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Bachelor thesis

*Wakati’s strategy in Nigeria: export and marketing communication plan*

# Preface

In front of you lies my thesis that has been completed after an internship of five months at Wakati BVBA (hereafter referred to as ‘Wakati’) and contains the research collected and analysed for the Nigerian market and its agricultural sector to examine how Wakati can best market their Wakati One within that country concerning an entry strategy and marketing communication activities towards the smallholder farmers and distribution intermediaries.

This thesis has been developed for the Bachelor International Business and Languages and took place between February and June 2016. All of the work presented henceforth was conducted in Antwerp, at the Wakati office.

For all the new skills I developed, and for offering to investigate an interesting problem, I would like to thank Wakati. This thanks especially applies to Arno Nurski, the person who was appointed as the company supervisor of the interns, and who wore this title proudly. Every day check-ups to see if everything was going as planned or if I needed any assistance. The space they had given me to work on my thesis and the availability of the employees to help me with everything, was unforeseen but really benefitted me.

In addition, my thanks goes out to Ms. Hylda van Amstel-Kuiper and Mr. Bart Toering for being my internship supervisors and for always providing me with useful feedback and giving the freedom to ask questions.

Lastly, I would like to thank Utrecht University of Applied Sciences for four extremely educational years.

# Management Summary

Wakati is a Belgian company that aims to eliminate food loss in developing countries with its primary product the Wakati One. The Wakati One is an innovative technology that increases the shelf life of fruits and vegetables for smallholder farmers in developing countries by creating a micro-climate that dramatically increases the shelf life of fruits and vegetables. Wakati sells its product to selected distribution intermediaries whom are in close contact with the smallholder farmers.

The following thesis contains the research collected and analysed for the Nigerian market and its agricultural sector to examine how Wakati can best market their Wakati One within that country concerning an entry strategy and marketing communication activities towards the smallholder farmers and distribution intermediaries. The research question established to provide an understanding of the complexity of entering Nigeria and to reach the determined objectives can be stated to be:

*With what export and marketing communication strategy can Wakati successfully operationalise its business in Nigeria, in an effective and profitable way starting January 2017?*

The research objectives of this thesis relate to making the problem of entering the Nigerian agricultural sector comprehensible. The objectives have been translated into eight subsidiary research questions:

1. What is Wakati’s internal situation?
2. What is the current and expected situation in Nigeria on a macro level?
3. What is the current agricultural situation in Nigeria?
4. What is the best way of doing business in Nigeria for Wakati?
5. What are the benefits of the Wakati One for the Nigerian smallholder farmers (target group)?
6. How can Wakati export to Nigeria and therefore enter the Nigerian market?
7. How can Wakati connect with its (potential) customers through marketing communication in Nigeria and communicate its values?
8. In what way can Wakati implement its export and marketing communication strategy in Nigeria?

The above questions have all been translated into a situational analysis comprising of an internal analysis and external market, buyer, competitor, industry and supply chain analysis. The outcome of each analysis has been translated into a SWOT and confrontation matrix.

The most suitable, feasible and acceptable option to realise the research question has been assessed to be: *make setting up the Wakati less difficult for smallholder farmers for a country that is technologically backward, and in which the smallholder farmers are remotely located, in order to benefit from the incentive to improve the fate of smallholder farmers by focusing more on Customer Intimacy.*

The entry strategy connected to this can be stated to be: *indirectly exporting the Wakati product to Nigeria via importing resellers with a selective distribution agreement in which selling the product is restricted to distributors who meet certain standards/qualifications (i.e. distribution intermediaries who are able to sell the Wakati to smallholder farmers whilst also providing training), with the use of selected sales agents that are working for Wakati in Nigeria to assist with training and to monitor sales.*

The marketing communication objective connected to this entry strategy can be translated to: *emphasising on distinctive functional and emotional benefits that lead to better performance than traditional farming methods used for post-harvest storage solutions*. This can be achieved by creating category need, brand knowledge and behavioural facilitation towards the smallholder farmers, and brand awareness, brand knowledge and brand attitude towards the distribution intermediaries.

With the above conclusions, the following recommendations can assure an effective and profitable entry strategy within the Nigerian agricultural sector:

* Focus on the distribution intermediaries that are located in Kano-Kaduna-Jos (north), Lagos-Otta-Ibadan (southwest) and Port Harcourt-Aba-Nnewi-Onitsha (southeast);
* Closely work together with the Nigerian government;
* Select four sales agents that are working for Wakati in Nigeria to assist with training and to monitor sales;
* Provide training accompanied with selling the Wakati One through demonstration days.

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# Chapter 1. Introduction

The following thesis has been written for Wakati, a Belgian company that aims to eliminate food loss in developing countries with its primary product the Wakati One. The thesis comprises of an overall introduction to the company followed by the research question and a methodology of how the question should be answered. Since the problem relates to entering a foreign country; Nigeria, the thesis analyses the entry strategy and marketing communication strategy of Wakati, concluding with a financial feasibility study and conclusions, recommendations and the implementation planning of the strategies.

## 1.1. An introduction to Wakati

The Wakati One is an innovative technology that increases the shelf life of fruits and vegetables for smallholder farmers in developing countries. The Wakati One is a small climate chamber of 3m² that can store up to 200 kg with a small solar panel of just three Watts and operates on solely two litres of water a week. It creates a micro-climate that dramatically increases the shelf life of fruits and vegetables. Wakati’s mission is to contribute to infrastructural improvements in order to provide humanity with essential resources in a sustainable way. This is necessary since 99% of the smallholder farmers in developing countries do not have any adequate preservation method (Food and Agriculture Organization of the United Nations, 2013). The smallholder farmers in these developing countries can maximise their profits and reduce their loss. With the Wakati One, the shelf life of fruits and vegetables increases (depending on the type of crop this can amount to 15 additional days) and post-harvest losses are reduced by over 20%. The Wakati One has been established around the biomimicry methodology that can be seen as a relatively new science that studies nature’s best ideas, then imitating these designs and processes to solve human problems. Biomimicry can be seen as ‘’innovation inspired by nature’’ (Benyus, 2007). The Wakati One is a good example of this phenomenon: studying fruits and vegetables and their post-harvest state to invest in a technology that extends their shelf life.

Wakati means ‘’time’’ in Swahili; providing more time for a better life for the farmers and the whole community. Wakati focuses on Business to Business (B2B) sales, selling the Wakati One to agricultural dealers, food producers, food exporters, social enterprises, (international) wholesalers/retailers and non-governmental organisations (NGOs). Production, assembly and storage are outsourced to factories in Shenzhen, China. Local sales and distribution is currently being handled by NGOs and local food producers/exporters.

Wakati is currently present in Tanzania, Uganda and Kenya. The Wakati One, in these countries, has been implemented on farms and schools. Since January 2016, Wakati has, so far, implemented 3.171 Wakati One units in the field and had 13 test cases running.

How does the Wakati One work? Basically, it is nothing more than a tent as can be seen in the adjacent photo. Inside the Wakati One there has been placed a water reservoir (referred to as ‘climate unit’) that only uses 200 ml of water per day. On top of this reservoir, a small ventilator has been placed that evaporates the water whilst spinning. This ventilator is being powered by the solar panel Picture one: the Wakati One climate unit, solar panel and tent   
of three Watts. Underneath the ventilator, ozone is being produced that is being spread by the ventilator together with the evaporated water. In this way the crops inside the Wakati One will have a longer lifespan, and moulds and bacteria are in no position to develop.

Wakati has multiple partners it is working with and all help/support Wakati with their journey to tackle food losses. Currently, Nomad provides Wakati with the technical knowhow and the production of the tents. Lonely Alien provides Wakati with the essential product development background as well as marketing and media knowledge. Additionally, Wakati is constantly looking for new partners to either help with funding or entering a market of interest through exporters and/or NGOs. Currently, the Rockefeller is a (continual) funder, Metro AG is a prospected retail seller in Africa and test facilities have been established in cooperation with the Asian Vegetables Research and Development Center (AVRDC) as well as with the World Food Program (WFP).

## 1.2. Current situation

According to the Food and Agriculture Organisation of the United Nations (2005) approximately half of the population in the Third World does not have access to adequate food supplies of which the main reason is food losses occurring in the post-harvest system. Food losses in low-income countries are mainly connected to financial, managerial and technical limitations in harvesting techniques, storage and cooling facilities in difficult climate conditions, infrastructure, packaging and marketing systems (Food and Agriculture Organization of the United Nations, 2011). The World Bank states that options to reduce post-harvest food losses are available, but their adaptation in Africa remains low (The World Bank, 2011).The United Nations, together with its Food and Agriculture Organisation and its World Food Program, took the initiative to conduct an Action Research Trial to address one of the major contributing factors to food insecurity in Sub-Saharan Africa. The results of the trial it had set up in Burkina Faso and Uganda indicated that post-harvest crop losses in developing countries can be hugely reduced when appropriate capacity development and improved farming equipment are both introduced (Costa, 2014).

In developing countries in Africa, the post-harvest food losses amount to 45% of the total production (Food and Agriculture Organization of the United Nations, 2012). This significant percentage that is being lost has several severe ecological, economical and humanitarian consequences. For instance deforestation, squander labour and regional instability, respectively. Because of this high percentage of loss, smallholder farmers lose a lot of profit and needlessly waste a lot of time and resources invested.

Most of the world’s food is produced by smallholder farmers in developing countries, yet half of the world’s hungriest people are themselves smallholder farmers (Fairtrade International, 2015). In these developing countries food losses mainly occur in the early and middle stages of the food supply chains with proportionally less amounts wasted at the consumer level. Premature harvesting, poor storage facilities, lack of infrastructure, lack of processing facilities and inadequate market facilities are the main reasons for high food losses along the entire supply chain (Aulakh & Regmi, 2013).

For the above mentioned post-harvest loss problem, Wakati provides the solution of the Wakati One, which alters the climate of fruits and vegetable storage spaces. Wakati regulates the humidity in a closed system to create a sterilised environment by adding anti-fungal products and ozone to protect the crops from water loss, bruises and fungi.

## 1.3. Urgency for research

Wakati’s problem lies within entering the African market. Wakati wants to export its Wakati One to developing countries in Africa. However, there are multiple macro, commercial, social and political risks attached to entering the African market (Foreign and Commonwealth Office, 2015). Additionally, entering the African market comes with a great challenge and is time-consuming, for which patience and a willingness to wait are key. Regarding entering the African market, there is no universal manual to enter a specific country because of the enormous diversity (KPMG, 2013). Marketing communication together with an export strategy is key for Wakati’s success, since the smallholder farmers have been living with traditional knowledge systems based on storage solutions that have enabled them to cope in the past, and know very little of new techniques and benefits. Knowledge and recourses have to be transferred in order for them to become aware of the better equipment (IFAD, 2008). Smallholder farmers need access to information and training to enable them to develop as farmers, communities, and providers of food security for themselves and the world (Prakash-Mani, 2013).

Because of the toughness of entering the African market overall, Wakati needs assistance with entering each specific country. Wakati is in need of more information about export and marketing(communication) strategies in each specific country regarding the implementation of the Wakati One to further expand their reach.

With further wanting to expand the reach of their innovative technology comes the desire to implement the Wakati One into Nigeria and via Nigeria to the rest of West Africa. Nigeria is a consumer nation (Ejumene, 2015). The inhabitants consume more than they produce. About 70% of what is produced in Nigeria is lost due to lack of appropriate post-harvest processing and storage techniques (Alonge, 2011). In Nigeria, agriculture is a major sector of the economy, it contributes to 30,9% of the total annual GDP (Global Finance, 2012) and employs around 60% of the labour force (The World Bank, 2007). However, it is estimated that as much as 50-60% of fruits, vegetables and tubers (cassava, yam and ginger) are lost after harvest, because harvesting, processing and storage techniques are inefficient, which results in an unstable supply (Tene Natsa, 2015; Mrema & Rolle, 2002). Post-harvest losses are not solely, but clearly, a waste of food yet they also represent a similar waste of human effort, farm inputs, livelihoods, investments and scarce resources such as water (World Resources Institute, 1999).

## 1.4. Research question

The thesis that will follow from the above problem aims to provide an understanding of the complexity of entering Nigeria regarding export and marketing communication. Therefore, my research question is:

‘’*With what export and marketing communication strategy can Wakati successfully operationalise its business in Nigeria, in an effective and profitable way starting January 2017?’’*

When this research question has been answered effectively, Wakati should be able to implement its Wakati One into Nigeria as well as its developed strategy and therewith operationalise its business.

## 1.5. Research objectives

With this thesis, research objectives have to be set for both Wakati and the research carried out.

With the research objectives for Wakati, there is a need for making the problem comprehensible, instead of solely given an answer to it. The information that is being sought by Wakati for this research is related to the Nigerian market and agricultural developments in the country. Wakati wants to have an underpinned advice for entering the Nigerian market based on export and marketing communication strategies. This can be obtained through the following research objectives:

* To monitor certain developments closely related to the market, economy, agriculture and risks as Nigeria is emerging as a leader in agricultural transformation in Africa (Obasandjo, 2014);
* To find out where the smallholder farmers are based in Nigeria and what fruits and vegetables they harvest, as well as finding out why they have post-harvest food losses;
* To find out how to do business in Nigeria in the most effective and profitable way regarding cultural and social differences;
* To find out how other non-African companies enter Nigeria, and what their success and learning points are;
* To find out the ‘best way to success’ in Nigeria, regarding export. When that has been described Wakati should handle accordingly, by establishing a certain checklist for export. However, the best way to success is speculative since it can never be found;
* To find out how to trigger certain B2B customers and end-users in Nigeria to do business with Wakati via different marketing activities.

Regarding the research objectives for the research, there is a need to find the right information in order to solve the problem completely. In order to do so, there will be made use of several theoretical conceptual models that will be explained in the methodology chapter 2, in order for the above research question to result in a good outcome. The right information in order to solve the research objectives will be found through the mindmap that can be found in appendix A.

When having followed the mindmap accordingly, per research objective, research questions should be established in order to get the right information for the research.

## 1.6. Subsidiary research questions

This section suffices as a detailed questioning resulting from the research question and research objectives as well as the accompanying mindmap. A distinction has been made between primary and secondary questions.

1. What is Wakati’s internal situation?
2. What is the current and expected situation in Nigeria on a macro level?
3. What is the current agricultural situation in Nigeria?
4. What is the best way of doing business in Nigeria for Wakati?
5. What are the benefits of the Wakati One for the Nigerian smallholder farmers (target group)?
6. How can Wakati export to Nigeria and therefore enter the Nigerian market?
7. How can Wakati connect with its (potential) customers through marketing communication in Nigeria and communicate its values?
8. In what way can Wakati implement its export and marketing communication strategy in Nigeria?

In Appendix B, the secondary questions that are being answered in order to complete the primary questions are being shown.

## 1.8. Goal of the thesis

The results that come from collecting and analysing the data relevant to the research question will eventually lead to a conclusion on which a recommendation can be made for Wakati. The ultimate goal of this thesis is to effectively give an answer to the research question, which will lead to an effective and profitable implementation of Wakati’s strategy into Nigeria starting January 2017.

## 1.9. Structure of the thesis



Figure one: structure of the thesis

# Chapter 2. Methodology

The following chapter suffices as an explanation of how the research will be carried out and how the data will be collected and analysed, in order for the research question to get answered.

## 2.1. Research methodology

The research question and subsidiary research questions that have been chosen will be answered with the use of primary as well as secondary research, i.e. qualitative field research and desk research, respectively.

In the beginning of the research, desk research will be carried out to get familiar with the country, its macro-level situation and efficient types of distribution. Desk research will give insight into the problem of post-harvest food losses in Nigeria, which smallholder farmers suffer from this and who their partnering distributors/exporters are. For this stage, desk research will be the most suitable since already conducted research will help with getting the situation outlined. Additionally, Wakati does not have any knowledge on the Nigerian market and where the chances of doing business lie, for which conducting desk research is the best option.

Regarding the desk research, several theoretical conceptual models will be used to generate a sufficient answer. These theoretical conceptual models and an explanation of their applicability to this thesis can be found in appendix C.

In order to validate information found with desk research semi-structured interviews will be conducted with relevant Nigerian NGOs, agricultural wholesalers, distributors and/or other possible partners for Wakati to do business with. These actors have relevant information about the Nigerian market, the smallholder farmers and their needs. There has been chosen to conduct semi-structured interviews with prospective partners to map out the pros and cons of doing business, in order to acquire hands-on knowledge about the company and its relationship with smallholder farmers. There has specifically been chosen to conduct semi-structured interviews because of the ability to ask alternative questions on other relevant matters and to go more in-depth on some subjects (Verhoeven, 2008). These semi-structured interviews leave space open to ask more questions regarding the post-harvest food loss problem, how to do business with the Nigerian partners and any other matters left unanswered through desk-research.

The interviews will be conducted in the month of April since the desk-research will mostly have been completed by that time. Therefore, the knowledge around the agricultural subject will be broader and it will therefore be much easier to ask questions related to the matter. The respondents will be selected by a few criteria. These being: a company (NGO, social enterprise or distributors) or person that operates or operated in the agricultural sector of Nigeria and works or worked together with smallholder farmers in the same country.

The companies and people that will be interviewed will follow from desk research on the Nigerian market to find out what companies are the most interesting. For the people that will be chosen to be interviewed it is crucial to verify that they have a central position within the company or Nigeria in order to give useful information. This will be verified by researching the person’s history in either the company or country.

With semi-structured interviews a set of prepared questions act as a guide. There will be ensured that certain key questions are asked to the person interviewed, which will also allow and encourage the interviewer to ask additional questions. The interview is meant to be primarily driven by the interviewee. It is asked of the interviewee to talk openly and freely about whatever he or she views as important related to the questions asked (Taylor & Bogdan, 1998).

The results coming from the semi-structured interviews will be put in the appendices of this thesis in the form of a summary of the conversation. Throughout the thesis, quotes and statements will be given that came from the respondents.

The table in appendix D functions as an overview of the methodology and theoretical conceptual models that will be used to answer each research question.

### *2.1.1. Data collection*

In order to operationalise the selected research methods (desk research and qualitative field research), for desk research the search terms will be mentioned.

The research questions that will be answered with the use of desk research are: 2 and a part of 3, 4, 5, 6, 7 and 8. These question are basic research question that can be answered with desk research and for validity and reliability, the qualitative field research counts as a reassurance that it is valid.   
Question 1 will consist of desk research, solely out of information from the company itself.

When it comes to desk research for the other questions, the following terms will be used to find information:   
Question 2: Nigeria country overview, Nigeria country facts, Nigeria country statistics, Nigerian economy, Nigerian politics, Nigerian agriculture, Nigerian agriculture ‘and’ labour, Nigerian agriculture ‘and’ development, Nigeria ‘and’ agricultural developments, Nigeria ‘and’ technological developments, Nigeria ‘and’ political developments, Nigeria ‘and’ economic developments, Nigeria ‘and infrastructural developments, Nigeria ‘and’ business opportunities, Nigeria ‘and’ expected developments.  
Question 3: Nigeria agriculture, Nigeria smallholder farmers, Nigeria smallholder farmers ‘and’ facts, Nigeria smallholder farmers ‘and’ crops, Nigeria fruit and vegetables, Nigeria post-harvest food losses, Nigeria population ‘and’ work sector.   
Question 4: Cultural differences Nigeria ‘and’ Belgium.   
Question 5: Barriers of entry ‘and’ Nigeria, risks Nigeria, export documents ‘and’ Nigeria, exporting to Nigeria.   
Question 6: Nigerian smallholder farmers ‘and’ crops, Nigerian smallholder farmers ‘and’ harvest.

