primary Activities.

Outbound logistics, which are the means to provide farmers with information, are the Radio Station and the SMS's with agricultural information. Two thirds of the respondents face some kind of issue with the SMS's. Another 79% face issues with the Radio Station. These two channels are the key to provide farmers with the output generated by the Operations of the MTG. No optimal operation of the outbound logistics limits farmers to interact with the project and making use of what they signed up for.

The participants are aware of what the Nakaseke Telecenter stands for. The Marketing of the MTG is successful with 91,7% of respondents conscious of what the project does for them. Benefits of the project and its deliverables have been well communicated to the involved people.

Service, the last primary activity of Porter's Value Chain Model, in the MTG is provided through the call-back options. Service after delivering information to farmers is not occurring. Call-back options are the largest challenge farmers face with the SMS system. FrontlineSMSCloud is not linked to Africa's Talking for inbound calls. In terms of the radio it is the third most common issue.

Overall, the MTG is delivering the information with crop prices to farmers in an effective way. There are several challenges the project is still facing as mentioned in previous paragraphs off this chapter. Commitment and enthusiasm is very high among farmers, most of them seem eager to move forward and want to improve their conditions. Smallholder empowerment through vertical integration is not being achieved, and horizontal integration lacks linking farmers with cooperatives and or associations.

5.2 Recommendations

It is essential that farmers become attractive Chain actors to potentially become a Chain Partner. The MTG needs to inform farmers about the importance of quality produce and how they can achieve it. Current channels of the MTG are not completely suitable for informing the farmers on how to achieve quality outputs. The SMS's are not an appropriate channel for this information, but the radio is to some extent. Consequently, the MTG can intervene to allow farmers to become Chain partners.