Additionally, the following (main) sources will be used: Food and Agricultural Organisation of the United Nations, Nigerian Embassy, Nigerian databases, the International Monetary Fund, Google Scholar, various databases such as LexisNexis and Rabobank, and several journals regarding agriculture and sustainability.

When it comes to the field research, the data will be collected by conducting semi-structured interviews with possible partners (NGOs, social enterprise, food producers, food exporters, agricultural suppliers and wholesalers) that can provide additional information on research question 3, 4, 5, 6, 7 and 8.

### *2.1.2. Data analysis*

The data that will be analysed in this stage has come from the interviews conducted with possible partners for Wakati in Nigeria. The answers to the questions will be put in a summary form that only contains the most important information related to the questions asked and the country/product. This, to find out the most suitable partner(s) for Wakati when entering the Nigerian market. Additionally, since the interviews are semi-structured, the answers to other questions related to business in Nigeria will be analysed as well.   
When it comes to analysing the data that flowed out of doing desk research, findings will be analysed on reliability to see if each source has the same interpretation of the problem in order to validate the consistency of the findings, i.e. if similar results will be produced in different circumstances, assuming nothing else has changed. Reliability with the interviews will be assured by technical accuracy in tape-recording and transcribing the interview in a noiseless, secure room and by intensively engaging with the data by moving backwards and forwards to look for links between interpretations.   
Validity of the qualitative data will be measured by being non-reactive and staying analytically distant by suspending my experience, judgement and believes, whilst also staying objective and attached. This, because significantly important data has already been investigated by me, and the interviewee needs to be able to present its own findings and opinions.   
Internal validity within this thesis will be assured by making use of both desk research and the qualitative semi-structured interviews and check for consistency in the findings that are generated by the different data collection methods.

After analysing all the data that flowed out both desk research and the qualitative field research, the findings will be discussed with the company supervisor to see whether I selected viable information for the company. After this, the entire thesis will be written after which the conclusion, recommendations and implementation planning follow.

## 2.2. Literature review

The United Nations Environment Programme (Nellemann, et al., 2009) argues that, today, one of the main global challenges is how to ensure food security for a world growing population whilst ensuring long-term sustainable development. According to the Food and Agriculture Organisation of the United Nations (2005) approximately half of the population in the Third World does not have access to adequate food supplies of which the main reasons are food losses occurring in the post-harvest and marketing system. In the meantime, while the number of food insecure population remains unacceptably high each year, massive quantities of food are lost worldwide due to spoilage and infestations on the journey to consumers (Stuart, 2009). In some African countries, where tropical weather and poorly developed infrastructure contribute to the problem, losses can regularly be as high as 40-50%. One of the major ways of strengthening food security is by reducing these losses (Kiaya, 2014). The World Bank (2011) states that options to reduce post-harvest food losses are available, but their adaptation in Africa remains low.

In Nigeria, there are no special storage facilities for most of the crops the smallholder farmers harvest, which results in great losses. Additionally, a high rate of fruit and vegetables harvested are lost because of bruising and infection by microorganisms, for which no solution has been found (Orraca-Tetteh, 2010). In Nigeria, there is no common understanding of the factors that influence post-harvest losses, which further impacts the losses negatively (Muhammad, Hionu, & Olayemi, 2012). It is predicted, however, that in the future the post-harvest technological scenario of Nigeria will remain the same if not affected from outside Africa (Olayemi, Adegbola, Bamishaiye, & Awagu, 2012).

Launching a product in an African country comes with a variety of challenges; poor infrastructure, high costs of starting and political risks. Without an understanding of these circumstances, successful technology transfer can be seriously jeopardised (Nicita & Rollo, 2015). As if doing business with these risks is not hard enough, Nigeria stands at 139 in the ranking of 189 economies on the ease of starting a business (The World Bank Group, 2015). This position can be blamed on a lack of financial resources and insufficient government action (Mercer, 2011).

### *2.2.1. Export strategy*

Root (1994) argues that the impulse behind a company’s initial entry into a foreign market is usually the prospect of profit on immediate sales. Only later do most companies start to think about an entry strategy approach; what they need to create positions in foreign markets that can be sustained over the long run.

Following H. Veldman’s book *Export management a European Perspective* (2010) export management is part of the companywide strategic process in which marketing occupies a central position. Export management is a form of management which is characterised by a professional approach to the export function. Export marketing is the development and implementation of strategies aimed at export target groups in order to achieve the creation and communication of value, with which the company realised a positive net export contribution.

The choice of entry mode depends on the risk a company is prepared to take and the desired degree of control (Farhang, 1990). One of the main problems regarding market entry decision is the fact that it is ill-defined, complex and dynamic (Young, Hamill, Wheeler, & Davies, 1989). Scholars often have different opinions about the criteria influencing the choice of entry mode. Different samples, different time period analysed, different methodologies or even different skills of the analysts may induce conflicting results (Decker & Zhao, 2004).

### 2.2.2. Marketing communication strategy

A market entry strategy requires the choice of an entry mode as well as a marketing plan. According to Floor and Van Raaij (2011) the marketing plan is the last stage of the market entry strategy. The marketing plan contains marketing objectives and the strategy to realise these objectives. It is shown how the marketing budget is distributed over the various marketing methods. According to Floor and Van Raaij, a marketing communication plan comprises of nine components that can be seen in appendix E. Following their philosophy the marketing plan shows what is expected of marketing communication.

For an export plan as well as a marketing communication plan, an internal and external analysis, also known as a situational analysis, are key. According to Boardman, Shapiro and Vining (2004), the situational analysis provides a description and analysis of the current situation where the local firm operates in. It analyses the firm’s internal characteristics, external environment and its current strategy.

### *2.2.3. Internal analysis*

The Business Model Canvas of Alexander Osterwalder (2004) wants to encourage new and innovative thinking by a simple graphical template of nine essential components. The individual elements prompt consideration of a business’ full scope, while the layout encourages thought about how the pieces fit together (Greenwald, 2012). The simple visual structure of the BMC and the few number of descriptions make the BMC visually appealing as well as useful (King, 2010). Even though the BMC is seen as an advancement, critics have spoken their mind. Spanz (2012) criticises the model because it does not let a business formulate its business goals and does not take the Key Performance Indicators (KPIs) into consideration. Kraaijenbrink (2012) argues that the BMC excludes strategic purpose as well as a notion of competition.

In addition to the Business Model Canvas, the Abell Three Dimensional Business Model (1980) defines a business by just three dimensions. Derek Abell proposed a model that actually identifies customer – product/technology combination. It helps to understand the market and how customer segments, via their needs, link to the product/technologies of suppliers (Nijssen & Frambach, 2001). Criticism to the Abell model comes from Abbott (1991) who argues that Abell’s approach is too narrow and advocates a more flexible approach that allows for multiple narrative forms.

After having developed a business model, the Ansoff Matrix (1957) shows four strategies a business can use to grow and help analyse the risks associated with each one. Criticism to this model is that it adopts an environmental prospective that assumes that opportunities for growth exist whilst it may be that they do not (Trott, 2008). According to Ward (2005), one weakness of the Ansoff Matrix concerns the fact that it does not take into account forces external to a market that can drive a market regardless.

Companies succeed by selling value and taking a leadership position in their industries. Businesses have done so by narrowing their business focus, instead of broadening it. According to Treacy and Wiersema (1993) businesses can do so by focusing on product leadership, customer intimacy or operational excellence. Their theory has been criticised for being overly simplistic and in practice it seems that the unwise thing to do is to excel only in one area (Muilwijk, 2014).

Johnson, Scholes and Whittington (2008) note that a SWOT analysis is a useful tool to generate strategic options and assess the future course of action of a company. The SWOT analysis is a technique which is credited to Albert Humphrey. Strengths and weaknesses are related to the internal situation of a business compared to the competition. Strength defines the advantages of a business that has leading status compared with others. Weaknesses are a lack of condition in competition (Kotler, 2000).

### *2.2.4. External analysis*

According to Yüksel (2012) the first model to guide researches in the analysis of the environment was created by Francis J. Aguilar in 1967, and named ETPS model. According to Aguilar (1967), the relevant factors were economics, technology, politics and social environment. According to Leeman (2015), the DESTEP analysis can be applied to existing markets and on new, potential markets of the company and consists of six environmental factors: demographic, economic, social, technological, ecology and political. The DESTEP analysis is often referred to as the PESTL(E) analysis in other research. Cornelissen (2008) argues that the DESTEP factors have an impact upon the organisation and its operations. Through such a guided analysis of the environment, practitioners are able to describe the most important current environmental changes and to predict future ones. According to Yüksel (2012), the analysis has three sets of limitations: (i) it is a subjective analysis in which there are no quantitative approaches, (ii) the factors which are analysed might have different weights and relevance for the industry or for the company, (iii) the analysis has always used an independent approach when analysing the different factors.

Porter’s Diamond (1990) builds on Porter’s earlier frameworks on competitive strategy (1980) and competitive advantage (1985) that has become a well-established framework to analyse the competitive advantage of nations (Ketels, 2006). In his 1990 book, Porter develops the concept bridging the gap between strategic management and international economics (Grant, 1991). The Diamond framework suggests that national competitive advantage depends on four determinants: factor conditions, domestic demand, related and supported industries and amount of rivalry. The complete model includes two additional constructs. Chance events matter because they create discontinuities that allow shifts in competitive position (Porter, 1990). Government is crucial because it can shape all four determinants. The four determinants and two additional constructs interact as a system, with identified hierarchies amongst factors (Harzing & Giroud, 2012). Criticism suggest that the home diamond focus of Porter does not take the attributes of the home country’s largest trading partner into account (Rugman, 1990), is not applicable to most of the world’s smaller nations (Bellak & Weiss, 1993), and ignores the role of multinational organisations in influencing the competitive success of nations (Dunning, 1992).

Concerning the cultural differences between the new, prospected market for Wakati, the differences can be analysed with the use of Geert Hofstede’s Dimensions of National Culture Model (1980). Dwyer, Mesak and Hsu (2005) explain culture as a common shared value of believe that, according to Buzzell (1968), cannot be explained in terms of tangible factors. Hofstede makes use of an empirically derived index score that has been used to measure a national culture by numerous researchers and companies (van Vreede, 2009). Hofstede’s cultural framework is the most appropriate model to the current study because the norms and values underlying Hofstede’s framework are directly related to the behavioural approaches in the current study (Doney, Cannon, & Mullen, 1998). Criticists, however, have also spoken their mind related to Hofstede’s model. Koen (2005) argues that the data was collected based on the questionnaire answered by the managers of IBM, which makes the sample inadequate. Nevertheless, Hofstede’s dimensions are widely used in consumer research (Roth, 1995).

A supply chain (as seen in appendix F) may be defined as an integrated process wherein a number of various business entities (i.e., suppliers, manufacturers, distributors, and retailers) work together in an effort to: (i) acquire raw materials, (ii) convert these raw materials into specified final products, and (iii) deliver these final product to retailers. This chain is traditionally characterised by a forward flow of materials and a backward flow of information (Beamon, 1998).

According to Van Alsem (2005) the SWOT analysis is an analysis in which a connection is being made between strengths and weaknesses as well as opportunities and threats in order to make strategical choices. Van Alsem sees the SWOT analysis as the result of the situational analysis (the internal and external analysis). The opportunities and threats are related to the environment for exporting to a particular environment in a particular industry (de Kluyver, 2012). Johnson, Scholes and Whittington (2008) suggest that identifying opportunities and threats for a company in a particular market is another way to analyse the attractiveness of a market.

# Chapter 3. Export Plan

## 3.1. Internal Analysis

The internal analysis serves to analyse the organisation’s internal characteristics and identifies the existing and potential sources of competitive advantage (Boardman, Shapiro , & Vining, 2004).

### *3.1.1. Wakati’s Business Model*

The Business Model Canvas (hereafter referred to as BMC) was initially proposed by Alexander Osterwalder based on his earlier book: Business Model Ontology (Osterwalder et al., 2010). It describes the rationale of how an organisation creates, delivers and captures value.

The BMC is a visual chart that covers the four main areas of doing business: the organisation’s infrastructure, offerings, customers and financial viability. For Wakati, the building blocks consist of:

1. **Key partners** describe the network of suppliers and partners that make the business model work. Wakati makes use of key partners that are created as strategic alliances between companies/foundations that optimise its business model, reduces risk and acquires resources.

* NGOs.  
  - Cordaid (NL): large Dutch NGO that creates opportunities for the world’s poorest, most vulnerable and excluded people that bought 15.000 Wakati units for Uganda and South Sudan.   
  - SNV (NL): large Dutch NGO that works in agriculture in many of the poorest countries in Asia, Africa and Latin America and has tested Wakati in Nairobi.   
  - Technoserve (KY): one of the largest NGOs in the world that works with enterprising people in the developing world to build competitive farms and has bought Wakati to test in the fields of their smallholder farmers.   
  - CNFA (US): Cultivating New Frontiers in Agriculture is an international NGO that works with businesses to build customised local and global partnerships that meet the world’s growing demand for food. Will start piloting with Wakati in 2016 Q3 in Liberia, Ethiopia and Zimbabwe.
* Foundations.  
  - The Rockefeller Foundation (US): Wakati is an official partner of the YieldWise project, which has a $130 million budget to reduce post-harvest food losses in Kenya and Nigeria.
* Multinationals.  
  - Metro AG (DE): the third largest retailer in the world and works with thousands of smallholder farmers to supply their retail stores with fresh produce and is currently piloting with Wakati in China.  
  - SGS (BE): the world’s leading inspection, verification, testing and certification company. Provides Wakati with Certificates of Conformity and assists with international shipments.
* (Intern)governmental bodies.   
  - The World Food Program (US): a branch of the United Nations that is the world’s largest humanitarian organisation addressing hunger and promoting food security that has purchased Wakati units to test in Mali.   
  - United Nations’ Food and Agriculture Organisation (US): a branch of the United Nations that leads international efforts to defeat hunger and operates as an advisor for Wakati.

When it comes to suppliers, the following companies supply Wakati with parts of the complete Wakati:

* Nomad (NL): Dutch manufacturer of outdoor- and travel supplies. Its factory in China produces the Wakati tents.
* Folding Solar Panel Company (CH): Chinese company that supplies Wakati with the 3 Watt solar panels.

Wakati’s partners and suppliers provide Wakati with valuable key resources as for instance insight knowledge about all the countries the partners are present in as well as test results of different fruits and vegetables and the impact the Wakati has on them.

1. **Key resources** describe the most important assets required to make a business model work. These resources allow Wakati to create and offer a value proposition, reach markets, maintain relationships with customer segments, and earn revenue.

* Key human resources: dedicated and well trained staff, advisors from the United Nations and Metro Group;
* Key financial resources: partnership with the Belgian bank KBC that provide loans to a low rate, rounds of funding, partnerships with the Rockefeller Foundation/Technoserve.;
* Key physical resources: office space, (prospective) customer database;
* Key intellectual resources: intellectual property (first patent in Belgium in 2014 and a non-provision patent in the United States in April 2016) to protect Wakati’s innovative technologies.

1. **Key activities** describe the actions a company must take to operate successfully and make its business model work:

* Value proposition: key activities are required to create and offer a value proposition. Key activities related to the value proposition are: constant innovation, constant testing of fruits and vegetables, ongoing design, providing informative sessions;
* Channels: key activities are required to reach markets. Key activities related to the distribution channels are: direct shipping from China to country, social media accounts, capable communicative staff;
* Customer relationships: key activities are required to maintain customer relationships. Key activities related to the customer relationship are: problem solving, providing after-sales service, updating social media;
* Revenue streams: key activities are required to earn revenues. Key activities related to the revenue streams are: selling the product to the customer segments, multiple rounds of funding.

1. **Value proposition.** The valuethat Wakati delivers to its customer segments is post-harvest food loss reduction; an effective storage solution that is off the grid and accessible to and affordable for the smallholder farmers, increasing the sales position of them. This value proposition translates into the Wakati One: a storage unit, a climate unit and a 3 Watt solar panel.   
   The characteristics of this value proposition are: performance, ‘’getting the job done’’, design, risk reduction, accessibility, and convenience.
2. **Customer relationship.** The customers that Wakati sells its products to are the NGOs, international wholesalers/retailers, agricultural dealers, food producers and exporters. The end-consumers are the smallholder farmers. With both customers, Wakati wants to create a good relationship. Wakati tries to maintain these relationship through personal assistance. Also, Wakati wants to create communities with the smallholder farmers so they can work together.
3. **Customer segments.** The Wakati, currently, only creates value for the smallholder farmers and the fruits and vegetables they produce on an area of less than two hectares of land. This customer segment makes up for 85% of the world’s farmers and it is estimated that 90% of all agricultural production in Africa is derived from their output (Salami, Kamara, & Brixiova, 2010). In the near future, Wakati will come to market with a Wakati unit that is transportable; satisfying the needs of exporting countries.   
   Since the Wakati has been positively tested on a wide range of fruits and vegetables but does not work for leafy vegetables and watermelons, Wakati is serving a niche market.
4. **Channels.** Currently, Wakati reaches its customers through a combination of own channels as well as partner channels. Wakati uses its own social media network to contact (potential) partnering businesses as well as Wakati enthusiasts. Also, Wakati uses its own website and email address. Another channel that Wakati owns is their after sales service. Wakati uses the partner’s channels regarding their market knowledge and distribution network in the country.
5. **Cost structure.** At this moment, Wakati is a value-driven company that is less concerned with cost, and currently focuses its business model on creating value for their products. The following financial statement of Wakati for fiscal year 2016 can be identified as:

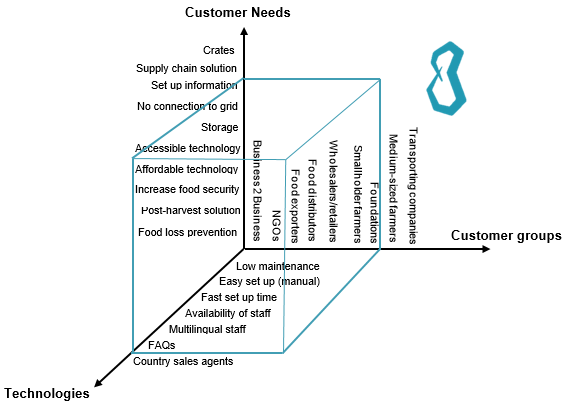
|  |  |
| --- | --- |
| Salary | $224,169 |
| Employee related expenses | $44,834 |
| Research | $168,000 |
| Development | $66,000 |
| Rents, Utilities (BE & Kenya) | $24,000 |
| Legal | $18,000 |
| Other costs | $25,200 |
| International travel expenses | $58,335 |
| Sales budget international | $24,000 |
| IP | $24,000 |
| Sales budget Kenya | $120,000 |
| Marketing costs | $54,000 |

**9. Revenue stream**

|  |  |
| --- | --- |
| Asset sale | $201,000 |

The BMC chart as a visual can be seen in appendix G. What can be concluded from the above BMC applied to Wakati is that Wakati has a solid business model. Since it is a start-up company, the first two years are bound to end with a negative outcome, as can be seen from the cost/revenue analysis. However, with its key partners, Wakati will keep on satisfying its customer segment with its value proposition. Wakati will keep on creating value, deliver it to end-consumers and capture it.