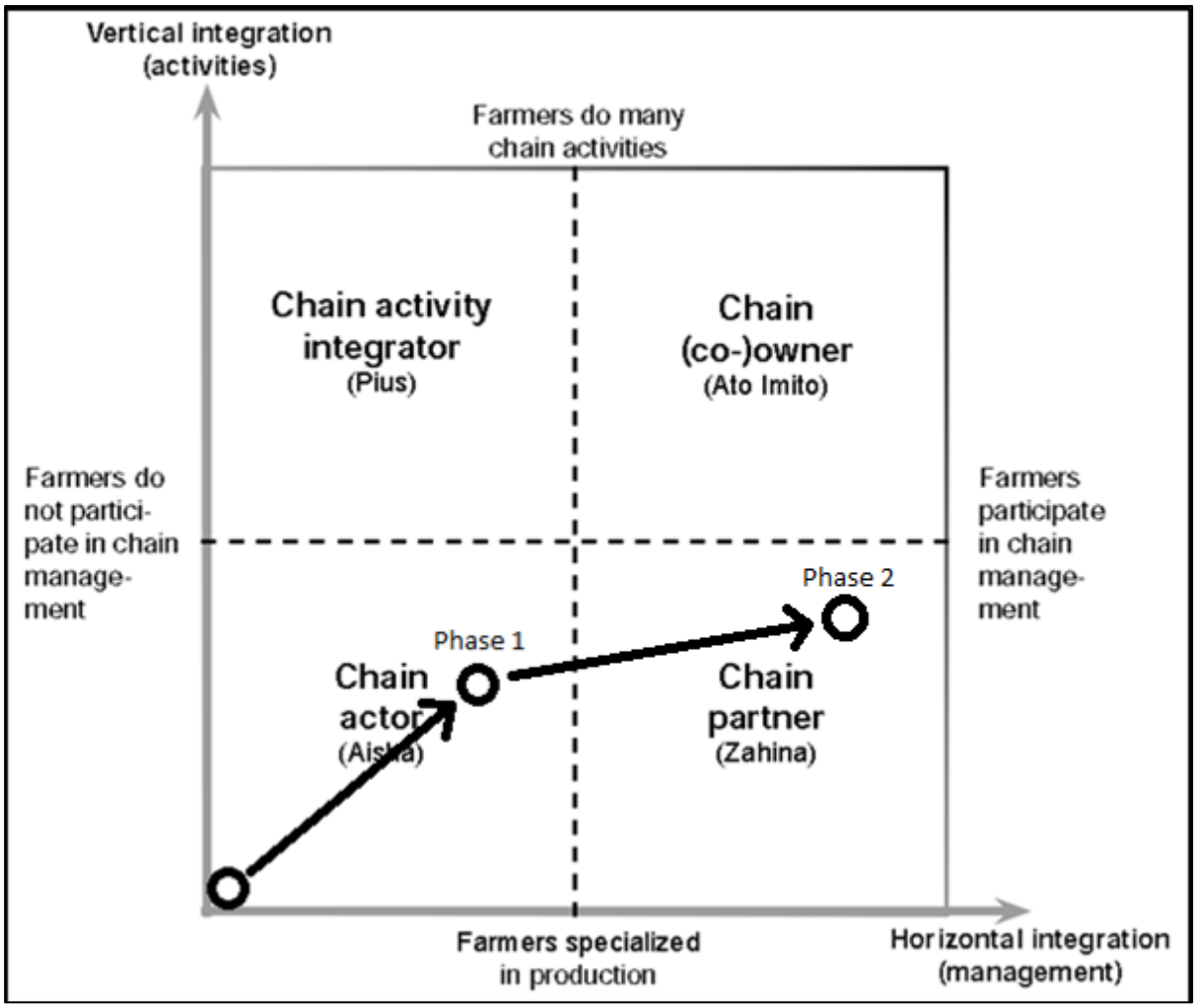

Figure 13 Strategic routes to farmer empowerment

Phase 1: Upgrading as an attractive business partner (Chain actor)

As suggested by KIT, farmers need to become attractive business partners to buyers. Quality and consistency is key to achieve this. The MTG needs to distribute information on how to achieve these standards required by middlemen. An already present channel is the radio which is airing quality produce programs once a month. Nonetheless the level to which this is understood, interpreted, and listened to by the farmers varies. Trainings and workshops on quality produce should be held by the MTG. This involves management of their farms, learning how to produce quality outputs, and improve their understanding of markets. Trainings should be conducted in accordance to seasonal crops, so that farmers have a fresh update on how to handle the current goods they are about to plant.

Key competences of a Chain actor (KIT; MaLi, Faida; IIRR, 2006):

- Good agricultural practices
- Farm record-keeping
- Continuous improvement in farm production
- Solid organizational skills

Phase 2: Moving from Chain actor to a Chain partner

After upgrading as Chain actors, it is essential that farmers organize themselves in groups. The MTG has to identify which existing farmer's associations are of value to them. It should then emphasize on making farmers join these associations and request them to be engaged. Monthly meetings with an MTG representative should help them organize their collective sales time, storage, record-keeping, and market linkage among others (KIT; MaLi, Faida; IIRR, 2006). Farmers need to be made attractive business partners on first a technical level (Quality, Yields) and then managerially. Middlemen can attend these meetings to make a contract with the association/cooperative.

Building contractual agreements with bulk buyers gives farmers more business security and will resolve disputes they used to face with the buyers. It may take years to identify and build a relationship with a trusted business partner but it is a required investment.

Key competences of a Chain partner (KIT; MaLi, Faida; IIRR, 2006):

- All competences from a Chain actor
- Understanding of the supply chain
- Bargaining with a focus on shared interests
- Trusted/independent information channels of market prices and trends

Phase 3: Long term objective to become a chain(co)-owner

Over time, when the cooperative has reached a certain level of maturity, upgrading as a Chain (co)-owner is possible. Since on an individual scale farmers lack the funds to transport their goods to a processor, on a collective level this is achievable. The MTG must facilitate transport and processors information to these cooperatives. When goods are processed, they are normally sold directly to a market, bypassing the middlemen (Department of Agricultre, Forestry and Fisheries, 2012). Furthermore, the proximity of processors and markets is very high, making it an attractive option to the farmers.

If the previous two “phases” are aided by the MTG for the farmers it will contribute to the projects goal. It shall educate farmers and provide them with the security of having a good price when selling their goods, therefore empowering them. 65% of the participants are at a low level of being a Chain partner, they still need to upgrade as Chain actors to deliver to buyers requirements.

Outbound Logistics channels of the “final product” to reach the “customer” are hindering the deliverable of the project (Porter, 1985). After the 1kW upgrade of the Radio antenna is completed and licensed, an evaluation survey of the quality and reach of the radio signal needs to be performed. As the survey has shown, bad signal is the biggest issue to sync in to the Nakaseke 102.9 FM Radio Station. Assuming that the bad signal issue is solved after the antenna upgrade, the project needs to identify which time schedules are most convenient for the farmers when airing the radio programs. The results demonstrate that all types of information are considered important to the farmers. The output channels should continue disseminating all the sets of agricultural information currently provided. The sets of information need to be distributed more often. Currently only the radio distributes other information than the crop prices. The two channels should be used to provide the different sets of information on a weekly basis.

FrontlineSMSCloud serves as a contact manager software and Africa’s Talking as the channel through which the SMS are sent. Linkage between these two systems for inbound calls was not established and is said not be operational. Service from Porter’s value chain model, is therefore not being provided to the farmers. A simple yet effective way to allow interaction between the farmers and the Nakaseke Telecenter is to include a phone number in all SMS’s sent. There is an existing line with a cell phone which most farmers are familiar with. This will solve the call-back options for the farmers and resolve the biggest issue they face with the SMS based system.

5.3 Recommendations for further research

The problems farmers face in the villages go beyond the scope of the project and the survey itself. During the various visits in the Parishes, from observation, Peter and I saw that the participants would always enter in a dialogue and sometimes a discussion. During these conversations, they would arise many problems they have and which are not specifically being addressed by any organization they are part of.

This research was a top down approach, whilst identifying the project’s activities and then measuring its effectiveness from the farmers’ perspective. A recommendation for further research is a bottom-

up approach. Focus groups and qualitative interviews with the farmers could provide information that cannot be found in literature with ease. Their situations are somehow unique and complex, therefore relevant information for the project's activities should be found in these grassroots. This should guide any project to the specific needs and wants of the farmers.

Taking the Sakabusolo Parish as a benchmark, it needs to be identified why in particular this parish is better organized in terms of number of cooperatives than the other surveyed parishes. Also why there is such a vast amount of cooperatives in other parishes where the population is smaller in comparison the Sakabusolo.

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7 APPENDICES

7.1 Critical Reflection

During this project the part that went very well was the data collection. Although the turn-up was not as desired, the fact that the farmers gave up their work to attend a survey was very pleasant to see. It is common that farmers are sceptic about anyone that comes to their village willing something from them, therefore I'm grateful for the attendance achieved Furthermore, what went well was the design of the research and the execution of it. Without any assistance, I developed a proposal based on literature review that would evaluate the project as mentioned in Chapter 3.

From the beginning of the project it was not clear what was expected from me. Neither was there a clear structure for what kind of research should be carried out. In future situations of similar nature, I will ask the company/organization exactly what is expected from me or what they think I can contribute to. Also, I would sit down and discuss this more often so company and intern can come to a mutual agreement. This will make work clear for the student and the company will know how it can support the student the best. What I would do different is mentioned in the recommendations. I would not use surveys as the instrument but qualitative interviews. This has been proven to lead to more precise answers to challenges farmers face with the project.

During this project, I learned more about designing, developing, and carrying out a research. In past semesters, this would be carried out as a group. Conducting this research on an individual level gave me a better insight in those tasks which were not assigned to me in previously. Specifically, the data collection has been a learning point for my research skills. It was the first time I had to physically meet the respondents.

A further learning objective was to improve my academic research skills. I have learned to find, identify, and select relevant literature for this study. Many reports can be found on the topics related to this study, so to identify the relevant ones was a meticulous process through which I learned how to "scan" a file based on its applicability to this research.

Learning objectives that I did not achieve were online marketing strategies and anthropological studies. They were not part of my learning curve because these to topics were not part of the project. Nonetheless, I would still like to develop my online marketing strategy skills, and the anthropological studies shall be addressed in my choice of Masters.