### *3.1.2. Wakati’s business scope of operations*

According to Derek F. Abell, the strategic planning process is the starting principle for any given organisation, and this process is defined in the company’s mission (Abell D. F., 1980). Three questions play an important role in the formulation of a mission statement, and in the accompanying Abell model:

1. Who are the customers of the organisation?
2. How can the organisation meet its customer needs?
3. What techniques does the organisation use to meet the customer needs?

When having answered all three question, the competitive scope of operation for Wakati can be analysed as well as the extent of competitive differentiation of Wakati. As the adjacent model depicts, question one has been summarised into customer groups, question two has been summarised into customer needs, and question three has been summarised into technologies.

Figure two: Abell model

The framework shows an overview of the customer groups and their needs and how Wakati serves these. Inside the framework are all aspects that Wakati currently focuses its business operations on. The factors outside the framework are needs, groups, and technologies that are beneficial for business operations but Wakati does not (yet) focus on.

Wakati does not sell its product directly to the smallholder farmers since connecting to them directly is simply impossible due to the amount of them, their financial situation as well as their place of residency. Therefore, Wakati sells its product to the business to business organisations that works closely together with these smallholder farmers. The Abell model, therefore, consists of the needs of the smallholder farmers.

Wakati’s customer groups are Business to Business customers, i.e. selling to:

* NGOs: Cordaid, Technoserve;
* Food exporters: Frigoken, Interveg, VegPro (currently only in Kenya);
* Food distributors: Metro AG, Durabilis;
* Wholesalers/retailers; Farm Shop (currently only in Kenya);
* Foundations: The Rockefeller Foundation;
* End-users: Smallholder farmers.

The needs of these customers are:

* A viable product that prevents food losses in the early stages of the supply chain;
* A storage solution for fruits and vegetables that have just been harvest;
* A higher security for food;
* A technology that is affordable for the buyer and end-user;
* Technology that is accessible for the smallholder farmers;
* A product that provides (enough) storage;
* A product that is in no need of electricity and is, therefore, off the grid;
* Information regarding how to set up the entire unit (user’s manual);
* A product that offers a solution for the entire supply chain;
* A product that comes with crates for farmers to store their fruits and vegetables in.

The technologies needed to address the customer’s needs are:

* A low maintenance product;
* An easy set up manual;
* A fast set up time;
* The availability of the Wakati staff;
* A staff that is multilingual (French speaking and English speaking countries in Africa);
* A list of FAQs that answer the basic questions regarding Wakati and its product;
* Country sales agents for questions, information and help.

The above visual of the Abell model as well as the descriptive summary of it, show that there are other customer groups that can benefit from the Wakati, such as medium-sized farmers as well as transporting companies. Unfortunately, Wakati does not offer a storage solution for more than 200kg, which is just sufficient for the smallholder farmers in Africa. Additionally, the current Wakati is not manufactured to be used during transport. This is also depicted in the customer needs, in which customers are in need of a supply chain solution. This solution includes: post-harvest transport, and market place solutions, which Wakati currently cannot offer. Another customer need is the need for crates to store fruits and vegetables in, since many smallholder farmers do not own crates themselves. Regarding a technology that Wakati is not yet making use of but will benefit business operations as well as competitive advantage are the local sales agents.

### *3.1.3. Wakati’s implemented growth strategy*

Igor Ansoff presented a matrix that focused on the firm’s present and potential products and markets, i.e. customers (Ansoff I., 1957). By considering ways to grow via existing products and new products, and in existing markets and new markets, there are four possible product-market combinations:

|  |  |  |
| --- | --- | --- |
|  | Existing Products | New Products |
| Existing Markets | Market Penetration | Product Development |
| New Markets | Market Development | Diversification |

The above diagram shows four growth alternatives (Harvard Business Review, 1998):

Table one: Ansoff Matrix

* Penetration: with this strategy, the firm seeks to grow with existing products in their current market segments in order to try to increase market share in the current market.
* Market Development: with this strategy, the firm seeks to grow by selling its existing products to new markets in order to identify a new clientele base.
* Product Development: with this strategy, the firms seeks to grow by selling new products, or products with a modification, in existing markets.
* Diversification: with this strategy, the firm seeks to grow with marketing or selling new products to new markets at the same time.

When internally looking at Wakati, what can be concluded from the above diagram as well as the explanation is that Wakati’s growth strategy according to the Ansoff matrix can be depicted as: market development. The geographical market segmentation of Wakati is constantly being assessed to identify new markets. Wakati began selling its product in Kenya because of the high percentage of food loss. Afterwards, Wakati began researching new markets and the need for a viable food loss prevention product, which resulted in selling to partners in Tanzania and Sudan. Wakati’s strategy is to keep researching other countries and their smallholder farmers to investigate whether the Wakati can solve the problem of post-harvest food loss globally.

### *3.1.4. Wakati’s value strategy*

According to Michael Treacy and Fred Wiersema there are three different value discipline strategies that organisations can implement in order to create added value and a distinctive character relative to its competitors. They assume that becoming an industry leader requires a company to choose a value discipline that takes into account its capabilities and culture as well as competitors’ strengths. The greater challenge is to sustain that focus, to drive that strategy relentlessly through the organisation, to develop the internal consistency, and to confront radical change (Treacy & Wiersema, 1993).

According to Treacy and Wiersema, the three different value discipline strategies are:

* Operational Excellence: the objective of a company following this strategy is to lead its industry in price and convenience. Companies pursuing operational excellence are unwearied in seeking ways to minimise overhead costs, to eliminate intermediate production steps, to reduce transaction and other ‘friction’ costs, and to optimise business processes across functional and organisational boundaries.
* Customer Intimacy: the objective of a company following this strategy is to concentrate on making their operations lean and efficient. Companies pursuing a strategy of customer intimacy continually tailor and shape products and services to fit an increasingly fine definition of the customer.
* Product Leadership: the objective of a company following this strategy is to strive to produce a continuous stream of state-of-the-art products or services. In order for these companies to reach their goal it requires them to challenge themselves in three ways: (i) they must be creative, (ii) they must commercialise their ideas quickly, (iii) they must relentlessly pursue new solutions to the problems that their own latest product has just solved.

What can be concluded from the above description of each value discipline strategy, is that Wakati currently accelerates on product leadership, whilst also sufficiently controlling operational excellence and customer intimacy. Product leadership is being shown by Wakati through striving for product development and product innovation by constantly working on its post-harvest storage solution, including the tent, the unit and solar panel.

### *3.1.5. Wakati’s marketing mix*

The current marketing mix for Wakati has been established for the smallholder farmers as well as for the (prospective) distribution intermediaries and concerns creating category need and brand knowledge, respectively. This strategy has been chosen in order to reach the objective to enlarge the total market of Wakati in developing countries by positioning itself as a high quality product with better benefits than current, traditional farming practices used.   
To carry out the export marketing strategy, marketing tools are used that form the export marketing mix (Veldman, 2010).The marketing mix, according to Kotler (2000), is the set of controllable variables that the firm can use to influence the buyer’s response. These four variables help a company develop a unique selling point as well as a brand image.

**Product**When we regard the product as a marketing tool, its purpose is to have the supply match as much as possible to the need(s) of the target group(s) (Veldman, 2010).   
Wakati offers the Wakati One that allows smallholder farmers in developing countries to double the shelf life of their crops that has an enduring effect throughout the supply chain, as better onsite storage results in fewer losses during transport and at the market place. Wakati is constantly innovating its product to ultimately conform to the entire market needs as well as to constantly being able to provide affordable and accessible post-harvest storage solutions.

**Place**Kotler (2000) argues that the place refers to all the activities of a business that make the product or service more accessible to each customer.   
Wakati makes use of indirect export by supplying the Wakati One to intermediaries that Wakati allocates as ‘partners’. The flow of goods can be visualised with the following supply chain:



Figure three: supply chain Wakati

Wakati’s current export strategy is to indirectly export their products to the partners via their own office in Belgium. This, because the tent, climate unit and solar panel are all being developed by different manufacturers in China. Currently, Wakati sees no possibility in sending the package as a unit from China. Wakati’s strategy, however, is currently being revised since it is establishing its distribution centre in Kenya to satisfy the local needs in East Africa. Wakati prospects to operate several distribution centres across Africa, in order for distribution to run more efficient. With selling to Wakati’s partners, Wakati wants to assure that the smallholder farmers attain reliability of deliveries, sufficient quality as well as efficient handling of complaints.

**Price**Solomon, Marshall and Stuart (2008) refer to price as being the amount the consumer must exchange to receive the offering.   
Wakati currently handles one price for all of its Wakati One customers. Currently, units are being sold at a $67 FOB pricing. Since the production costs amount to $45 (this is a total sum of the tent, climate unit and solar panel), this yields a 33% or $22 margin. Wakati expects to increase this margin to 46% by the end of 2016. For the smallholder farmers, the retail price will range between $99 and $150, depending on contract negotiations and the structure of the network of its distribution partners. Wakati aims to keep the final retail price below $150, which ensures a good return on investment (ROI) for the eventual end-user. The ROI of Wakati for farmers depends on region, crop type and business case.

**Promotion**Kotler (2000) argues that promotion relates to all the activities aimed at the customers to show the product as well as the earnings of it. According to Veldman (2010) promotion in business markets involves personal, one-to-one communication between buyers and sellers.   
Wakati communicates its value proposition to the target groups via advertising, trade fairs and direct marketing.

* Advertising: Wakati advertises for their product as well as for financial benefits. Regarding their product, Wakati advertises through flyers and product brochures that are being sent to the partnering businesses in Africa. Therefore, Wakati’s partners send Wakati’s message across to the end-consumer as well as to businesses that could become partners of Wakati. Besides product advertising, Wakati makes use of financial advertising which helps Wakati attract funds and raise awareness among advisors as well as potential investors.
* Trade fairs: Wakati regularly visits national as well as international trade fairs. These trade fairs are related to agriculture as well as innovative technologies. These trade fairs result in many partnerships with not only distributors/agricultural dealers but also with universities and research institutes. These partnership are being established in order for Wakati to gain more knowledge about the innovation of ozone, solar panels as well as other post-harvest food losses solutions.
* Direct Marketing: Wakati develops their direct marketing campaigns towards the distribution intermediaries via Facebook, Twitter and their own website. Additionally, Wakati has a database in which each customer as well as prospected customers are being kept track of. Through these different types of direct marketing, Wakati communicates directly to customers as well as enthusiasts. Via its database, Wakati sends monthly emails in which the newsletter is being sent and investigates the response rate to these emails as well as their social media accounts.

### *3.1.6. Wakati’s strengths*

A business’ strengths are those features that allow the business to operate more effectively than the competitors. The strengths can be considered as being the Unique Selling Points (USPs) of a business (Shell Livewire, 2014). For Wakati, the strengths are:

* First solution of its kind – Wakati’s technology (creating a humid and sterile micro-climate by creating ozone and reducing ethylene, which sterilises the crops and reduces the ripening process of the crops) has never been done before. Therefore, there are no direct competitors that Wakati has to deal with;
* Effective storage solution – according to testing done by the AVRDC the solution that Wakati provides for post-harvest food losses is very effective, adding up to approximately 15 extra days;
* Off the grid – the climate unit works on three Watt solar panels and does not operate on electricity;
* Affordable – by keeping the retail price below $150 and because of connection to micro-finance the smallholder farmers are able to afford a Wakati by paying for it in instalments;
* Huge R&D budget – R&D receives 37% of the total budget to keep on innovating the Wakati in order to make it better and cheaper. Wakati is currently testing its innovations in various climates to assure quality;
* Qualified business advisors – Wakati is being advised by a representative of the Advisory Board of the United Nations Food and Agriculture as well as by the senior vice-president CSR of the Metro Group.

### *3.1.7. Wakati’s weaknesses*

A business’ weaknesses are those areas of a business that are capable of improvement. For Wakati, the weaknesses are:

* Product defects of 20% (solar panel/climate unit) – since Wakati has not been tested for the full 100% before it was launched, there have been product defects;
* Setting up the complete Wakati is fairly difficult for people who are not used to tents and setting them up (even with a manual) – the tents require some knowledge since the manual is not (yet) descriptive enough for smallholder farmers who have never set up a tent before. Additionally, setting up the climate unit with the solar panel is a fairly new and innovative technology for smallholder farmers;
* Does not come with crates to store the fruits/vegetables in – inside the tents, the crops need to be kept in crates do reduce damages by pressing. However, not many smallholder farmers have (spare) crates that they can use;
* Not providing different products to different customer segments – at this moment, the Wakati has solely been made for smallholder farmers to use for storage after their produce has been harvested. There has not (yet) been made a Wakati that can be used for transport or by medium-sized farmers, which is desired in the market;
* Production is outsourced to China – the Wakati tents are manufactured in China. It can take up to two months to have the entire unit manufactured and shipped to Belgium;
* Reliable on funds/loans/investments – Wakati has finalised sales, however it is reliable on the funds/loans it receives to further develop the business and the product.

What can be concluded from Wakati’s strengths and weaknesses is that Wakati has a real problem solving product that has beneficial as well as negative sides to it. Wakati needs to dissolve its weaknesses in order to really benefit from the market it is currently trying to satisfy.

## 3.2. The external analysis

The external analysis for Wakati provides an introduction to the strategic business environment of Wakati by analysing the Nigerian country, the buyers, the agricultural industry and the market for Wakati in Nigeria. The external analysis summarises the opportunities and threats for Wakati in Nigeria by developing a market, buyer, competitor, industry and supply chain analysis.

### *3.2.1. Market analysis*

The DESTEP analysis serves as an analysis of the external environment of the company. The DESTEP analysis consists of six environmental factors, each might be having an influence on the current and future growth of Wakati in Nigeria (Leeman, 2015).

**Demographic aspects**The Federal Republic of Nigeria is the most populous country in Africa and the seventh most populous country in the world with 185.750.000 inhabitants. According to the CIA World Factbook (2014), Nigeria has an urban population of 49,6%. There are a great number of ethnic-linguistic groups in Nigeria, although the main languages are Hausa (northern regions), Yoruba (south-western regions), Igbo (south-eastern regions) and English (Reed & Mberu, 2014). Two thirds of the adults between the age of 15-64 are employed, of which most work in low productivity, low income jobs. About 60% of the working Nigerians are in smallholder farming of which half of those belong to the poorest 40% of the population (The World Bank, 2016). In Nigeria, a divide is becoming visible: one in which high and diversified growth provides more job and income opportunities, and one in which workers are trapped in traditional subsistence activities. Also, a geographical divide is becoming visible: northern Nigeria having lower levels of education access and higher youth underemployment compared to the south (The World Bank, 2016). Population growth will continue to influence developmental challenges in Nigeria. Climate change is likely to compound these challenges, as it could potentially affect the availability of natural resources such as agricultural land and water, as the visual in appendix H depicts (Population Action International, 2012).

*Demographic implications for Wakati.* Two thirds of workers in northeast Nigeria are in agriculture, compared to less than one in five workers in the southeast. Nigeria has significant potential related to the population size, high expenditures on agriculture in percentage of the GDP and potential market size. Traditional farming methods and a low level of automation bear large potential for efficiency improvements. The difficult climate for farming, the degradation of land and declining harvest outputs will lead to the need for efficient agricultural solutions in the future and increase the demand for crop protection (Dittert & Meijer, 2011). The majority of Nigerian smallholder farmers are located in remote areas with poor transport and market infrastructure, contributing to high transaction costs (Key, Sadoulet, & de Janvry, 2000). Moreover, the majority of smallholder farmers are scattered and operate individually (Kherallah & Kirsten, 2001). The developmental vision of Nigeria’s government conceptualises a transformation in agriculture that would ensure food security, the right to sustainable development for all and adaptation to the climate change challenge. The government’s transformation programme is meant to dissuade Nigeria off food imports by boosting domestic food production (Nwajiuba, 2012).

**Economic aspects**Nigeria is a middle income, mixed and emerging economy (IBP, 2015). The country is ranked as the 21st largest economy in the world in terms of nominal GDP according to the International Monetary Fund (2015). According to the Nigerian National Bureau of Statistics (2015) Nigeria had a total workforce of 55.693.723 people and an unemployment rate of 7,5%. The entire workforce generated a nominal GDP of $492.986 billion (International Monetary Fund, 2015). The GDP of 2015 comprised of: services (54,6%), industry (25,7%) and agriculture (17,8%) (National Bureau of Statistics, 2015). Seventy-four percent of the Nigerians (around 130 million people) live below the MGI Empowerment Line; a level of consumption that constitutes a decent ‘’economically empowered’’ standard of living, which has been calculated as being $1.016 per person a year in urban and $758 per year in rural areas (Wright, et al., 2014).

*Economic implication for Wakati.* In Nigeria, urban poverty is driven by poor employment options and low productivity; workers in urban-oriented industries such as manufacturing actually have lower productivity than farm workers (Wright, et al., 2014). Prospects for the agricultural sector are very bright, owning to the growing demand for food driven by a large population and growing incomes as well as higher prices due to demand from the international market. The key to unlocking the growth potential of agriculture in Nigeria is to improve the fate of smallholder farmers. Empowering the millions of smallholder farmers who have access to millions of hectares will ensure they have access to appropriate inputs, sufficient financing that will significantly boost productivity (Nnamdi, 2013). Since, currently, agriculture in Nigeria is carried out according to traditional methods and mechanised farming is relatively rare because farmers find it difficult to adapt to new technologies (Yakubu & Akanegbu, 2015).

**Social/cultural aspects**Nigeria is one of the largest and culturally most diversified African countries. Cultural heritage is widely recognised as the most important input in defining the national and ethnic cultures in Nigeria. The local cultural milieu of Nigeria is extremely diversified, and depends not only on the ethnic cultural value and habits, but also on religious habits and obligations (Adams, 1996). Nigeria is hugely divided religiously. The far northern states are overwhelmingly Muslim, and the southeast and south-south are Christian. The religiously mixed states of the north central and southwest are also politically mixed (Paden, 2015). It is estimated that Nigeria has about 371 tribes and 400 spoken languages (Ethelbert, 2002). Among those existing tribes in Nigeria, there are only three major tribes that are accorded recognition in Nigeria: Ibo, Hausa and Yoruba (Ogbonna, 2010).

*Social/cultural implications for Wakati.* According to Chaney and Martin (2005), barriers to communicate in a new culture could be: physical, cultural, perceptual, motivational, experimental and linguistic. Since the ethnic diversity is very high in Nigeria, development initiatives must pay serious attention to the diverse ethnic groups because failure to address diversity can jeopardise such efforts (Ifeyinwa, 2002). A study done by Akintunde (2008) indicates that success of international business operating in Nigeria is positively related to their local cultural awareness and responsiveness

**Technological aspects**From the perspective of sustainable agricultural growth and development in Nigeria, the most fundamental constraint is the peasant nature of the production system, with its low productivity, poor response to technology adoption strategies, and poor returns on investment (Manyong, et al., 2005).  
Nigeria is a country that is technologically backward, meaning that (i) it cannot produce capital goods, (ii) it is unable to exploit her natural resources except with the help of foreigners, (iii) it is unable to mechanise her agriculture, (iv) it depends on other countries for the supply of its parts for industrial machinery, (v) it exports raw materials to other countries as against finished products, (vi) it is unable to produce her own military hardware with which to defend herself if the need arises (Uwaifo & Uddin, 2009). In order to achieve the needed technology development in Nigeria, technology education is determined as key, in which students learn about the processes and knowledge related to technology (Nsikan, Batchman, & Emmanuel, 2015). It covers the human ability to shape and change the psychical world to meet needs by using techniques (Danko, 2006). Currently, the majority of organisations including the banks in Nigeria have taken the advantage of IT to enhance their operations (Oluwagbemi, Abah, & Achimugu, 2011).