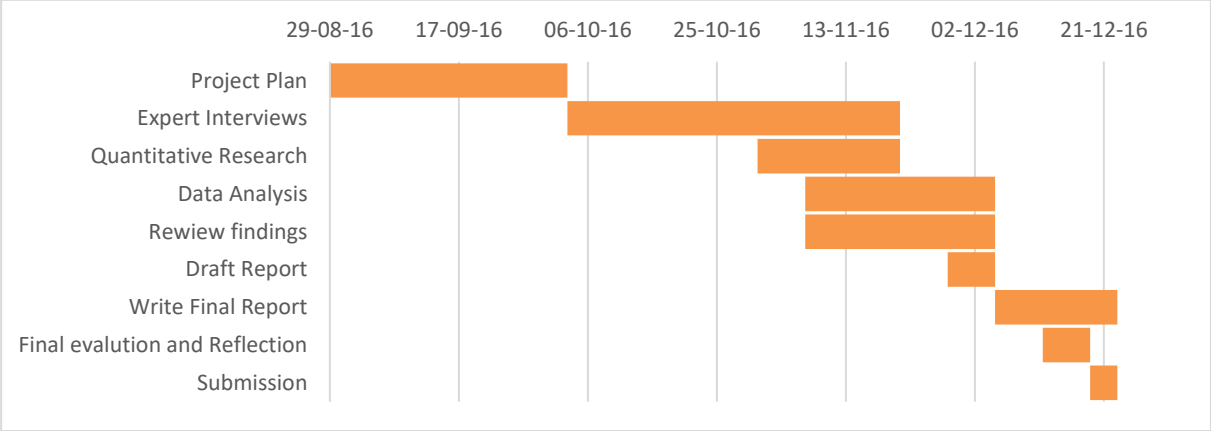
Competences that I developed are exactly as desired in the Pre-Paper. They were the following; Design, develop and carry out my own research; Work independently with freedom of choices; Develop planning and organizing skills; Improve analyzing and reporting skills. As mentioned before, I was conducting this research on a substantial independent level. This helped me to plan and organize items on and individual level without assistance of anybody. There were no guidelines for this project, so I worked with freedom of choices.

These choices though needed to be made not on gut feeling but on facts. So, the academic research helped me to decide on objectives, methods, and interpretation for instance. I can now say that I can break down a research project in activities that would keep me occupied every day. Furthermore, a competence which I further improved are intercultural communication skills. Although English is widely spoken in Uganda, there is much more to it than just a language. Making myself understood by others was important for the collaboration with all people that were involved in the research.

As mentioned in my Pre-Paper I still have the same ambitions after completing my Bachelor's degree. In fact, these ambitions were further underlined by my graduation internship. I am keen to work for a company or organization that contributes to socio-economic development in emerging economies. Career opportunities are bright as an IBMS graduate. The strongest argument here for is to be graduated in English which opens door all around the globe.

After my Bachelor's degree, I would like to pursue a Masters. This would be in Sustainable Development. University of Maastricht and Utrecht University are my choices for this Master's degree. Even though I could start working after my studies, I consider it to be reasonable to pursue a Master in the subject I want to dedicate my career to.

7.2 Ghant Chart



7.3 Qualitative Semi-Structured Interviews

Interview Protocol Value Chain Analysis of the MTG

Opening statement

I'd like to thank you for taking time to participate in this interview for my research. As I have mentioned before, this part of my study seeks to identify the processes and procedures of the MTG

in relation to Porter's Value Chain Model. I am conducting this qualitative interview with at least one stakeholder of each involved organization in the MTG. Understanding the chain of value adding activities will allow me to further develop a quantitative questionnaire for assessing the impact the project has had on its desired outcomes. The interview will last between 30-60 minutes during which I will ask you about your roll in the project, Primary and Support Activities of the MTG, desired outcome and a critical review.

The interview will be confidential, the gathered information shall be anonymous and recordings will not be distributed.

Short explanation of Porter's model and KIT's farmer empowerment strategies

Porter's Value chain model analyzes the chain of activities of a company in order to identify how inputs are changed into outputs that are of value for the customers.

What is of value for the farmers which can be replace the "customers" in this case is the extent to which they can enjoy Vertical or Horizontal integration as proposed by KIT. This shall be further explained if any questions arise.

Key research questions to be asked

1. Briefly tell me about your background and how you became part of the MTG?
2. What is your role in the MTG
3. How long have you been part of the MTG?
4. What outcome does the MTG want to achieve for the farmers?
5. How is farmer empowerment achieved?
6. Tell me about following points:

    a. Inbound logistics: Activities that are associated with receiving, storing, and distributing agricultural information, markets and processors.
    b. Operations: The transformation of the inputs to final product for the farmer. Agricultural information, markets and processors.
    c. Outbound logistics: distribution of the final product to the farmers.
    d. Marketing and sales: How is the output of the farmer provided to buyers.
    e. Service: How is the contact with the farmers maintained. How is contact between farmer and buyer/processor maintained.
    f. Procurement: what does MTG need to operate, where does it get it from and who are the suppliers. SMS bundles…
    g. HRM: Recruitment, training, rewarding, retaining of employees. HR practices.

h. Technological development: Management and processing of information. Which technological advances are being used and thought to the farmers as well.
i. Infrastructure: Accounting, legal, administration, general management that are essential infrastructure to the MTG.