*Technological implications for Wakati.* While crop yields have improved in recent years, they remain far below those of peer nations, as Nigerian farmers have limited access to productivity-improving technologies. As an estimation for 2030, improvements on several fronts could help raise both the volume and the value of Nigeria’s agricultural production in the next 15 years. The economic value of agriculture could more than double by 2030 (Wright, et al., 2014). Shah et al (2002) illustrate that little investments in agricultural technology can benefit landless households directly through production of vegetables and fruits and indirectly through employment generation. Regarding the technology of the Wakati, Gerard Vos (appendix I) states that: ‘’Current smallholder farmers practices does not concern solar panels, because of which the Wakati might be too difficult for smallholder farmers to use.’’

**Ecological aspects**Nigeria is a country of marked ecological diversity and climatic contrasts (Eroarome, 2010). Nigeria’s climate is likely to see growing shifts in temperature, rainfall, storms, and sea levels throughout the twenty-first century. These climatic challenges could throw already stressed resources such as land and water into even shorter supply. Moreover, poor responses to resource shortages could have serious negative secondary effects (Sayne, 2011). In Nigeria the agricultural production is declining. The pressure on the agricultural crop land, therefore, is growing mostly due to the population growth (Ogunbiyi, 2012). According to the World Bank (2013), in 2013 77,7% of the Nigerian land was arable. Meaning land that is under permanent crops and under permanent pastures, i.e. land used for five or more years for forage. Nigeria is faced with rapid drought and desertification that have direct and indirect impact on all aspects of human life and the environment (Olagunju, 2015).

*Ecological implications for Wakati.* Nigeria has a total of 92.4 million hectares of land out of which about 57% is under crop and pasture production (Osugiri, Ugochukwu, Onyaguocha, Onyemauwa, & Ben-Chendo, 2012). Greater areas of medium to high levels of land-use intensity are found on the northern border, with the highest cultivation density being associated with major towns. The same is found on the southern border, were the proportion of land cultivated reaches its highest (Mohamed-Saleem, 2010). The northern part of Nigeria faces serious threats of desertification occasioned by overexposure of the fragile environment mostly through improper farming techniques (Omijeh, 2008). Drought in Nigeria causes deterioration of land productive systems and invariably low agricultural outputs (Olagunju, 2015). The impact of desertification is significant in developing countries in Africa because its economy is predominantly agrarian, rain fed and fundamentally dependent on the vagaries of weather (Bello, et al., 2012). However, it has been difficult for Nigeria to take advantage of their environment because of the lack of adequate technology (Mohammed, 2015). Michel Deeling, Head of the Dutch Delegation in Lagos expressed optimism that if Nigeria professionalises her farming system, more young men and women would be attracted to agriculture who could develop the needed special skills (Nigerian Vanguard, 2016).

**Political aspects**Nigeria was officially given independence in 1960 since Nigeria was once a British colony and it retains a political and legal structure similar to those of Britain (Uzochukw, 2016). When it comes to the law in Nigeria, there are four distinct systems (i) the English law, (ii) the Common law, (iii) the Customary Law and (iv) the Sharia law (PWC International, 2015). The lack of an adequate legal structure is accompanied by corruption in the political realm (Lin, 2013). Since Muhammadu Buhari took over as Nigeria’s president on 29May 2015, he vowed to wipe out the corruption he said threatened the very existence of Africa’s largest economy that has blighted Nigeria since independence (Wallace & Ibukun, 2016). However, the Nigerian government is not yet winning the war (Ezeamalu, 2016).

*Political implications for Wakati.* Evidence suggests that the current level of political maturity and development in the country will further boost the country’s economic development (Adewale, 2011). Internal conflicts related to religion have negatively influenced agricultural productivity and investment in Nigeria. Conflict can disrupt the supply and distribution of inputs and outputs, create price shock and cause massive displacement of labour. The instability that the attacks by Boko Haram cause, has had an affect on agricultural products from the north and has severely reduced cross-border trade (Kimenyi, et al., 2014). Quoting Williams Angban (appendix J): ‘’Boko Haram invaded much of the northeastern regions of Nigeria in which hey have made roadblocks and rob many trucks coming in that include seeds and fertilisers for the smallholder farmers.’’

**Post-harvest food losses in Nigeria**Yearly, Nigerian farmers produce a lot to boost the economy but most are lost at post-harvest stage. According to Gerard Vos: ‘’post-harvest losses start with the harvesting, handling and storing of perishable crops since most Nigerian smallholder farmers do not have measures to reduce the loss and keep produce fresh.’’ The post-harvest technological scenario of Nigerians presents a dismal picture and mostly comprises of traditional techniques practiced by growers, traders and the processors, resulting in considerable deterioration of physical and nutritional qualities of harvested crops (Oni & Obiakor, 2002). Nigeria records over 40% post-harvest losses, which has led to an unprecendented hike in food importation in the country (Mada, Hussaini, & Adamu, 2014). Quoting Tony Bello (appendix K): ‘’less post-harvest food losses will ultimately lead to less food importation in Nigeria.’’   
Crops can be classified into various categories based on their degree of perishability: durable crops (cereals, pulses, oilseeds, spices and condiments), semi-perishable crops (potato, onion, sweet potato, cassava) and perishable crops (fruits and vegetables) (Amiruzzaman, 2001). In under-developed and developing tropical countries, both quantitative and qualitative losses of agricultural products occur at all stages in the post-harvest chain, from harvesting through handling, storage, processing, packaging, transportation and marketing, until crops are delivered to the final consumers (Olayemi, Adegbola, Bamishaiye, & Awagu, 2012). Hence, the elimination of post-harvest losses of agricultural products is important to boost food security and availability in these countries (Mrema & Rolle, 2002). In Nigeria, fresh fruits and vegetables are inherently more liable to deteriorate under tropical conditions characterised by high, ambient temperatures and humidity, and a high incidence of pests and diseases. Consequently, post-harvest losses of solely fruits and vegetables are extremely high in Nigeria (30-50%) (Busari, Idris-Adeniyi, & Lawal, 2015). These perishable staple foods are very largely produced by smallholder farmers and the technologies employed in both production and utilisation is usually simple and founded on long-established traditional pratice (Atanda, Pessu, Agoda, Isong, & Ikotun, 2011). The losses have several adverse impacts on farmer income, consumer prices and nutritional quality of the produce. Because of the poor planting material, cultural practices including harvesting methods and handling practices, the quality of harvested produce is below standard. Absence of (on-)farm storage facilities and proper packing stations result in the perishable produce being marketed immediately after harvesting, without primary processing and adequate packaging (Roy, Karihaloo, Punan, & Muda, 2010).   
Factors that contribute to post-harvest losses of fruits and vegetables include environmental conditions such as heat, drought, mechanical damage during harvesting and handling, imporper post-harvest sanitation, unsuitable packaging materials, poor cooling and storage practices (Byezynski, 1997). Moreover, vibrations resulting from transportation contributes greatly to post-harvest losses (Fejokwu, 1992). Janet Hawkes (appendix L), member of the advisory board of the UN FAO states that ‘’the problem of post-harvest food losses lies within the education of smallholder farmers and their knowledge on agricultural inputs and storage solutions.’’   
Even though increased yield has been found to be possible, post-harvest losses has been a bane to food security in Nigeria (Arowojulo, 2000). Post-harvest losses have prevented the effect of the increase to be felt in the income of the smallholder farmers.

There are many promising approaches to reducing food loss, including hermetic storage devices, good agricultural practices for harvesting and sorting crops, plastic crates for transporting produce, and others. However, issues related to access, affordability, adoption, and awareness of these practices and technologies inhibit the scale at which they make an impact (Farley & Rose, 2014). Reduction of post-harvest losses and quality deterioration are essential in increasing food availability from the existing production. Minimising this loss has a great significance for food security, economic growth and welfare of the society (Kasso & Bekele, 2016).

*3.2.2. Buyer analysis*   
Wakati sells its products indirectly to their target group; the smallholder farmers. Wakati makes use of the partnerships it has established with distribution intermediaries. Therefore, the buyer analysis does not only comprise of the analysis of the smallholder farmers, but also of the analysis of the type of businesses these smallholder farmers work with in order to sell their produce.

In Nigeria, smallholder farmers make up for about 60% of the workforce, which has been calculated to be 55.693.723 between 2011 and 2015 (Osugiri, Ugochukwu, Onyaguocha, Onyemauwa, & Ben-Chendo, 2012). All these smallholder farmers, of which 60-80% are women, produce over 80% of Nigeria’s food supply (Amah & Ademokun, 2013). Women were particularly involved in the processing of agricultural produce (Adamu & Park, 2014). The enhanced social and economic status of women leads to greater household food and nutrition security (Meinzen-Dick, Adato, Haddad, & Hazell, 2003). Despite the role of women as the backbone of food production in Nigeria, women are faced with many factors constraining their effective participation in achieving food security (Ukeje, 2014).

The smallholder farmers have little to no access to credit, agricultural extension services, high quality inputs and the market place (Masha, 2013). These issues systematically keep farmers in poverty with the inability to be productive. Productivity among smallholder farmers in Nigeria is mainly on subsistence level, i.e. self-sufficiency farming in which the farmers focus on growing enough food to feed themselves and their families. Thus, there is wide spread of poverty, malnutrition and diseases militating the ability of the farmers to realise their objective of food sustenance (Osugiri, Ugochukwu, Onyaguocha, Onyemauwa, & Ben-Chendo, 2012).

Many factors that contribute to post-harvest food losses of fruits and vegetables are very critical, these factors include environmental conditions, mechanical damage during harvest and handling, improper post-harvest sanitation, unsuitable packaging, and poor cooling and storage practices (Byezynski, 1997). Wills and Seberry (1990) state that all types of losses need to be considered, including weight loss, loss of quality and nutritional value, financial loss and loss of marketing opportunities.

According to data from the Food and Agriculture Organisation of the United Nations (2015), the average household of a smallholder farmer has a size of 6.1 people. The average poverty rate among Nigerian smallholder farmers is 58%. The average farm size of smallholder farmers in Nigeria is 1 hectare out of which they sell 53%, on average. Of all the smallholder farmers in Nigeria 15,1% of all use motorised equipment that are mostly located in the south.

The smallholder farmers’ major crops produced include rice, maize, cassava, soybean, beniseed and groundnut (Penda, 2012). The major fruits these smallholder farmers produce include mango, pineapple, banana, citrus, guava and pawpaw. While the vegetables include onion, tomato, okra, pepper and carrot (Ibeawuchi, et al., 2015).

|  |  |
| --- | --- |
| **Colour** | **Fruit/vegetable** |
| Red | Tomato |
| Light green | Pepper |
| Dark green | Onion |
| Brown | Soybean |
| Dark blue | Beans/cowpea |
| Purple | Okra |
| Grey | Cucumber |
| Orange | Citrus (oranges, grapefruits, lemons and limes) |
| Yellow | Banana/plantain |
| Pink | Mango |
| Light blue | Pineapple |

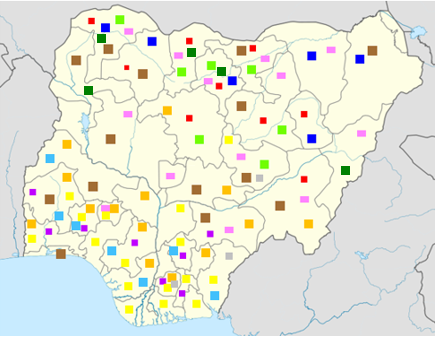
Smallholder farmers are scattered across all Nigerian states mainly because of the arable conditions throughout the entire country. In the adjacent illustration, the crops produced per state are shown:  
   
 Tomatoes are cultivated in many states across the northeast region of Nigeria, namely: Jiwaga, Katsina, Zamfara, Sokoto, Kaduna, Bauchi, Gombe, Taraba and Kano that lead the pack in the commercial cultivation of the crop. In these states combined an alarming 45% of the tomatoes that are being harvest is lost due to poor food supply chain management (Salihi & Augustine, 2013).   
 The greater part of pepper production in Nigeria is undertaken in the north of the country, in Kaduna, Kano, Jigawa, Katsina, Sokoto, Plateau and Bauchi states. The natural features of these regions (the presence of flood-prince plains and river basins) create conditions that greatly favour the development of this crop (Awode, Uzairi, Balarabe, Harrisson, & Okunola, 2008).   
 Onion cultivation in Nigeria is confined to semi-arid zones of the country. Borno State is regarded as the foremost onion producing state in Nigeria. Other major onion producing states include Kebbi, Sokoto, Katsina, Kano and Adamawa (Abuga, 2014).   
 The major soybean producing states in Nigeria in descending order are Benue, Kaduna, Plateau and Niger, following by other states including: Nasarawa, Kebbi, Kwara, Oyo, Jigawa, Borno, Bauchi, Sokoto and Taraba. Above mentioned soybean producing states accounted for 96% of the total soybean production in Nigeria (Omotayo, Fabusoro, Jaiyeola, Adeniji, & Oyedepo, 2007).   
 According to the International Institute of Tropical Agriculture (2009), beans and cowpeas are best grown in the drier climates of the northern regions. After India, Canada and Burma, Nigeria is the largest cowpea/beans producer in the world. The major growing areas in Nigeria are: Borno, Zamfara, Sokoto, Kano, Gombe and Yobe.   
 Okra is a warm-season crop that is considered to have originated from India and is a traditional vegetable crop commercially cultivated in West Africa (Mateus, 2011). In Nigeria, okra ranks third in terms of consumption and production area following tomato and pepper (Ibeawuchi I. , 2007). The okra producing states are: Edu, Osun, Enugu, Benue, Abia, Imo, Ogun an Oyo state (Alabi & Esobhawan, 2006; Farinde, Owolarafe, & Ogungbemi, 2007; Nwaobiala & Nwosu, 2013; Ijoyah & Dz er, 2012; Agbugba, 2013; Nosiru, Banjo, & Adedeji, 2012; Adelakun, Oyelade, Ade-Omowaye, Adeyemi, & Van de Venter, 2009).   
 Research has shown that cucumber can grow and survive in any location as long as there is sunshine and a water supply (Ogumka, 2015). The major crop producing states in Nigeria are Imo, Cross River and Plateau (Ikechukwu, 2015; Ohen, Umeze, & Cobham, 2014; Ayodele, 2005).   
 Citrus fruits include oranges, lemons, limes, grapefruits and tangerines (Olife, Ibeagha, & Onwualu, 2015). Citrus fruits are listed as being of high priority and have been identified as one of the most cultivated fruit crops in Southwestern Nigeria. As of 2007, Nigeria ranked 9th in world citrus production with 3,325,000 tonnes (Oydele & Yahaya, 2010). The major producing states in Nigeria include Benue, Nasarawa, Kogi, Ogun, Oyo, Osun, Ebonyi, Kaduna, Taraba, Ekiti, Imo, Kwara, Edo and Delta state (Olife, Ibeagha, & Onwualu, 2015).   
 Banana and plantain are among the horticultural crops of high economic value in all the states of Nigeria. Nigeria is the fifth largest producer of plantain in the world and first on the African continent (FAO Nigeria Country Office, 2013). Large quantities of plantain and banana are being produced by smallholder farmers in Edo, Delta, Ogun and Ondo states in the largest quantities. Other producing states are River state, Cross river, Imo, Plateau, Kogi, Abia and Enugu (Iyabo, Omobowale, Sulaiman, & Kemisola, 2013; Foram Inifera, 2016).   
 Regarding mangoes, in 2002 Nigeria occupied the 8th position in the world ranking of mango producing countries. The main producing states in the country include Benue, Jigawa, Plateau, Yobe, Kebbi, Niger, Kaduna, Kano, Bauchi, Sokoto, Adamawa, Taraba and FCT state (Sulaiman & Salau, 2007).   
 Concluding with pineapple, Nigeria holds a seventh position of the world production of pineapples (Baruwa, 2013). In Nigeria, it is the third most important tropical fruit crop after banana and citrus and is the main source of income for many smallholder farmers (Kochhar, 2009).

Table two: colours connected to fruits and vegetables

Picture two: fruit and vegetables being harvest across Nigerian states

**Buyer personas**Buyer personas, in marketing, are used to know exactly who the target customer is. Having developed a buyer persona results in stronger and more cost effective marketing (Gaudet, 2014).  Agricultural dealers, also referred to as agro dealers, in Africa as well as Nigeria refer to the persons and/or enterprises who sell agricultural equipment. These agricultural equipment could be tractors, drip irrigations, fertilisers, and, eventually, the Wakati One (Singh, 2013). Agricultural dealers are scattered all over the country but are concentrated in three main industrial clusters in Nigeria; Kano Kaduna Jos in the north, Lagos Otta Ibadan in the southwest and Port Harcourt Aba Nnewi Onitsha in the southeast. The Lagos Otta Ibadan account for 44% of the registered firms, which are also the largest of the three parts (Dannson, et al., 2004). The agricultural dealers could both be national as well as international, small scale as well as large scale. The national agricultural dealers of Nigeria do, often, not have a website or contact information (Africa Fertilizer, 2015). National agricultural dealers that are successful are, for instance, Notore Chemical Industries Plc that distributes their fertiliser across the country (Mfonobong, 2011). As well as DeboFarm that distributes their agricultural machinery and farming equipment, mainly, across the southwest (Debo Farm, 2014). Additionally, Syngenta Nigeria Ltd is an agricultural dealer that offers technologies to smallholder farmers to grow more crops while using fewer resources (Syngenta, 2016).   
 Food processors can be identified as the companies that make food for which they need materials that have been harvested by the smallholder farmers. These companies are in need of fruits and vegetables that are harvested across entire Nigeria. A national food processor is Dansa Food Limited that is a fast moving consumer goods company and a member of the Dangote Group – the largest manufacturing conglomerate in Nigeria, that uses the fruits and vegetables that have been harvested by their smallholder farmers to make fruit juices (Dansa Foods Limited, 2016). Fumman Group Limited is reaching out to smallholder farmers to process their fresh fruit into juices (United Nations Development Program, 2013).   
 Agricultural NGOs in Nigeria provide basic services to those who need them. Many NGOs have demonstrated an ability to reach poor people, work in inaccessible areas, innovate, or in other ways achieve things better than by official agencies (Eyioko, 2012). Large NGOs that operate in Nigeria are the Rockefeller Foundation, the Bill and Miranda Gates Foundation, the African Agricultural Technology Foundation and the International Fund for Agricultural Development. They all foster projects for agricultural development in Nigeria.   
 Agricultural social enterprises use the environment and people in order to create positive change (Reid, 2013). In Africa, many social enterprises are focused on social change (Dorsey, 2015). In Nigeria, agricultural social enterprises are focused on selling to, training of and advising smallholder farmers. A good example of a Nigerian social enterprises is Babban Gona that achieves to overcome a key underlying structural problem that keeps Nigerian smallholder farmers poor; low economies of scale by providing professional training, input, credit and marketing services to their groups of smallholder farmers (Babatunde, 2016).   
 Discussing multinationals, a handful of corporations own the world’s seed, pesticide and biotech industries, and therewith control the fate of food and farming; the chart can be seen in appendix M. These being: Bayer, BASF, Monsanto and Dow AgroSciences (Dalle Mulle & Ruppanner, 2010). When it comes to food producing and processing, the market is led by Nestlé with a market share of 7%. Nestlé has contracted around 600.000 farmers in in 80 countries (Gura & Meienberg, 2013). In Nigeria, Nestlé is continually empowering women smallholder farmers (Nestlé Central and West Africa, 2013).