7. Critical review comments

Comments and observations

Space for recording the interviewer's comments

Reflective notes and closing

Again, I deeply appreciate your participation. The contribution you made will allow me to get a better picture of the value chain of the MTG. With the gathered information from you and the remaining interviewees I shall design a questionnaire that will assess the impact the value added activities have had on the desired outcome of the MTG.

7.4 Quantitative Questionnaire

1. Where do you get agricultural information from most frequently?
   - Radio
   - SMS
   - Nakaseke Telecenter visits
   - Middlemen/Buyers
   - Other (Friends, Family, Neighbors)

2. Since the project started have you been better off economically?
Strongly agree Agree Neutral Disagree Strongly disagree

3. How does bargaining take place?
   - Price is decided by buyer/middlemen
   - Price is as it says in the SMS
   - Price is increased because of SMS but not as high
   - Other

4. Do you listen to Nakaseke 102.9 FM radio station?
   - Yes
   - No (Skip to question 6)

5. Because of the recent Nakaseke FM radio station programs the quality of my crops have improved
Strongly Agree Agree Neutral Disagree Strongly disagree

6. Have you received SMS's with crop prices?
   - Yes
   - No

7. What challenges do you have with the SMS's?
   - Not knowing how to read
   - Can't reply
   - To many SMS's
   - Dont know how to open the ibnox/SMS
   - Other fill in
   - None

8. What challenges do you have with the Nakaseke 102.9 FM radio station?
   - Bad signal
   - Program Schedule
   - Call back options
   - Don't understand the content
   - Content is not of value for me
   - None

9. What has been more useful concerning agricultural information?
   - Radio
   - SMS

None of the above
10. Has the project helped you to do more value-added processes on your crops before selling them? Such as drying and milling. If Yes which.
   - Yes. Fill in _____
   - No

11. Have you become part of any association/cooperative because of the MTG project? If yes which?
   - Yes. Fill in _____
   - No

12. In relation to accurate crop prices information, who do you trust the most?
   - Middlemen/Buyer
   - Neighbor
   - Friends/Family
   - Nakaseke Telecenter
   - Processors

13. What kind of agricultural information is the most valuable to you concerning better yields?

	Not Valuable	Somehow Valuable	Valuable	Very Valuable
Crop prices	○	○	○	○
Weather conditions	○	○	○	○
Pests and	○	○	○	○

diseases				
Good farming methods	○	○	○	○
Seasonal Planning	○	○	○	○
Quality produce	○	○	○	○

14. What does the Nakaseke Telecenter do?
    - ○ It buys crops from farmers
    - ○ It provides farmers with information on crop prices, markets, etc.
    - ○ The Nakaseke Telecenter is a Warehouse/Store
    - ○ The Nakaseke Telecenter processes crops and is a market

15. How often do you use your cellphone for calls or SMS?
    - ○ More than 5 times a day
    - ○ Between 1 and 5 times a day
    - ○ Every other day
    - ○ Once a week
    - ○ Only in special occasions (Wedding, Newborn, Introduction, etc.)

7.5 SPSS Frequency results

Q1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1,00	8	16,7	16,7	16,7
	2,00	25	52,1	52,1	68,8
	3,00	9	18,8	18,8	87,5
	4,00	3	6,3	6,3	93,8
	5,00	2	4,2	4,2	97,9
	6,00	1	2,1	2,1	100,0
	Total	48	100,0	100,0	

Q2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	,00	1	2,1	2,1	2,1
	1,00	12	25,0	25,0	27,1
	2,00	15	31,3	31,3	58,3
	3,00	16	33,3	33,3	91,7

	4,00	3	6,3	6,3	97,9
	5,00	1	2,1	2,1	100,0
	Total	48	100,0	100,0	

Q3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1,00	17	35,4	35,4	35,4
	2,00	25	52,1	52,1	87,5
	3,00	6	12,5	12,5	100,0
	Total	48	100,0	100,0	

Q4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	,00	1	2,1	2,1	2,1
	1,00	38	79,2	79,2	81,3
	2,00	9	18,8	18,8	100,0
	Total	48	100,0	100,0	