**Decision making units**Investigating the decision making units (DMUs) for Wakati should both be done for the business to business sales as well as the decision making units for the smallholder farmers. Kotler states a DMU to be ‘’all persons or unities that, in one way or another, co-decide the purchase (Kotler, 2009).’’

* An understanding of the organisational buying process is fundamental for Wakati to the development of an appropriate export as well as marketing strategy. It is presumed that organisational buying is a joint decision making, carried out by individuals, in interaction with other people (Abiola, 2000). The process of final decision making is in the hands of powerful and influential leaders (Ejimabo, 2013). In organisations, a comparison should be carried out between the actual and planned outcomes, which will prove the visibility of the business (Omoluabi, Udegbe, Lawal, & Otenkunrin, 2015). People in Nigeria usually want to do business only with those they know and like. Proceeding with serious business discussions, therefore, are better done only after the counterparts have become very comfortable (Kats, 2007).
* For smallholder farmers, decisions have to be made about alternative courses of action and, therefore, must make some choices (Oji, 2002). Farmers are bound to make decisions on a number of pre-harvest and post-harvest activities such as what to produce, input use, and issues affecting producing, processing, distribution prices and costs (McBride, 2012). As has been mentioned before, women are key players in the agricultural sector of most developing countries of the world. However, men have reportedly continued to dominate the farm decision-making, even in areas where women are the largest providers of farm labour (Enete & Amusa, 2010). Gerard Vos remarked that: ‘’the person making the decision on the farm depends on the importance of the decision that has to be made. Making men the decision-maker on matters that have immediate effect on the outcome of the harvest.’’ According to Cleave (1977), a smallholder’s decision comes from many external factors such as its production objectives, constraints and land/labour/capital that is available.

**Return on investment**The return on investment (ROI) of Wakati for smallholder farmers differs per region, crop type and business case, as can be seen in appendix N. For this calculation the example of a Nigerian tomato farmer has been used. The information comes from the UN FAO and has been given through a semi-structured interview with Janet Hawkes. There has been assumed that Wakati can reduce the post-harvest losses from 25% to 12,5% and that the farmer will profit from a price increase of 25%. The return on investment has been calculated on current yield and price versus projected yield and price with the use of Wakati. Following the calculations in the appendix there has been calculated that this farmer can have a return on investment of 154% within the first year. Since the life span of a Wakati is three years, the return on investment in three years will be 662%.

One aspect that has not been taken into account with this calculation is transport. Many smallholder farmers in Nigeria do not have their own transport to deliver their product to the market and therefore hire transport (Abu, Alumunku, & Tsue, 2011). This makes transport very expensive and is, as a consequence, a key driver in both farmer income and crop prices. Since tomatoes are highly perishable, there is a sense of urgency in marketing these products as quickly and efficiently as possible in order to maintain their farm fresh value (Maliwichi, Pfumayaramba, & Katlego, 2014). Therefore, the transport of the tomatoes happens daily. With the Wakati transport costs will be saved since they can store their produce for days.

**Nigerian business culture**Some foreigners encounter challenges when doing business in Nigeria. According to Foster (2002), doing business does not have to be difficult as long as you understand the cultural etiquette, doing business in Nigeria can offer vast opportunities. He argues, however, that success comes down to two key factors: contacts and commitment. Foster states that ‘’if you are committed to business in Nigeria you have to know that you are entering an environment that requires your constant attention and flexibility on.’’

When doing business, culture has significant influence since business revolves within the circumference of people and their culture (Ogbonna, 2010). Hofstede (2001) classifies culture in four dimensions and explained its degree of influence in business in six dimensions. The following table shows the comparison of Belgium and Nigeria related to the six dimensions, the entire analysis can be seen in appendix O.

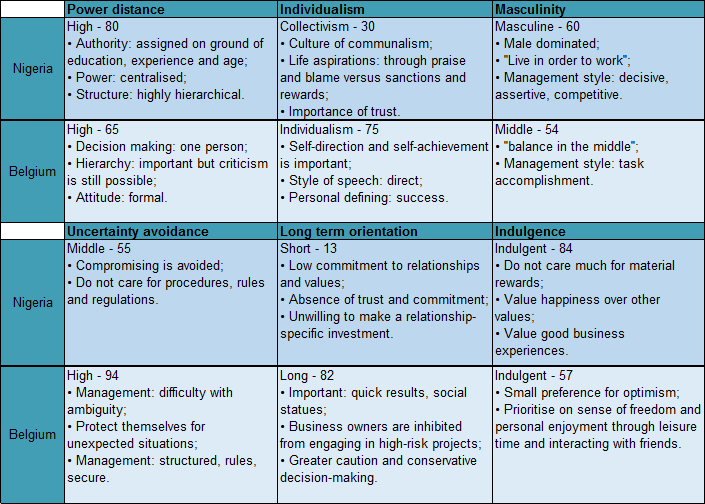


Table three: Hofstede cultural dimensions model

### *3.2.3. Competitor analysis*

The competitor analysis is devoted to analysing the competition; both the current competition and the potential competitors who might enter the market. Understanding the strengths and weaknesses of the competition is critical to making sure the business survives and grows (Haden, 2015). The ultimate objective of a competitor analysis is to know enough about a competitor to be able to think like them. (Czepiel & Kerin, 2012).

Over the past years, the focus on post-harvest food losses has gained momentum as a precondition for the overall growth in productivity of supply chains. This growth is necessary to increase global food production (Aramyan & van Gogh, 2014).

**1. The pot-in-pot refrigerator – evaporative cooler** (visual in appendix P)

In 2000 the Mobah Rural Horizons was founded; producer of the pot-in-pot evaporative cooler (in Arabic known as a ‘’Zeer’’ pot) that is widely termed as the ‘fridge for the poor’, and based in Kano state, Nigeria. The pot-in-pot preservation and cooling system was invented by Mohammed Bah Abba in 1995 (Oluwasola, 2011). The pot-in-pot consists of two earthenware pots of different diameters, one placed inside the other. The space between the two pots is filled with wet sand that is kept moist constantly by adding water, thereby keeping both pots damp. Fruit, vegetables and other items are put in the smaller inner pot, which is covered with a damp cloth (Krishnamurthy, 2014). A key reason for its success is the lack of electricity in most of the northern rural communities (The Rolex Awards for Enterprise, 2005).   
The phenomenon that occurs within the pot is based on a simple principle of physics: the water contained in the sand between the two pots evaporates towards the outer surface of the largest pot where the drier outside air is circulating. By virtue, the evaporation process automatically causes a drop in temperature of several degrees, cooling the inner container, destroying harmful micro-organisms and preserving the perishable foods inside (The Rolex Awards for Enterprise, 2005). Instead of perishable foods rotting after only three days, they can last up to three weeks (Gupta, 2004). The zeer pot does not require electricity or any other power source, making it ideal for third world rural villages (Hinds, 2014). Initially, Mohammed Bah Abba distributed thousands of pot-in-pots for free in order to get the word out (Permaculture Research Institute, 2008). By setting up the local production facilities, the pot has been provided for $2. As of 2005, a total of over 90,000 pots have been delivered over a nine year period.

The simple idea has had massive repercussions in Nigeria. For example, young women who had to hawk food before it perished now had the opportunity to attend school and gain an education (McLaren, 2006). Another benefit is improved health due to better preservation of vitamins, as well as a reduction in health problems like dysentery due to the separation of food and flies (Permaculture Research Institute, 2008). A major concern about the operations of the pot was the sustainability of the environment. The mining of the clay is not planned and is carried out by illiterate, informal operators who are not licensed by governmental authorities. The clay pot, additionally, is brittle and when handled roughly breaks easily (Oluwasola, 2011). According to Janet Hawkes from the UN FAO: ‘’the zeer pots provide a limited solution to the problem since it can only store approximately 15 kg of fruits and vegetables.’’

**2. ColdHubs – modular, solar-powered walk-in refrigerator** (visual in appendix Q)

In 2014 ColdHubs was launched by Nnaemeka Ikegwuonu: solar-powered refrigeration stations that could save the livelihoods of half a billion farmers worldwide. The ColdHubs is an easy-to-set-up, modular, walk-in cold room that provides 24/7 off the grid storage and preservation for perishable foods (Lufkin, 2015). ColdHubs offers farmers a flexible pay-as-you-store subscription model. In preparation for storage, farmers transfer their perishable foods into ColdHubs’ reusable crates, which fit neatly onto the shelves of the fridge. Farmers pay a daily flat fee of $0.50 (100 Nigerian Naira) for each crate of food they store (Understand Solar, 2015). Its social impact is made out of five pillars: reducing food waste, increasing local farmer income, creating jobs for women, reducing malnutrition and delivering a self-sustainable business model (ColdHubs, 2015). ColdHubs has been designed for use in major food production and consumption centres like farms and markets. It utilises rooftop solar panels, which power an inverter that runs the refrigeration unit (Lufkin, 2015). Freshness for these fruits and vegetables lengthen from two days to 21 days, and local farmers’ post-harvest loss is cut by 80% (Lufkin, 2015).

**3. Solar dryers** (visual in appendix R)

Solar drying of fruits and vegetables is a technology that minimises post-harvest loss and enhances the shelf life of fruits and vegetables by drying them. Therefore, the drying of produce is seen as an alternative to storing them. Besides, it improves the nutritional standards in diets, minimises seasonal gluts, and reduces transportation costs (Janjai, et al., 2009). Solar drying of fruits and vegetables is a cheap method of preservation because it uses the natural resource: sunlight (Wakjira, 2010). Compared to drying in the sun, solar dryers can generate higher air temperatures and lower relative humidity. This results in shorter drying times, lower product moisture contents, and reduced spoilage during the drying process and in subsequent storage. The higher temperatures attained in solar drying also act as a deterrent to insect and microbial infestation (Bala & Janjai, 2009). Protection of the drying fruit against rain, dust, insects, and other pests is also improved when drying in an enclosed structure compared to open sun drying (Lotfalian, Ghazavi, & Hosseinzadeh, 2010).   
In Nigeria, solar drying has been identified as a promising alternative to sun drying of fruits and vegetables because of its minimal operational cost (Tunde-Akintunde, 2011). Solar dryers are specialised devices that control the drying process and protect agricultural produce from damage by insects, dusts and rain (Al-Juamily, Khalifa, & Yaseen, 2007). Successful drying depends on enough heat to draw moisture without cooking the food, dry air to absorb the released moisture and adequate air circulation to carry off the moisture (Alonge & Adeboye, 2012). Unfortunately, many of the areas that could benefit from solar drying technology lack adequate information related to how to employ this technology and which technology to use under specific conditions (Harringshaw, 1997).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Life span of product | Extended shelf life of fruits and vegetables | Amount of produce that can be stored within | Price for smallholder farmer |
| Wakati | Three years | Average of 15 additional days (results in appendix S) | Up to 200kg (600kg will be launched in October 2016) | Between $100-150 depending on deal with partner |
| Pot-in-pot | Up to ten years if handled with care (Aiyedun, 1988) | Up to 20 days (Buglione, 2013) | Up to 12 kg (Elkheir, 2002) | $2 |
| ColdHubs | Estimated five years (interview Janet) | Up to 20 days (Monks, 2015) | 30 kg per crate (Ndianaefo, 2015) | It is a communal good that is not owned by any farmer. Farmer pays $0,50 per crate per day |
| Solar dryers | Ten to twenty years depending on the state of environment (Phadke, Walke, & Kriplani, 2015) | Most dried fruits and vegetables are best when consumed within six months (Harrison & Andress, 2000) | Depending on size. Often between 20-100kg (Ayensu & Asiedu-Bondzie, 1986) | Differs depending on size. Mostly from $30 to $195 (Ogunkoya, Ukoba, & Olundale, 2015) |

### 

Table four: competitor benchmark

### *3.2.4. Industry analysis*

In the 1960s, before the country turned to oil, Nigeria was one of the most promising agricultural producers in the world. Nigeria’s minister of agriculture, Akinwumi Adesina, reels off these statistics with regret as he discusses the country’s deteriorating agriculture sector and being known for nothing else than oil. Akinwumi Adesina argues that ‘’we are looking at agriculture as a developmental activity, like a social sector in which you manage poor people in rural areas. But agriculture is not a social sector. Agriculture is a business. Seed is a business, fertiliser, storage, value added, logistics and transport – it is all about business.’’ (Green, 2013) In order for Nigeria to further emerge as a leader in agricultural transformation, it needs to spend more on agriculture than its current commitment (Obasanjo, 2014).

Nigeria is a vast agricultural country endowed with substantial natural resources, including: 68 million hectares of arable land; fresh water resources covering about 12 million hectares, and an ecological diversity that enables the country to produce a wide variety of crops and livestock, forestry and fishery products (Arokoyo, 2012). Agriculture remains important in the economic development in Nigeria. Hence, neglect of the agricultural sector has opened the way for increased rural poverty, rural-urban migration, hunger and crimes (Iruo, Sogo, & Ukpong, 2010). Nigeria’s agriculture has a critical role to play in the poverty reduction of the country as it employs about 60% of the working population (Nwafor, Ehor, Chukqu, & Amuka, 2011). However, the agriculture sector has the highest poverty incidence and tackling poverty entails tackling agricultural underdevelopment (Oyakhilomen & Zibah, 2014).

Agriculture generates employment for both skilled and unskilled labour, and contributes enormously to national and state gross domestic products. Agriculture is the major source of livelihood in most rural Nigerian societies (IFAD, 2013).

Nigeria is a country with a food paradox. Looking at production and food balance data the country should be able to feed its population adequately. However, potential food sufficiency and average food security does not mean food security for all its citizens. Many people in Nigeria do not have access to enough food, which is very visible in the country’s data on under-nutrition (Akinyoade, et al., 2013).

Undoubtedly, agricultural production in Nigeria is dominated by smallholder farmers characterised by small, uneconomic and often fragmented holdings that make use of simple implements and unimproved planting materials for farming. For traditional agriculture to break out of this vicious cycle there is a need for massive injection of capital from outside the farming systems as well as encouraging organised private sector participation (Akpaeti, Bassey, Okoro, & Nkeme, 2014). In response to the decreasing performance of agriculture in the country, governments have, over the decades, initiated numerous policies and programs aimed at restoring the agricultural sector to its pride of place in the economy. However, no significant success had been achieved, due to the several persistent constraints inhibiting the performance of the sector (Manyong, et al., 2005).

#### 3.2.4.1. Michael Porter’s Diamond Framework

Porter (1990) advanced a new theory to explain national competitive advantage. The central question he attempts to answer is why some countries are more successful in particular industries than others. He identifies four classes of country attributes that provide the underlying conditions in order to determine the national competitive advantage of a nation. Porter also proposes two other factors that support and complement the system of national competitiveness but do not create lasting competitive advantages (Smit, 2010). The determinants, individually and as a system, create the context in which a nation’s firms are born and compete. To achieve and sustain competitive success in the knowledge-intensive industries of advanced economies, it is necessary that advantages are sourced throughout the Diamond. Although, advantage in every determinant is not a prerequisite for competitive advantage in an industry, but competitive advantage should be based on more than only on or two determinants (Helvik & Harnecker, 2005).

See appendix T for a visual of the Diamond as well as the entire analysis. The following table solely consists of the main findings:

|  |  |  |
| --- | --- | --- |
| Factor conditions | Demand conditions | Related and supporting industries |
| * Agriculture employs about 60-70% of the population even though there is a decline in farm labour supply because of poverty conditions and there is an increasing absence of young people in farming; * Diverse crop and livestock production because of a wide range of agro-ecological zones; * 78% of the farmers attended primary school therefore being exposed to education that will increase farmer’s ability to obtain, process and use information related to policies and programmes that affect farming; * Lack of critical infrastructure that touches the life of every rural Nigerian farmer. | * Agricultural losses are one of the greatest problems facing agricultural production; * Need for storage that does not let in pests and diseases that affect fruits and vegetables after they have been harvest; * Need for a reduction in post-harvest food loss that could guarantee an increase in food availability, reduces the need for food importation and consequently positively impacts the welfare of farmers. | * Great presence of agricultural NGOs, social enterprises and agricultural dealers that are in direct contact with smallholder farmers; * Manufacturing the Wakati has been made possible because of China’s Silicon Valley; Shenzhen by both Nomad and The Folding Solar Panel Company; * Nigeria has relatively advanced power, road, rail and information and communication technology (ICT) networks that cover extensive areas of the country. However, the condition of the road network is poor and as a result, national connectivity is impaired. |
| Firm strategy, structure and rivalry | **Government** | **Chance** |
| * Wakati seeks to achieve to fight poverty in developing countries by reducing the post-harvest losses through providing an effective storage solution; * The competitors of the Wakati in Nigeria are not of the best quality and do not have the best effect on the fruits and vegetables which serves as an incentive for Wakati to make their product better than the current options available. | * In 2011 Nigeria instituted the National Economic Transformation Agenda whose aim is to diversify its economy from reliance on oil, assure food security and create jobs; * The Federal Ministry of Agriculture and Rural Development (ARD) is implementing an Agricultural Transformation Agenda that will promote agribusiness. | * Probability of positive and negative impacts on Wakati, the product and its operations in Nigeria.   + Education   + Government   + Industry rivalry   + Trade   + Climate |

Table five: Diamond of Porter

### *3.2.5. Supply Chain analysis*

Feringa (2009) describes that a company’s supply chain concerns the organisation, the planning and control of the entire supply chain, from the procurement, possibly through production, to the store, and through distribution to the end customers, and this at minimal cost and use of capital.

As briefly has been mentioned in the internal analysis Wakati makes use of indirect export by supplying the Wakati One to intermediaries that Wakati allocates as ‘partners’. The components of the solar panel, tent and climate unit are made by three independent companies in Shenzhen, China. Once each component has been developed, they are being shipped, individually, to the office in Belgium. From thereon out, the tent, climate unit and solar panel are packed as an entire unit. The flow of goods can be visualised with the following figure:



Figure four: supply chain Wakati

This above supply chain shows that the parts of the solar panel, climate unit and tent are made by individual partners of Wakati that are all located in Shenzhen, China. Each manufacturer assembles the solar panel, climate unit and tent individually and sends them to the office in Belgium. Wakati has, currently, not chosen for an assembly point in either China or Belgium that makes one package out of all components in order for them to be shipped. The amount that currently has been sold to Wakati’s partners was handled by Wakati’s employees in Belgium by putting each individual component in one box as one unit and ship it to the partners via air cargo with TNT. In the above supply chain it has been assumed that each Wakati distribution intermediary (i.e. partner) has a warehouse in the same country as the smallholder farmers it works with. With all current Wakati partners this is the case. Therefore, the Wakati units that have arrived in the warehouses of the Wakati partner are being transported via road to the smallholders’ farms.