Q5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	,00	11	22,9	22,9	22,9
	1,00	14	29,2	29,2	52,1
	2,00	13	27,1	27,1	79,2
	3,00	9	18,8	18,8	97,9
	4,00	1	2,1	2,1	100,0
	Total	48	100,0	100,0	

Q6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	,00	1	2,1	2,1	2,1
	1,00	43	89,6	89,6	91,7
	2,00	4	8,3	8,3	100,0
	Total	48	100,0	100,0	

Q7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1,00	7	14,6	14,6	14,6
	2,00	18	37,5	37,5	52,1
	3,00	3	6,3	6,3	58,3
	5,00	4	8,3	8,3	66,7
	6,00	16	33,3	33,3	100,0
	Total	48	100,0	100,0	

Q8

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	,00	1	2,1	2,1	2,1
	1,00	23	47,9	47,9	50,0
	2,00	8	16,7	16,7	66,7
	3,00	5	10,4	10,4	77,1
	5,00	1	2,1	2,1	79,2
	6,00	10	20,8	20,8	100,0
	Total	48	100,0	100,0	

Q9

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1,00	18	37,5	38,3	38,3
	2,00	27	56,3	57,4	95,7
	3,00	2	4,2	4,3	100,0
	Total	47	97,9	100,0	
Missing	System	1	2,1		
Total		48	100,0		

Q10

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1,00	48	100,0	100,0	100,0

Q11

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	,00	1	2,1	2,1	2,1
	1,00	35	72,9	72,9	75,0
	2,00	12	25,0	25,0	100,0
	Total	48	100,0	100,0	

Q12

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1,00	6	12,5	12,5	12,5
	3,00	1	2,1	2,1	14,6
	4,00	34	70,8	70,8	85,4
	5,00	7	14,6	14,6	100,0
	Total	48	100,0	100,0	

Q13A1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	,00	2	4,2	4,2	4,2
	3,00	7	14,6	14,6	18,8
	4,00	39	81,3	81,3	100,0
	Total	48	100,0	100,0	

Q13A2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	,00	3	6,3	6,3	6,3
	3,00	6	12,5	12,5	18,8
	4,00	39	81,3	81,3	100,0
	Total	48	100,0	100,0	

Q13A3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	,00	2	4,2	4,2	4,2
	2,00	2	4,2	4,2	8,3
	3,00	6	12,5	12,5	20,8
	4,00	38	79,2	79,2	100,0
	Total	48	100,0	100,0	

Q13A4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	,00	1	2,1	2,1	2,1
	1,00	1	2,1	2,1	4,2
	2,00	1	2,1	2,1	6,3
	3,00	6	12,5	12,5	18,8
	4,00	39	81,3	81,3	100,0
	Total	48	100,0	100,0	

Q13A5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	,00	3	6,3	6,3	6,3
	3,00	2	4,2	4,2	10,4
	4,00	43	89,6	89,6	100,0
	Total	48	100,0	100,0	

Q13A6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	,00	3	6,3	6,3	6,3
	3,00	2	4,2	4,2	10,4
	4,00	43	89,6	89,6	100,0
	Total	48	100,0	100,0	

Q14

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1,00	4	8,3	8,3	8,3
	2,00	44	91,7	91,7	100,0
	Total	48	100,0	100,0	

Q15

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	,00	1	2,1	2,1	2,1
	1,00	7	14,6	14,6	16,7
	2,00	22	45,8	45,8	62,5
	3,00	12	25,0	25,0	87,5
	4,00	2	4,2	4,2	91,7
	5,00	4	8,3	8,3	100,0
	Total	48	100,0	100,0	

7.6 Evaluation Forms

Fontys
University of Applied Sciences

COMPANY MENTOR

1st EVALUATION GRADUATION PROJECT: Plan of Approach	
Student:	Julius VAN ROOSMALEN
Company:	Uganda Investment Authority
Company Mentor:	Mr. Basil Ajer
Date:	30th September 2016

Plan of approach:	Excellent	Good	Average	Poor	Cannot say
The problem background and context of the problem situation are clearly formulated and the problem definition is succinctly summarized.		✓			
The objectives and deliverables are clear, realistic and feasible and in line with the expectation of the company.		✓			
Research questions and research design are appropriate		✓			
Plan is well written, to the point and concise, lay-out and design are well cared for.		✓			
Overall Evaluation Plan of Approach:		✓			

REMARKS:

A well structured research proposal focusing on the beneficiaries of Muppets to Gazelles project. My observation is that the conceptual framework is quite complicated with many variables.

(PTO)

1

Evaluation Professional Behavior:

	Excellent	Good	Average	Poor	Cannot say
Knowledge & Understanding: The student demonstrates a solid theoretical background; is able to choose adequate theoretical models and tools.		✓			
Research skills/critical thinking: The student is able to ask the relevant research questions and to design a research.		✓			
The student is able to come up with informed judgments; keeps a focus on the core issues, reviews the situation from different angles.		✓			
Communication: The student can speak and write business English proficiently.	✓				
The student is able to professionally participate in meetings and presents ideas and results in a professional way.	✓				
Creativity/problem solving: The student demonstrates originality and inventiveness in his approach and puts forward his own solutions to the problem.		✓			
The student identifies creative but plausible solutions and takes financial and organizational consequences into account.		✓			
Project management/pro-activity: The student is able to organize his work in a planned and well-structured manner and is always well-prepared.		✓			
The student takes initiative, is pro-active and works independently, reacts adequately to feedback.	✓				
Organizational sensitivity/collaboration: The student has an adequate overview of the problem for the organization, is sufficiently critical towards the organization.	✓				
The student understands the formal and informal culture of the company, asks support and input from others.	✓				
Learning skills: The student is able to set personal learning objectives and can be self-critical. Asks for feedback and is willing to learn.		✓			
Overall score:	✓				

REMARKS:

Julius is extremly active and committed to project objectives. He quickly adapt to situations and equally sensitive to institutional needs. His general professional behaviour is good.

UIA Uganda Investment Authority
The Investment Centre
OCT 2016
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P. O. BOX 7416 KAMPALA/UGANDA

2

Fontys
University of Applied Sciences

COMPANY MENTOR

FINAL EVALUATION GRADUATION PROJECT	
Student:	Julius VAN ROOSMALEN
Company:	Uganda Investment Authority
Company Mentor:	Mr. Basil Ajer
Date:	16th December 2016

EVALUATION END RESULT	Excellent	Good	Average	Poor	Cannot say
The problem background, the problem definition, objectives and deliverables are clear, realistic and feasible.		✓			
Research design is appropriate, the research was properly executed and the conclusions are relevant and in line with the research results	✓				
Recommendation and solutions are effective and feasible and in line with the expectations of the company.		✓			
Thesis is well written, to the point and concise, lay-out and design are well cared for.	✓				
Overall Evaluation End result:	✓				

REMARKS:

The findings are informative and well written despite the short time.

16.12.16

(PTO)

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16 DEC 2016
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Evaluation Professional Behavior:

	Excellent	Good	Average	Poor	Cannot say
Knowledge & Understanding: The student demonstrates a solid theoretical background; is able to choose adequate theoretical models and tools.	✓				
Research skills/critical thinking: The student is able to ask the relevant research questions and to design a research.		✓			
The student is able to come up with informed judgments; keeps a focus on the core issues, reviews the situation from different angles.		✓			
Communication: The student can speak and write business English proficiently.	✓				
The student is able to professionally participate in meetings and presents ideas and results in a professional way.	✓				
Creativity/problem solving: The student demonstrates originality and inventiveness in his approach and puts forward his own solutions to the problem.	✓				
The student identifies creative but plausible solutions and takes financial and organizational consequences into account.	✓				
Project management/pro-activity: The student is able to organize his work in a planned and well-structured manner and is always well-prepared.	✓				
The student takes initiative, is pro-active and works independently, reacts adequately to feedback.	✓				
Organizational sensitivity/collaboration: The student has an adequate overview of the problem for the organization, is sufficiently critical towards the organization.	✓				
The student understands the formal and informal culture of the company, asks support and input from others.		✓			
Learning skills: The student is able to set personal learning objectives and can be self-critical. Asks for feedback and is willing to learn.	✓				
Overall score:	✓				

REMARKS:

The student exhibited an excellent professional behaviour while with us. He is generally active and very cooperative.

16.12.16

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IBMS SUPERVISOR

1st EVALUATION GRADUATION PROJECT	
Student:	Julius van Roosmalen
Company:	FHMM
IBMS supervisor:	N. Kwanjai
Date:	03-10-2016

	Excellent	Good	Average	Bare Pass	Fail
OVERALL ASSESSMENT OF STUDENT PROJECT MANAGEMENT PERFORMANCE (code: 2263IPBPRO):		X			

REMARKS/SPECIAL CIRCUMSTANCES

- Julius is capably independent. He secured a lucrative project and showed good initiative and convincing motivation to conduct the study to fulfill both educational and practical ideals.
- Julius responded well to feedback while able to maintain his own originality.
- The project was quite interesting and challenging and Julius handled the initial phase very well.