The second, adjacent, supply chain is currently being implemented in Nairobi, Kenya. Wakati’s main operations are currently focused on the smallholder farmers in three Kenyan counties, because of which it was determined to open up a Kenyan entity and hiring one country manager and three sales representatives. Because of this decision, the individual components of the Wakati unit will be transported via air cargo to the warehouse in Nairobi. From thereon out, the sales representatives will make one unit out of each component and arrange road transport via truck to transport the units to the warehouses of the Wakati partners. Direct selling will not be used. Wakati prospects to operate several distribution centres across Africa, in order for distribution to run more efficient. With selling to Wakati’s partners, Wakati wants to assure that the smallholder farmers attain reliability of deliveries, sufficient quality as well as efficient handling of complaints.

\* = country in which Wakati establishes an entity.

Figure five: alternative supply chain Wakati

### *3.2.6. Opportunities of doing business in Nigeria*

A business’ opportunity can be defined as an interesting trend of which it can take advantage in the external environment (Shell Livewire, 2014). By analysing the Nigerian environment with the use of the previous analyses, multiple advantageous opportunities can be summarised as for doing business in Nigeria:

* High need for efficient agricultural solutions – Nigerian farmers have limited access to productivity-improving technologies and adapt difficultly to it. The current practices used have been used by predecessors of the farmers, to which is stuck because of tradition;
* Government sees the importance of agriculture when it comes to the economy - the government wants to boost domestic food production and sees agriculture as a huge contribution to the country’s development;
* Nigeria’s market is hugely emerging – Nigeria has a growing economy, rising incomes and young, expanding populations;
* One in three of the Nigerian workforce are in smallholder farming, of which 58% live in poverty and are in need of farming solutions;
* Incentive to improve the fate of smallholder farmers – if smallholder farmers are better equipped, production can be boost by empowering them with appropriate inputs since they currently make use of traditional farming methods;
* Most populous country in Africa – Nigeria has a population of 185,750,000 and an urban/rural population of almost 50-50%, whilst the total population is continually increasing.

### *3.2.7. Threats of doing business in Nigeria*

A business’ threats relate to the external factors that can adversely affect doing business (Shell Livewire, 2014). By analysing the Nigerian environment with the use of the analyses that has been applied to Nigeria, multiple disturbing threats can be summarised as for doing business in Nigeria:

* Smallholder farmers are scattered across the states and operate individually – because of the scattered location of smallholder farmers they are hard to reach;
* Nigeria is a technologically backward country – Nigeria has a poor response to technology adoption and can therefore be characterised as being technologically backward;
* Smallholder farmers are located in remote areas – because of the location in remote areas, transport is being handled poorly which results in poor market infrastructure;
* High rate of instability due to Boko Haram – the high rate of poverty in Nigeria has made the youths enlisted in the ranks of Boko Haram soldiers that are mostly concentrated in North-East Nigeria (Onuoha, 2014). The activities of Boko Haram have led to economic, social and psychological implications in the North-East region (Awojobi, 2014);
* High rate of corruption – because of the lack of an adequate legal structure;
* Climate change could potentially affect the availability of natural resources – climatic challenges could throw already stressed resources in even shorter supply. Nigeria is faced with a rapid desert encroachment; rapid drought and desertification have a direct and indirect impact on all aspects of human life, the environment and agricultural outputs.

## 3.3. SWOT analysis

According to Veldman (2010) the SWOT analysis serves as a technique for developing strategic options by way of a structured presentation of strengths, weaknesses, opportunities and threats.

Table six: SWOT analysis

|  |  |
| --- | --- |
| Strengths | Weaknesses |
| S1: First solution of its kind S2: Effective S3: Off the grid  S4: Affordable S5: Huge R&D budget S6: Qualified business advisors | W1: Product defects of 20%  W2: Difficulty with setting up the tent W3: Not being sold with crates W4: No product differentiation W5: Production in China W6: Reliable on funds/loans/investments |
| Opportunities | **Threats** |
| O1: High need for efficient agricultural solutions O2: Government sees importance of agriculture O3: Nigeria’s market is hugely emerging O4: High agricultural workforce O5: Incentive to improve smallholder farmers’ fate  O6: Most populous country in Africa | T1: Scattered smallholder farmers  T2: Technologically backward country T3: Smallholder farmers are remotely located  T4: High instability due to Boko Haram T5: High rate of corruption T6: Climate change |

### *3.3.1. Confrontation matrix*

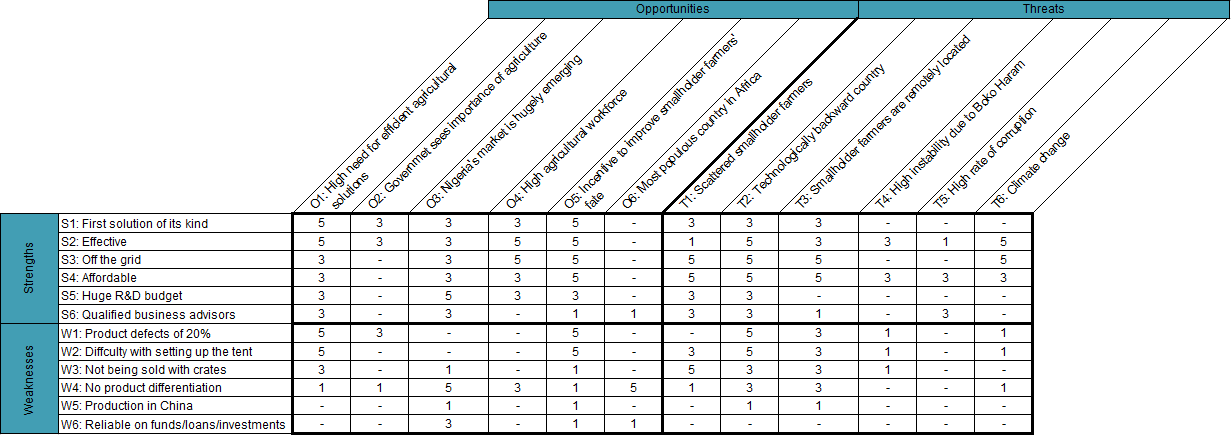
The confrontation matrix is a component of the SWOT analysis whereby strong and weak points are ‘’confronted’’ with opportunities and threats with the aim of developing a good strategy. The main points are put against each other in the following mix ranging from 5, 3, 1 if positive, and - if not applicable.

Figure six: confrontation matrix

### *3.3.2. Value disciplines*

Looking back at the internal analysis, Wakati operates on the operational excellence value discipline according to Treacy and Wiersema.

|  |  |  |  |
| --- | --- | --- | --- |
| Value discipline | Current level | Feasibility | Match to opportunities |
| *Product Leadership* | High level | * First solution of its kind (S1), that is effective (S2) because of the availability of budget (S5) * With product leadership the product can be made less technical (T1) | * High need for efficient solutions (O1) to improve smallholder farmers’ fate (O5) in an emerging market (O3) |
| *Operational Excellence* | Not yet on a sufficient level | * Production is outsourced to China (W5) the product is not as affordable (S4) as it can become | * Nigeria’s market is the most populous of Africa (O6) |
| *Customer Intimacy* | Dedicated to customers but not one-on-one, i.e. not the most sufficient | * Smallholder farmers are scattered across Nigeria (T1) and remotely located (T3) * The agricultural workforce is still growing (O4)   Table seven: value disciplines | * Government sees the importance of agriculture (O2) and want to improve the fate of smallholder farmers (O5) |

It can be concluded that Wakati could increase their operational excellence with changing their distribution, since the product could become cheaper when redesigning the current supply chain in which the production is being outsourced to China and the assembly occurs in the Belgian office. Regarding customer intimacy, this is already on a sufficient level by focusing on big NGOs, social enterprises and agricultural dealers, but the remotely located smallholder farmers also work together with the smaller organisations that Wakati does not, yet, regard as partners. It goes without saying that product leadership is the value strategy that Wakati excels in the most because of their product and applicability to the target group.

### *3.3.3. Central challenge*

Wakati currently has to deal with the highly emerging markets in Africa and Nigeria and has difficulty with entering each country specifically because of the corruption, the government and the demand for the Wakati solution. At the same time, Wakati has to deal with the product defects of 20% whilst the government is finally seeing the importance of smallholder farming and agriculture.

Out of the confrontation matrix, the following information can be concluded:

* Main strengths: An effective storage solution (S2), an affordable storage solution (S4), a storage solution that is off the grid (S3);
* Main weaknesses: Product defects of 20% on the solar panel/climate unit (W1), setting up the complete Wakati being fairly difficult (W2), no product differentiation (W4);
* Main opportunities: The incentive to improve the fate of smallholder farmers (O5), the high need for efficient agricultural solutions (O1), Nigeria’s hugely emerging market (O3);
* Main threats: Nigeria being a technologically backward country (T2), smallholder farmers being located in remote areas (T3), smallholder farmers being scattered across the counties and operate individually (T1).

### *3.3.4. Strategic options*

With the above conclusions that followed from the confrontation matrix, the options to realise the research question of Wakati *‘’With what export and marketing communication strategy can Wakati successfully operationalise its business in Nigeria, in an effective and profitable way starting January 2017?’’* can be formulated:

**Option 0 –** To do not change anything: do not change the current entry strategy, do not change the product, do not provide any additional services to the distribution intermediaries or the smallholder farmers.

**Option 1 – Product leadership.** Optimise the current Wakati product by minimising its current product defect of 20% (W1) in order to benefit from the need for efficient agricultural solutions (O1) coming from the smallholder farmers as well as the distribution intermediaries.

**Option 2 – Customer intimacy.** Make setting up the Wakati less difficult for smallholder farmers (W2) for a country that is technologically backward (T2) and in which the smallholder farmers are remotely located (T3), in order to benefit from the incentive to improve the fate of smallholder farmers (O5).

**Option 3 – Diversification.** Start offering a bigger product range to multiple target groups (W4) in order to benefit from Nigeria’s hugely emerging market (O3) in which the need for efficient storage solutions is high (O1).

### *3.3.5. Selection process*

In this section, each of the three options will be tested with the use of suitability, feasibility (FOETSJE) and acceptability factors, according to Van Alsem (2005). Each factor will determine if the option fits with the research question and can possibly serve as an answer to it. The factors will be graded with ++ and + if positive, -/+ if debatable, - and -- if negative, and 0 if not applicable.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Option 1 – Product Leadership | Option 2 – Customer Intimacy | Option 3 - Diversification |
| * Suitability |  |  |  |
| Does it solve the problem? | + | ++ | -/+ |
| Connection with SW and OT | + | ++ | + |
| * Feasibility |  |  |  |
| Financial | + | + | + |
| Operational | ++ | ++ | + |
| Economical | ++ | ++ | ++ |
| Technological | + | ++ | -/+ |
| Social | ++ | ++ | ++ |
| Juridical | + | + | + |
| Ecological | + | + | + |
| * Acceptability |  |  |  |
| Personnel | -/+ | ++ | + |
| Customer group | + | ++ | ++ |
| Total | 13 | 19 | 12 |

With testing the three options that came out of the confrontation matrix, option 2 came out to be the best option to realise the research question of Wakati. Option 2 has been identified as *make setting up the Wakati less difficult for smallholder farmers (W2) for a country that is technologically backward (T2) and in which the smallholder farmers are remotely located (T3), in order to benefit from the incentive to improve the fate of smallholder farmers (O5) by focusing more on Customer Intimacy.*

Table eight: testing of strategic options

#### 3.3.5.1. Results and risks

Option 2 seems to be the best option to choose because of the applicability to the vision and the possibility to solve the research question of Wakati. The option scores highest because of the possibility to visualise the option, as well as the positive affect it will have on the technological environment. Regarding personnel and customer group, Wakati will demand slightly more from their personnel in terms of (frequency of) contact with the customer group and end-customer.   
Option 2 fits the overall goal of Wakati to distribute the product across all countries with a high post-harvest food loss percentage. Wakati wants to make the lives of smallholder farmers better by providing a post-harvest storage solution that fits their needs and generates a better income for them. By striving for customer intimacy, the adoption rate of the Wakati product is likely to be positive within Nigeria.

## 3.4. Entry strategy

In order for option 2 to be operationalised, a fitting entry strategy into Nigeria has to be chosen. The entry strategy that will be chosen for Wakati will be long term, based on the analysis of the internal as well as the external situation, strengthening Wakati’s market position by weighing off various possibilities to cooperate with different distribution intermediaries. The internal factors that have been taken into account with choosing the entry strategy were: size of the company (only five full time working employees), and the nature of the product. The external factors that have been taken into account are the market size and growth and the situation in the foreign market related to remoteness and scattered nature of the smallholder farmers. The following entry strategy has been chosen for the Nigerian market: *indirectly exporting the Wakati product to Nigeria via importing resellers with a selective distribution agreement in which selling the product is restricted to distributors who meet certain standards/qualifications (i.e. distribution intermediaries who are able to sell the Wakati to smallholder farmers whilst also providing training), with the use of selected sales agents that are working for Wakati in Nigeria to assist with training and to monitor sales.*   
 As became evident in the external buyer analysis, there are many buyer personas in Nigeria that could become an ‘importing reseller’ for the Wakati One to, ultimately, being sold to the smallholder farmers. After having taken into account the several analyses completed for the external analysis, the best entry strategy for Wakati to undertake in the first six months of 2017 is to target to the bigger agricultural NGOs, agricultural dealers and multinationals as for instance Notore Chemicals Industries Ltd., Bayer CropScience, Syngenta Nigeria Ltd, the United Nations Development Programme and BASF. This strategy will generate the most sales in the first months since their reach towards the smallholder farmers is bigger than the food processors and have a country-wide sales strategy with accompanying sales managers.   
 Besides one-sidedly targeting to the distribution intermediaries to resell the Wakati to the smallholder farmers, hiring sales agents that work for Wakati within Nigeria will help with the incentive of the appointed resellers to sell the product to smallholder farmers. Since most distribution intermediaries have divided Nigeria into four regions, it would be best if Wakati, firstly, hired four sales agents in order to accompany the demonstration days and to keep track of the sales made per distribution intermediary by closely working together with the regional sales managers of the partners. Having hired the four Wakati sales agents will become beneficial when the first distribution intermediaries have been contracted and there is a need for transferring knowledge to them as well as to the smallholder farmers they are working with. The costs of hiring these four sales agents have been specified in appendix Y: granting $450 per person, per month considering four demonstration days, for four distribution intermediaries per month.   
As has been mentioned in the external analysis, providing training whilst selling the Wakati will be vital to generate a positive adoption rate. As Janet Hawkes mentioned in her interview ‘’international companies in Nigeria have failed because they did not take in mind the smallholder farmers’ needs and their mind-set.’’ Additionally, both Caleb Usoh (appendix U), Gerard Vos and Williams Angban mentioned that offering training to the smallholder farmers would be vital for the success of Wakati within Nigeria. Even though Wakati supplies its product with an easy-to-read manual, Williams Angban believes that: ‘’the manual will be better if there are colours attached to each part of the tent so that ‘reading’ it will be much easier.’’ Caleb Usoh states that: ‘’the inability to set up the tent will immediately lead to failure of the Wakati in Nigeria, since it has no use for the smallholder farmers because of it.’’ Lastly, Gerard Vos remarks that besides setting up the tent, smallholder farmers in Nigeria are most likely to have no experience with the use of solar panels and will need to receive training for that as well.

## 3.5. Positioning

Concerning positioning, the following grid indicates the places that all products/brands have in the perception of the buyers related to the competing products. The positioning of each products has been done on price versus effectiveness of the solution to post-harvest food losses (Alsem, 2005).

With considering the adjacent positioning of Wakati related to four other products that are used de reduce the post-harvest food losses, Wakati has to position themselves with the use of two-sided positioning: emphasising on functional product features linked to product benefits as well as to consumer value. In order to transfer the features to the distribution intermediaries and smallholder farmers, a marketing communication plan has to be developed.

Figure seven: positioning grid

# Chapter 4. Marketing Communication Plan

The marketing communication plan will show what is expected of marketing communication for Wakati within Nigeria. The right variety of instruments must be chosen in order to make the implementation of Wakati a success. Originally, the marketing communication plan consists of nine components that have been shown in appendix E. However, since the internal and external analysis already have been researched in the export plan, the ‘’research into consumers, products and competition’’ will be left out.

## 4.1. Marketing Communication target group

A communication target group is a group of consumers, decision makers or companies to which a communication campaign is addressed (Floor & van Raaij, 2011). The marketing communication target group for Wakati will be established with the use of segmentation variables on general level, domain-specific level, and brand-specific level (Raaij & Verhallen, 1990). Since Wakati’s target group, the smallholder farmers, are reached via the distribution intermediaries, Wakati has to establish two target groups for the marketing communication plan: smallholder farmers and distribution intermediaries.

### *4.1.1. General level*

* Smallholder farmers are scattered across the country, which makes them very hard to reach. For geographic characteristics, therefore, it would be best if the country is being split in four regions: north, east, south and west. With this segmentation, the smallholder farmers will be reached across the entire country even in the north in which the remoteness of smallholder farmers is even bigger than in the rest of the country.   
   For socio-economic characteristics, Wakati needs to focus on the smallholder farmers that are both men and women living in a household that consists of at least 5 members and operate on 0,1 to 4,99 hectares of land, which characterises them as ‘small’. These smallholder farmers should have considerable knowledge on farming with a minimal education of two to four years.   
   Regarding psychological characteristics, the smallholder farmers should be highly aware of the problem they are facing related to post-harvest food losses and should have a positive attitude towards technology, even though being technologically backward. Their interests should lie within quality farming and spare time should be spent on gaining knowledge on better farming practices.  
   Related to product ownership, the smallholder farmers in the northern Nigeria are most likely to lack any kind of agricultural input besides seeds and fertiliser and are likely to make use of the small zeer pots to store their harvested produce in. Whilst, in the south, smallholder farmers are expected to work with farming inputs such as tractors or irrigators and are expected to store their produce within the larger evaporative coolers such as the ColdHubs.
* Wakati’s distribution intermediaries should have a headquarter or warehouse in Lagos or Abuja, Nigeria and operate across the entire country by having divided it in regions. Bayer, Notore, Syngenta and the UNDP all operate on the Nigerian market with regional managers that serve a different region and, consequently, will reach smallholder farmers across the country.   
   The partnering companies should all have an established business within agriculture and should have an interest in beneficial farming practices and reducing the post-harvest food loss problem. Their focus should lie with the smallholder farmers for which they have developed multiple projects or special measures.   
   The distribution intermediaries’ product portfolio should consist of value adding products to the harvest such as seeds, fertilisers, farming equipment, solar lamps etc. to which the Wakati would be a good extension.

### *4.1.2. Domain-specific level*

* Most smallholder farmers in Nigeria do not have the needed information on production technology that involves cultivation, fertiliser application, pest control, harvesting and storing, which makes product involvement really small (Mgbenka, Mbah, & Ezeano, 2015). Most do not have the knowledge about post-harvest storage solutions that are better than the ones they are using now. Because of their lack of knowledge, their involvement is low, because of which they will have to be reached with psychological communication that is designed to create an interest in the product. Since, currently, the smallholder farmers use either none post-harvest storage solution or a solution that is not the most effective and efficient, the product features and benefits they believe to need, are slim. However, the product should function well related to use, environmental conditions and an extended shelf life per fruit and vegetable, i.e. the benefits sought.   
   The nature of the product use is related to the storing of fruits and vegetables and no other. With evaporative coolers other foods or even beverages are being kept cool in it, which is not the intended use of the Wakati.
* The distribution intermediaries should be highly involved with the reduction of post-harvest losses and the solutions for it. These companies need to constantly seek for better farming practices that they are willing to market to the smallholder farmers. Therefore, these companies can be reached with informative, technical communication.