(Please turn over for detailed assessment)

Evaluation Professional Behavior:

	Excellent	Good	Average	Poor	Cannot say
Knowledge & Understanding: The student demonstrates a solid theoretical background; is able to choose adequate theoretical models and tools.		X			
Research skills/critical thinking: The student is able to ask the relevant research questions and to design a research.		X			
Research skills/critical thinking The student is able to come up with informed judgments; keeps a focus on the core issues, reviews the situation from different angles.		X			
Communication: The student can speak and write business English proficiently.	X				
Communication: The student is able to professionally participate in meetings and presents ideas and results in a professional way.	X				
Creativity/problem solving: The student demonstrates originality and inventiveness in his approach and puts forward his own solutions to the problem.		X			
Creativity/problem solving The student identifies creative but plausible solutions and takes financial and organizational consequences into account.	X				
Project management/pro-activity: The student is able to organize his work in a planned and well-structured manner and is always well-prepared.	X				
Project management/pro-activity The student takes initiative, is pro-active and works independently, reacts adequately to feedback.	X				
Organizational sensitivity/collaboration: The student has an adequate overview of the problem for the organization, is sufficiently critical towards the organization.		X			
Organizational sensitivity/collaboration: The student understands the formal and informal culture of the company, asks support and input from others.		X			
Learning skills: The student is able to set personal learning objectives and can be self-critical. Asks for feedback and is willing to learn.		X			
Overall score:					
REMARKS:					

IBMS SUPERVISOR

FINAL EVALUATION GRADUATION PROJECT	
Student:	Julius van Roosmalen
Company:	FHMM
IBMS supervisor:	N. Kwanjai
Date:	21-12-2016

	Excellent	Good	Average	Bare Pass	Fail
OVERALL ASSESSMENT OF STUDENT PROJECT MANAGEMENT PERFORMANCE (code: 2263IPBPRO): **FILL IN MARK 1-10 !**	8.5				

REMARKS/SPECIAL CIRCUMSTANCES

The grade I stated above reflects my assessment of the student's professional conduct during the entire process. My reasons are as follows:

- Julius has developed professional maturity impressively over the course of this project. He took proper initiative both procedurally and academically.
- Julius received feedback positively and always incorporated and blended feedback well with his own critical thinking ability to improve the quality of his work.
- Julius is highly responsible and disciplined. He proceeded with good planning and was successful at carrying out the project within the deadline.
- There was no negative incident or issue in the project and I attribute this to Julius's ability to handle himself professionally, particularly in light of the fact that he was stationed in a completely unfamiliar environment.

(Please turn over for detailed assessment)

Evaluation Professional Behavior:

	Excellent	Good	Average	Poor	Cannot say
Knowledge & Understanding: The student demonstrates a solid theoretical background; is able to choose adequate theoretical models and tools.	X				
Research skills/critical thinking: The student is able to ask the relevant research questions and to design a research.		X			
Research skills/critical thinking The student is able to come up with informed judgments; keeps a focus on the core issues, reviews the situation from different angles.		X			
Communication: The student can speak and write business English proficiently.	X				
Communication: The student is able to professionally participate in meetings and presents ideas and results in a professional way.	X				
Creativity/problem solving: The student demonstrates originality and inventiveness in his approach and puts forward his own solutions to the problem.	X				
Creativity/problem solving The student identifies creative but plausible solutions and takes financial and organizational consequences into account.	X				
Project management/pro-activity: The student is able to organize his work in a planned and well-structured manner and is always well-prepared.	X				
Project management/pro-activity The student takes initiative, is pro-active and works independently, reacts adequately to feedback.	X				
Organizational sensitivity/collaboration: The student has an adequate overview of the problem for the organization, is sufficiently critical towards the organization.	X				
Organizational sensitivity/collaboration: The student understands the formal and informal culture of the company, asks support and input from others.		X			
Learning skills: The student is able to set personal learning objectives and can be self-critical. Asks for feedback and is willing to learn.	X				
Overall score:	X				
REMARKS:					