### *4.1.3. Brand-specific level*

* At this segmentation level, brand knowledge as well as brand awareness is vital. Since the Wakati product is technologically advanced for the smallholder farmers of Nigeria, there is a need to create informational and transformational knowledge around the product. Knowledge on the possibilities with Wakati, the advantage and benefits of the product, how it can solve their specific problem, how to install it, how to operate it, where to buy it and where to go to with questions. The smallholder farmers need to know what Wakati stands for and what the brand wants to deliver to its end-consumers, in order for them to be able to adopt it. The brand knowledge needs to be connected to the domain-specifics of the smallholder farmers: providing information about post-harvest losses and how to solve them with the Wakati, show the effectiveness and efficiency and educate about the features and benefits.   
   Related to brand awareness, the smallholder farmers need to actively recall or passively recognise the Wakati brand amongst other storage solutions that are being marketed. Once the smallholder farmers have acquired knowledge about the brand and the product, they are aware of where to get the product and how it functions. Since not every smallholder farmer is likely to get served because of their scattered nature and remoteness, having smallholder farmers being actively aware of the Wakati can create positive word of mouth marketing.
* For the distribution intermediaries, brand knowledge, brand awareness and the attitude towards the brand is vital. In order for the smallholder farmers to adopt the Wakati product, the partnering companies need to know all the details; informational and transformational in order for them to transfer the knowledge to the smallholder farmers. Additionally, the distribution intermediaries need to have a positive attitude towards Wakati which will be beneficial to the brand knowledge.

As mentioned in the entry strategy, Wakati’s focus in the first six months of 2017 should lie on entering the Nigerian market via the agricultural NGOs, agricultural dealers and multinationals. In total, the market in Nigeria comprises of over ten thousand related companies. The total amount of smallholder farmers that can be reached through these channels are 60% of the total 2011-2015 workforce of Nigeria which amounted to 55.693.723 people, of which 33.416.223 smallholder farmers could be reached with the following marketing communication strategy, mix and instruments.

## 4.2. Marketing Communication objective

Having established a marketing communication objective forms the basis of the marketing communication strategy. In order for a marketing communication objective to be specified, the company and marketing objective need to be clear.   
 Wakati’s company objective can be specified as: *fighting poverty in developing countries by reducing post-harvest food losses through an effective storage solution.*   
 Wakati’s marketing objective can be specified as: *enlarging the total market for the Wakati by effectively operationalising the business in the developing countries.*   
 Having taken into account both the company objective as the marketing objective, the marketing communication objective for both the smallholder farmers as the partnering companies can be specified as: *emphasising on distinctive functional and emotional benefits that lead to better performance than traditional farming methods used for post-harvest storage solutions.*

## 4.3. Marketing Communication strategy

After having established Wakati’s marketing communication target group, objectives and desired positioning, it must be decided how the marketing communication objective is to be realised.

* The accompanying marketing strategy for Wakati related to the smallholder farmers in Nigeria will be based upon creating category need, brand knowledge as well as behavioural facilitation. Since the product is new to the market and differs hugely compared to the traditional methods used, there is a need to focus on category need and brand knowledge since by far not all smallholder farmers in Nigeria are educated (enough) about post-harvest losses. The farmers see that the phenomena occurs with their produce, but they do not know how it can be treated. Therefore, Wakati needs to create a primary demand for the product category of post-harvest storage solutions. Additionally, since many smallholder farmers are not technologically advanced, Wakati needs to communicate its features, possibilities, advantages and benefits as well as the differences with the current, traditional, post-harvest storage solutions they are already using. This can be done by focusing on the central functional benefits of the Wakati: longer shelf life of fruits and vegetables with an affordable, effective, easy to set up and off the grid storage solution. Related to behavioural facilitation, the smallholder farmers need to know where, when and how the product may be bought, since it does not concern a product you can buy in store.
* For the distribution intermediaries an additional marketing communication strategy has to be established since they are the buyers of the Wakati. This strategy will be based on creating brand awareness, brand knowledge and brand attitude. It would be highly efficient if the regional sales managers of each partnering company can actively recall the Wakati brand for the smallholder farmers they are working with. These regional sales managers do also need to know everything about the functional and psychological benefits of the Wakati in order for them to be able to transfer that knowledge to the smallholder farmers. Additionally, it is crucial that the sales managers develop a positive attitude towards the Wakati product which will make it easier for them to sell the product.

## 4.4. Marketing Communication mix

On the basis of the chosen strategy it must now be decided with which marketing communication instruments this strategy may best be implemented. A distinction will be made between the marketing communication mix of the distribution intermediaries towards the smallholder farmers (since Wakati also plays a vital role within that communication) and the marketing communication mix of Wakati towards the partnering companies, since they are the buyer and the smallholder farmers the end-users.

* The marketing communication mix that will be used by the distribution intermediaries in order to reach the smallholder farmers consists of: advertising and personal selling.
  + The objective for using advertising will be to transfer brand knowledge and category need. There will be made use of experience communication as well as print advertisements. Experience communication refers to events and other ‘experiences’. For Wakati, these events would entail a demonstration day that occurs in a region of smallholder farmers at which they are being educated about the Wakati; how it is set up, what the benefits are and how to maintain a good quality of the product. They are able to ask questions and see the effect on the harvested produce before they have made an investment in a storage solution they do not know the benefits of. Additionally, there is attention being drawn to a product that is able to help reduce the smallholder farmers’ problem of post-harvest food loss they initially were not able to effectively control.   
    Besides making use of the experience communication, there will be made a print advertisement entirely for the smallholder farmers that focuses on the functional and psychological benefits and values of the Wakati, as well as behavioural facilitation. Care needs to be given to the content of the creative development since a UNESCO report indicates that in 2014 Nigeria had an adult literacy rate of 57,9% (UNESCO, 2014). For smallholder farmers this percentage is lower due to little formal education, limiting their ability to keep adequate written records or educate themselves about improved agricultural practices (Fischer, 2014).
  + Personal selling towards the smallholder farmers will be initiated by the regional sales managers and the sales representatives of the distribution intermediaries as well as the appointed sales representatives of Wakati, for which Wakati will provide the materials. The smallholder farmers are not aware of the product’s existence until someone close to them is able to talk about it or, even better, shows the product to them. Therefore, personal selling is necessary for not only selling the product, but also transfer the product’s functional and emotional benefits, because of which the smallholder farmers are more inclined to buy.
* The marketing communication mix that will be used to sell the Wakati to the prospective distribution intermediaries will consist of: exhibitions, direct marketing communication and sponsorship.
  + Exhibitions are a communication platform for companies and their prospects in order to create brand awareness and brand knowledge. For Wakati, these exhibitions could, for instance, be a specialist consumer exhibition or conference-linked exhibitions targeted at organisations that operate in the agricultural sector. At these exhibitions, the objective is to exhibit the product technicalities to a specific, interested audience. Through conference-linked exhibitions, there also might be key note speakers attending, that have acquired something remarkable within the agricultural sector. At these exhibitions, each company will be given a place to share their idea, including marketing communication instruments such as printed media, product displays and demonstrations to show the prospective companies what the Wakati is capable of.
  + Direct marketing can be seen as a logical step after having been to an exhibition. At the exhibition business cards have been exchanged that comprise of a company name, representative and email address. By sending these people a direct marketing advertisement that includes the contact details of a Wakati representative they should contact if they are interested, these companies might be triggered to re-contact Wakati for establishing business.
  + Sponsorship can help to evoke the desired associations with the product by demonstrating social responsibility and giving it added value. Through engaging in a sponsorship, brand awareness for Wakati will be created. Depending on the kind of sponsorship, this may reach smallholder farmers as well as (potential) partnering companies.

## 4.5. Creative development

From the marketing communication strategy, a good proposition should be derived on the basis of informational and transformational positioning. The proposition for Wakati’s marketing communication can be established as: *offering the smallholder farmers an effective, affordable and off the grid post-harvest storage solutions that increases the shelf life of fruits and vegetables that will create a higher market price.* The creative development will be established for: advertising, experience communication, direct marketing and sponsorship.

* Advertising will be used by the partnering companies as well as Wakati sales agents to reach out to the smallholder farmers and will be used for the demonstration days as well as personal selling. Wakati will provide the advertisements for this since the product will be sold out of the name of Wakati. These advertisements will be given to the smallholder farmers by the regional sales representatives when they visit them with seeds and fertilisers as well as at the demonstration days that will be explained in the following bullet point. With the advertisement that can be seen in appendix V there has been made use of an informational as well as a transformational message, focusing on the physical as well as emotional benefits of Wakati.
* Experience communication for Wakati will relate to the demonstration days that will be organised by the partnering companies’ regional sales managers accompanied by Wakati’s Nigerian sales agents. The demonstration days will be set up in order to kick start and incentivise the relationship between the partnering companies and the smallholder farmers; training them on how to use their own Wakati. There will be planned to organise one demonstration day per partnering company in the company’s most densely populated region related to the smallholder farmers. These demonstration days will start with setting up the Wakati and putting a wide range of recently harvested produce inside. The farmers will be taught how to set up a tent, how to work with the climate unit as well as the solar panel. After the demonstration day has ended, the smallholder farmers can see the results of the Wakati themselves by closely monitoring the effect on their produce. If, after approximately 15 days, the smallholder farmers have a positive attitude towards the Wakati, they can contact the organisation they work with via the flyer in order to purchase one. The costs of the demonstration day can be seen in appendix X.   
   Concerning the creative development of the experience communication, there will be made use of the same advertisement (leaflet) as can be seen in Appendix V.
* For selling to the Wakati to specific prospective partnering companies, direct marketing will be used by e-mailing product brochures as can be seen in appendix X. The product brochures needs to be targeted with the use of an informational message concerning the technology behind Wakati, focusing less on the transformational message.
* Wakati can engage in different sponsorship activities by demonstrating the social responsibility and the applicability of Wakati to smallholder farmers’ lives, which will create brand awareness. One of these sponsorships could for instance be arranged with the Nigerian government and one of its many projects related to the Agricultural Transformation Agenda that focuses on smallholder farmers. Wakati could supply an X amount of tents, solar panels and climate units to assist with educating the smallholder farmers related to post-harvest food losses. A sponsorship with the Nigerian government does not only create brand awareness towards the Nigerian NGOs, social enterprises or agricultural dealers but also towards the smallholder farmers. A sponsorship does, therefore, create a push strategy amongst advertising and direct marketing communication that creates a pull strategy.

## 4.6. Media selection

For the marketing communication mix and the instruments, there are many choices of media to communicate the chosen messages. In order to select each media type for the different communication instruments, there needs to be researched whether or not that type can be used beneficially in the Nigerian agriculture sector.

Just as in many other countries in Sub-Saharan Africa, smallholder farmers in Nigeria face the problem of not having access to the market and information on market prices. Digital technology has the potential to effectively shorten the distance between previously isolated smallholder farmers and the other components of the food value chain. The marketing of farmer products can be made more accessible through SMS messages that provide information on prices offered for crops in different market locations. Farmers do no longer have to wait for buyers to come to them; they can actively seek better deals. In Nigeria, 89% of the smallholder farmers owns a phone to keep track of the prices offered for their crops and who sells the most seed/fertiliser for the lowest price (Dryden, 2015). Most of those devices will be low-end Nokia phones. The more expensive smartphones, however, are also increasing in popularity as prices drop. However, this does not account for the smallholder farmers (Ogunlesi, 2012). Additionally, through SMS, many smallholder farmers in Nigeria are able to save, borrow and transfer money, repay loans, make purchases and get paid by others (Alawode, 2015). Obidike (2011) noted that Nigerian farmers face constraints in trying to access agricultural information because of: poor radio and television signals, lack of electricity supply in most villages, lack of funds to purchase newsletters or leaflets on agricultural information and lack of available agricultural information programmes in their dialect.

* For advertising the chosen leaflet cannot be transferred to the smallholder farmers with the use of television, e-mail and the internet since, as the above analysis depicts, the country, with special focus towards the smallholder farmers, is technologically backwards and smallholder farmers are not in possession of computers and smartphones with which they can open the document. Additionally, they do not make enough money to buy trade journals or agricultural magazines. Therefore, the leaflets as shown in Appendix V will be given to the smallholder farmers by the sales representatives of the distribution intermediaries when they deliver their seeds/fertilisers, and will be made available in the agricultural shops around the areas. At the demonstration days that will be explained in the next bulletin, the leaflets will also be handed out. Additionally, Wakati’s own appointed sales representatives per region could travel to the smallholder farmers per region to transfer the knowledge about Wakati and hand out the leaflets.
* For the experience communication’s demonstration days these will be communicated to the smallholder farmers via static outdoor media such as small billboards to draw attention towards it. As can be seen in appendix W there has been chosen for 5 static outdoor media. These could be small billboards that are placed throughout the region at central places like a shop, church, hospital or market place and stay in the possession of the Wakati sales agents. Additionally, since the above analysis shows that SMS is a booming communication method, it might be interesting to contact the smallholder farmers a couple of weeks in advance with the use of an SMS that states the Wakati initiative, where the demonstration day will be held and what can be learned. During these demonstration days it could also be possible to give away specialty media such as Wakati branded pens, cups or pins with contact details on them of where and how to buy the Wakati.
* Personal selling will be a viable option in order to get in contact with the smallholder farmers and get the informational as well as transformational message across. Personal selling, initially, will happen via the official distribution intermediaries’ regional sales managers and the appointed Wakati sales agents that visit the smallholder farmers in their region in order to sell the Wakati, together with the leaflets and sales brochures.
* The agricultural exhibitions that Wakati will be attending combine personal selling with the use of other media such as leaflets, product brochures, banners and audio-visual material in which is focused on an informational and transformational message. The contacts made during the exhibition may be the basis of direct marketing communication or, even better, immediate sales prospects. At these exhibitions specialty media may be given away such as Wakati branded pens, cups or pins, which will benefit brand awareness.
* Related to the direct marketing communication that is targeted to the prospective distribution intermediaries of which the sales brochure can be found in Appendix X, these will be communicated to prospective partners via e-mail, agricultural journals and interactive media such as Facebook, Twitter and Wakati’s own website. When Wakati starts doing market research on the NGOs, social enterprises and agricultural dealers that are viable business partners of Wakati, they can contact them with the product brochure, requesting for a Skype call. Since the chosen marketing communication instrument is a product brochure, stating the technology behind Wakati and how they can purchase one, it can excellently be featured in a Nigerian agricultural trade journal that will be read by agricultural specialist working for these prospective companies. Lastly, the product brochure is a summary of the content on the wakati.co website, making it a great media to show Wakati’s strengths on.
* In order to communicate the sponsorship to the prospective partnering company, static outdoor media will be used, linking Wakati to the agricultural projects of the Nigerian government or the United Nations’ Development Programme. Additionally, prospective partners will be invited via e-mail, by sending the brochure as well as an overview of the activities that will be done by Wakati.

Concluding the marketing communication plan, the following table serves as an overview of the above findings with a cost indication of each marketing communication mix and the media selected.

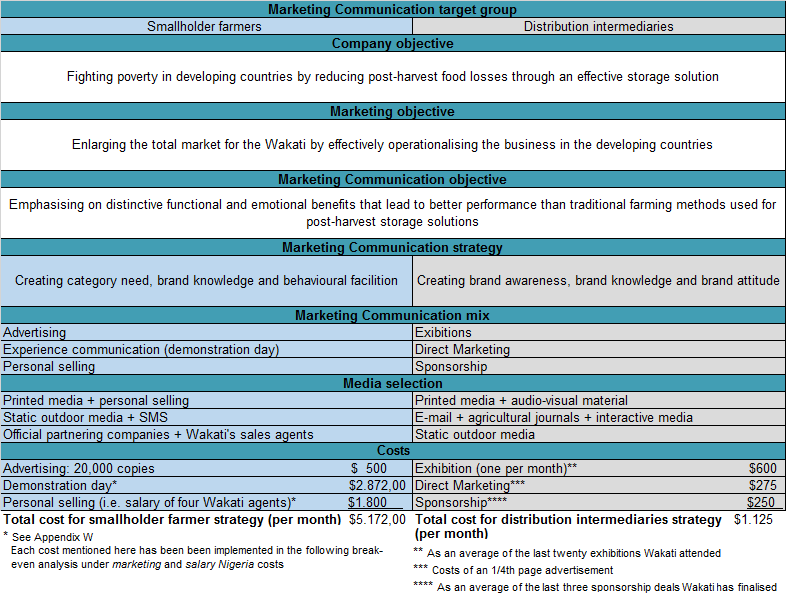


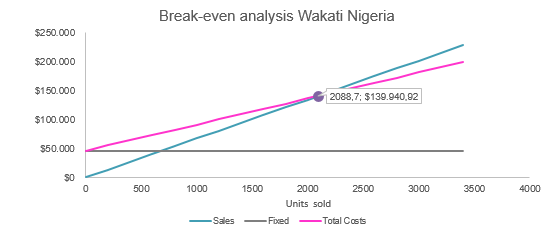
Table nine: marketing communication plan overview

The following chapter assesses whether the export and marketing communication plan will be financially feasible when implemented in Wakati’s internationalisation strategy in January 2017.

# Chapter 5. Financial Feasibility

In order for Wakati to implement the recommended export and marketing communication strategy, a financial feasibility study has to be undertaken in order to see if it is a viable and profitable strategy. This will be done with a break-even analysis as well as a financial forecast in which the most probable, best and worst case will be examined.

For the break-even analysis as well as the financial forecast, there has been made use of the company’s fixed and variable costs starting in January 2017 (appendix Y). The break-even analysis shows that Wakati’s entry strategy within Nigeria becomes financially beneficial when 2.089 units have been sold each month. This is, considering the current sales outcome in Kenya, feasible after having being present in the country for a couple of months. Wakati’s sales in Kenya is prospected to be around 1.800 units per month. Considering that Nigeria’s agricultural population is bigger than Kenya’s, the sales prospect should be feasible.

Since the entry strategy in Nigeria for the first couple of months is related to creating category need, brand awareness and brand knowledge, it is most likely that within these months, little to no profit will be made.

Graph one: break-even analysis

The pink line in the break-even analysis indicates the X sales at the Y costs and can be seen as the most probable case for Wakati’s implementation in Nigeria. However, there is also a need to take a closer look at the best and worst case scenario of Wakati’s entry and marketing communication strategy in Nigeria since the future holds infinite potential.

The most probable case for Wakati in Nigeria is that the entry strategy goes as planned and the adoption rate of the Wakati is as calculated. Wakati is able to sell the units to the selected partners such as Notore, Bayer and Syngenta. The Wakati sales agents together with the regional sales managers of the distribution intermediaries are capable of locating the smallholder farmers and are able to successfully launch Wakati’s demonstration days and, therefore, transferring brand awareness and brand knowledge.   
 The best case for Wakati in Nigeria is that the chosen entry strategy goes better than planned, which could mean that not only the prospective partnering companies such as Notore, Bayer and Syngenta are buying the Wakati within the first months, but that the product is also being adopted by other, bigger, companies. These companies will generate more sales and can transfer greater category need towards the smallholder farmers.   
 The worst case for Wakati in Nigeria is that the chosen entry strategy has been implemented horribly wrong by, for instance, selecting the wrong partners that are too small and do not work with a sufficient amount of smallholder farmers. Another worst case is if Wakati lets everything up to the partnering companies related to sales and demonstration days and therefore not being able to keep track.

When it comes to revenue, the following estimations can be made for 2017, 2018 and 2019 based on the previous market and customer analysis:

|  |  |  |  |
| --- | --- | --- | --- |
|  | 2017 | 2018 | 2019 |
| Sales | 25.000 | 40.000 | 60.000 |
| Price | $67 | $67 | $67 |
| Total revenue | **$1.675.000** | **$2.680.000** | **$4.020.000** |

Table ten: Wakati’s revenue 2017-2018-2019

The following profit will be derived in the best (+30% sales), most probable, and worst case (-30% sales) scenario in 2017, 2018 and 2019 taking into account the costs mentioned in appendix Y:

|  |  |  |  |
| --- | --- | --- | --- |
|  | 2017 | 2018 | 2019 |
| Best Case | -$986,30 | $427.168,30 | $999.168,30 |
| Most Probable Case | -$1.409 | $328.591 | $768.591 |
| Worst Case | -$1.831,70 | $230.013,70 | $538.013,70 |

When composing the financial forecast, it is important to mention that the calculations as mentioned above have been made by means of estimation. The estimation has been made based on the knowledge of the current market and the company’s internal situation. Therefore, the calculations cannot be assumed to be 100% accurate. The best and worst case forecasts have been composed presuming that the sales will either be 30% higher than expected or 30% lower than expected.

Table eleven: Wakati’s profit 2017-2018-2019

# Chapter 6. Conclusions and recommendations

Wakati’s problem lies within entering the African market and each country specifically. Wakati wants to export its Wakati One to the developing countries in Africa with a high post-harvest food loss percentage. However, there are many macro, commercial, social and political risks attached to entering the African market. Hence, entering the African market comes with great challenges and is time-consuming. Targeting the Wakati One to smallholder farmers, Wakati’s target group, occurs by selling the product to allocated distribution intermediaries, i.e. Wakati’s partners. Due to the scattered nature of the smallholder farmers in each African country, targeting to them directly is not possible.

Because of the risks and challenges, Wakati needs assistance with entering each specific country and requires information about export and marketing communication strategies that could benefit the implementation of the Wakati One. Marketing communication together with an export strategy is key for Wakati’s success, since the smallholder farmers have been working with traditional knowledge systems based on storage solutions, and need to become aware of the better equipment.

Wakati’s current focus lies in East Africa and wants to expand its reach towards the West of Africa. Therefore, there is an incentive to export to Nigeria. In order to provide an understanding of the complexity of entering the Nigerian agricultural sector regarding export and marketing communication, the following research question has been established:

|  |
| --- |
| *‘’With what export and marketing communication strategy can Wakati successfully operationalise its business in Nigeria, in an effective and profitable way starting January 2017?’’* |

The research objectives of this thesis relate to making the problem of entering the Nigerian agricultural sector comprehensible. In order to achieve this, certain agricultural developments related to the market, economy and risks were to be monitored in order to find out where the smallholder farmers are based, what fruits and vegetables they harvest and what the reason for their post-harvest food losses is. Subsequently, the objective was to comprehend how to do business within Nigeria and to examine how other non-African companies have had success. These objectives had all been established in order to find out how to effectively and profitably export to Nigeria and how to communicate Wakati’s value proposition towards the distribution intermediaries and smallholder farmers.

The above research objectives were adjusted to questions that are related to the internal analysis of Wakati and the external market, buyer, competitor, industry and supply chain analysis of Nigeria. Resulting from these analyses, three strategic options had been derived and tested to provide a solid entry strategy for Wakati into Nigeria. Lastly, the entry strategy has been translated into a marketing communication plan to provide an underpinned advice on how to communicate Wakati’s value proposition towards the distribution intermediaries and smallholder farmers

As can be concluded for the internal analysis, Wakati has a stable internal situation from which it benefits externally. By having a strong business model that will reach its first profits in 2017, its business scope is expandable with the use of market development whilst focusing on product leadership. Wakati operates more effectively than its competitors by having a first solution of its kind that is effective, off the grid and affordable. The most important areas that are capable of improvement are Wakati’s product defects of 20%, the difficulty of setting up a tent and not supplying crates.

The market analysis for Nigeria shows that Nigeria has significant potential related to the population size, expenditures on agriculture and potential market size. The majority of smallholder farmers are located in remote areas with poor transport and market infrastructure, contributing to high transaction costs. Prospects for the agricultural sector are very bright, owning to the growing demand for food driven by a large population and growing incomes as well as higher prices due to demand from the international market. The key to unlocking the growth potential of the Nigerian agricultural sector is to improve the fate of smallholder farmers, since the most fundamental constraint to agricultural growth and development is the peasant nature of the production system with its low productivity, poor response to technology adoption strategies and poor return on investment. Improvements on several agricultural fronts could help raise both the volume and the value of Nigeria’s agricultural production in the next 15 years, considering that Nigerian farmers have limited access to productivity-improving technologies accompanied by threats of desertification and drought that causes deterioration of land productive systems and invariably low agricultural outputs. The current level of political maturity and development will further boost the country’s development.   
 Related to the post-harvest losses in Nigeria, these amount to 40% and mainly occur because of the traditional techniques that are practiced by growers, traders and the processors, which results in considerable deterioration of physical and nutritional qualities of harvested crops. These losses have several adverse impacts on farmer income, consumer prices and nutritional quality of the produce. There are many promising approaches to reducing food loss but issues related to access, affordability, adoption, and awareness of these practices and technologies inhibit the scale at which they can make an impact. According to Tony Bello ‘’less post-harvest food losses will ultimately lead to less food importation in Nigeria.’’

The buyer analysis gave insight into the location of smallholder farmers, the fruits and vegetables they harvest and with which companies (agricultural dealers, food processors, NGOs and social enterprises) they work together. Smallholder farmers make up for about 60% of the workforce, of which 60-80% are women and produce over 80% of Nigeria’s food supply. Smallholder farmers harvest fruits and vegetables across the entire country, of which the major crops produced are rice, maize, cassava, soybean, beniseed, groundnut, mango, pineapple, banana, citrus, guava, pawpaw, onion, tomato, okra, pepper and carrot. The smallholder farmers have little to no access to credit, agricultural extension services, high quality inputs and the market place which systematically keeps them in poverty with the inability to be productive.   
 Concerning the possible distribution intermediaries there are many agricultural dealers, food processors, NGOs, social enterprises and multinationals that closely work together with smallholder farmers by providing them with alternative and beneficial farming methods. The most interesting are Notore Chemicals Industries Ltd., Bayer CropScience, Syngenta Nigeria Ltd., the UNDP and BASF.

The competitor analysis concluded that Wakati is the only product on the market of its kind. Many traditional post-harvest storage methods used by the smallholder farmers, such as zeer pots, ColdHubs and solar dryers, are less efficient and effective compared to the Wakati One. Table four, the competitor benchmark, indicates that the Wakati can store the most amount of produce but also has the shortest product life span.

What can be concluded from the industry analysis is that Nigeria is a vast agricultural country endowed with substantial natural resources. Nigeria is a country with a food paradox: it should be able to feed its population adequately, however, many people do not have access to enough food. Michael Porter’s Diamond Framework indicated that Nigeria has a positive national competitive advantage related to agriculture because of the positive factor conditions, strong demand conditions and the favourable related and supporting industries that positively affect Wakati’s strategy, structure and rivalry.

The supply chain analysis shows the aspects of exporting the Wakati indirectly (figure four) and directly (figure five) and assesses the difference. When exporting to Nigeria, Wakati can either choose to make use of the current supply chain in which the entire product is assembled in the Belgium office and thereafter distributed to the distribution intermediaries. Or, Wakati can choose to open up a warehouse in the country of operations that assembles the product as a unit and thereafter distribute it to the distribution intermediaries.

Wakati can take advantage of the high need for efficient agricultural solutions, the government’s growing importance towards agriculture and the hugely emerging market. The external factors that can adversely affect doing business in Nigeria are the scattered, remote and technologically backward nature of the smallholder farmers.

After having confronted the strengths, weaknesses, opportunities and threats to make different strategic options and having assessed the options on suitability, feasibility and acceptability factors the following option can best answer the research question: *‘’make setting up the Wakati less difficult for smallholder farmers for a country that is technologically backward and in which the smallholder farmers are remotely located, in order to benefit from the incentive to improve the fate of smallholder farmers by focusing more on Customer Intimacy.’’*

The effective and profitable entry strategy based on this option can be identified as: ‘’*indirectly exporting the Wakati product to Nigeria via importing resellers with a selective distribution agreement in which selling the product is restricted to distributors who meet certain standards/qualifications (i.e. distribution intermediaries who are able to sell the Wakati to smallholder farmers whilst also providing training), with the use of selected sales agents that are working for Wakati in Nigeria to assist with training and to monitor sales*.’’ How the Wakati One can be exported to Nigeria related to transportation costs and documents, has been explained in appendix Z.

The marketing communication strategy connected to this entry strategy has been developed for both the smallholder farmers as the distribution intermediaries as Wakati targets their product to both. The objective for marketing communication for Nigeria can be stated to be: ‘’*emphasising on distinctive functional and emotional benefits that lead to better performance than traditional farming methods used for post-harvest storage solutions.’’* Wakati’s communication strategy, therefore, needs to focus on creating category need, brand knowledge and behavioural facilitation towards the smallholder farmers and on brand awareness, brand knowledge and brand attitude towards the distribution intermediaries. In order to accomplish this, Wakati should make use of advertising, experience communication and personal selling towards the smallholder farmers. When targeting the distribution intermediaries, the focus should lie on exhibitions, direct marketing and sponsorship.

If the chosen entry strategy and marketing communication strategy will be implemented in January 2017, it will be financially feasible if there are 2089 units sold each month. Related to the most probable, best (+30% sales) and worst case scenario (-30% sales) for Wakati within Nigeria, table eleven and twelve show that the first year a loss of -$1.409 will occur, while in 2019 a profit of $768.591 will be achieved.

The above conclusions result in the effective and profitable export and marketing communication plan for Wakati within Nigeria, the following recommendations can be given

* Indirectly export the Wakati to Nigeria via importing resellers with a selective distribution agreement in which selling the product is restricted to distributors who meet certain standards/qualifications;
* Focus on the distribution intermediaries that are located in one of three regions: Kano-Kaduna-Jos (north), Lagos-Otta-Ibadan (southwest) and Port Harcourt-Aba-Nnewi-Onitsha (southeast): Notore Chemical Industries Plc, Syngenta Nigeria Ltd., Dangote Group (Dansa Food Limited), the Rockefeller Foundation, the United Nations Development Programme, Bayer CropScience, BASF;
* Closely work together with the Nigerian government: the government has a growing developmental vision that conceptualises a transformation in agriculture through its ATA;
* Make setting up the Wakati less difficult for smallholder farmers for a country that is technologically backward and in which the smallholder farmers are remotely located, in order to benefit from the incentive to improve the fate of smallholder farmers by focusing more on customer intimacy;
* Select four sales agents that are working for Wakati in Nigeria to assist with training and to monitor sales (one for each of the four country regions to address ethnic diversity, cultural awareness and responsiveness);
* Provide training accompanied with selling the Wakati One through the demonstration days since agriculture in Nigeria is carried out according to traditional methods because farmers find it difficult to adapt to new technologies because of being technologically backward;
* Emphasise on distinctive functional and emotional benefits that lead to better performance than traditional farming methods used for post-harvest storage solutions;
* Target the marketing communication message to men smallholder farmers that operate on 0,1 to 4,99 hectares of land, are highly aware of the post-harvest food loss problem and lack sufficient agricultural input. Focus on creating category need, brand knowledge and behavioural facilitation by making use of advertising (printed media and personal selling), experience communication (static outdoor media and SMS), and personal selling (regional sales managers of distribution intermediaries and Wakati’s sales agents);
* Target the marketing communication message to the distribution intermediaries that are located in one of the three regions that have an interest in beneficial farming practices and target them to smallholder farmers across the entire country. Focus on creating brand awareness, brand knowledge and brand attitude by making use of exhibitions (printed media, audio-visual material), direct marketing (e-mail, journals, interactive media) and sponsorships (static outdoor media).

# Chapter 7. Implementation

|  |  |  |  |
| --- | --- | --- | --- |
|  | Objective | Time frame | Action |
| Internal communication | Assessing the internationalisation strategy – what does Wakati want to achieve in 2017? | January 2017 | By means of staff meetings |
| Selecting distribution intermediaries | Assessing partners: who has the best business model and who serves the smallholder farmers best | February 2017 | By means of desk research and international communication with UN |
| Criteria for sales agents | Creating criteria for the sales agents that are to be hired | February 2017 | By means of desk research and contact with the partners on how they have managed |
| MAFPEX 2017 - exhibition | Creating brand awareness and brand knowledge  Establishing direct contact with prospective partners | 17-20 February 2017 | Getting in direct contact with new prospects  Getting informed about new market trends |
| Vacancy sales agents - online | Obtaining multiple qualified resumes of agricultural sales agents | March 2017 | Developing and setting up vacancies on different online agricultural job platforms |
| Contacting distribution intermediaries and government | Getting in contact with prospective partners and the Ministry of Agriculture and Rural Development | March 2017 | Sending Wakati’s sales brochure with an introduction to Wakati; Agricultural Transformation Agenda |
| Nigeria Agrofood 2017 – trade show | Creating brand awareness and brand knowledge  Establishing direct contact with prospective partners | 24-28 April 2017 | Getting in direct contact with new prospects  Getting informed about new market trends |
| Distribution agreement | Finalising distribution agreements with at least four of the selected distribution intermediaries | April 2017 | Signing of contracts between parties involved |
| Hire sales agents | Having selected qualified sales agents | May 2017 | Selecting qualified sales agents that have significant experience within Nigeria’s agricultural sector |
| Marketing communication materials | Being able to provide each target group with sufficient sales materials | May 2017 | Printing, sourcing and establishing of different materials |
| Demonstration days | Being able to derive sales from training the smallholder farmers | Starting from June 2017 | Bringing the partners in contact with Wakati’s sales agents to assist with training |
| Sponsorship | Creating brand awareness and brand knowledge  Establishing direct contact with prospective partners  Table twelve: implementation planning of Wakati’s export and marketing communication plan in Nigeria | Starting from June 2017 | Sponsor an agricultural project of the Nigerian government |

In July 2017 the entry strategy should be re-assessed: determining whether it has had the expected outcome and which strategy could be revised for the following two quarters. Additionally, thought needs to be given to subsequent steps for the strategy within Nigeria and West-Africa. Since the first six months’ focus mainly lies on entering the Nigerian agricultural sector via the bigger agricultural dealers, NGOs and multinationals, it should be assessed what other agricultural companies to target.   
As has been mentioned by Gerard Vos, a logical step for Wakati after having developed itself in Nigeria is to further explore West Africa by exporting into the Economic Community of West African States (ECOWAS). As a trading union, it is meant to create a single, large trading bloc through economic cooperation. Because of this, Wakati should be able to easily export their product throughout the ECOWAS once it has established a Nigerian entity (a country manager and sales representatives) (ECOWAS, 2015).

# Chapter 8. Reflection

This chapter will reflect on the executed research in terms of the suitability of the used theoretical conceptual models and its limitations, the data collection and analysis, and the overall process of this research endeavour.

The data that was used to collect the findings of this thesis flowed out of desk research as well as qualitative field research, i.e. semi-structured interviews with possible partners that can provide additional information on the agricultural sector if Nigeria.   
 In the beginning of the research, desk research was carried out to get familiar with Wakati’s internal situation as well as with Nigeria’s external macro-level situation related to the post-harvest food losses problem. Multiple theoretical conceptual models were used to generate a sufficient answer on the research question, of which many were effective in use. Looking back at the research done the models that gave most insight in the internal as well as external situation were the Business Model Canvas, DESTEP and Porter’s Diamond of National Advantage. I believe that Abell’s Three Dimensional Business Definition Model was the least effective since it functions as a business model analysis that is slightly more detailed than the BMC related to customer segments. During the research, I came to the conclusion that Porter’s Five Forces Framework (which was initially supposed to provide an answer to the agricultural industry) was less effective in use. And decided to make use of Porter’s Diamond of National Advantage in order to obtain good insight into the dynamics of Nigeria’s agricultural industry.   
 Concerning the data flowing out of the semi-structured interviews, these had to be analysed in order to find the most suitable partner(s) for Wakati when entering the Nigerian market and to give a solid understanding of its agricultural industry. The findings resulting from the semi-structured interviews were analysed on reliability to assure that each source had the same interpretation of the problem in order to validate the consistency of the findings. Validity was measured by being non-reactive and staying analytical distant during the interviews to not let my acquired knowledge intervene with their opinion. Internal validity has been assured by making use of both desk research and qualitative semi-structured interviews to check for consistency in findings.

After closely having looked at the research process, I believe I have done research sufficiently, looking back at the reliability and validity testing. However, the thesis has not been as representative as it could have been. Looking at the answers flowing out of the semi-structured interviews, I believe that follow-up surveys would have been a good addition to this thesis to see where the interests for Wakati lies within the smallholder farmers communities. This could have been accomplished if the contact persons I had done the interviews with were able to distribute surveys I had made to research the smallholder farmers’ needs.

With the analyses that flowed out of desk research as well as qualitative field research I believe to have answered the subsidiary research questions related to internal and external analyses adequately. The answers to these subsidiary research questions have eventually led to the answer of the research question: researching an effective and profitable implementation of Wakati’s export and marketing communication strategy into Nigeria starting January 2017. Wakati’s entry strategy within Nigeria will be effective if the entry and marketing communication strategy will be followed as recommended. It will become profitable if Wakati has been present in Nigeria for a couple of months after creating category need, brand awareness, brand knowledge, brand attitude and behavioural facilitation.

The required insights during this research have led to various objectives for follow-up research:

* Further investigate the implementation of the entry strategy after six months: setting up an entity, direct export, trading houses or producing in Nigeria;
* Research on other end-consumers: transportation companies, medium-sized farmers (4.99+ hectares) to which Wakati could target their Wakati One;
* Further investigate the wants and needs of smallholder farmers: what additional needs besides storage solutions do they have that Wakati can assist with;
* Dedicate research to return on investment for smallholder farmers on each fruit and vegetable that can be stored within the Wakati.

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# Appendices

## Appendix A – Mindmap

## Appendix B – Primary and secondary subsidiary research questions

1. What is Wakati’s internal situation?

* What is Wakati’s business model?
* What is Wakati’s business scope of operations, according to Abell’s model?
* What growth strategy does Wakati implement in their business, according to Ansoff’s model?
* What value strategy does Wakati implement in their business, according to Treacy and Wiersema’s model?
* What are Wakati’s strengths?
* What are Wakati’s weaknesses?

1. What is the current and expected situation in Nigeria on a macro level?

* What are the demographic developments in Nigeria?
* What are the economic developments in Nigeria?
* What are the social/cultural developments in Nigeria?
* What are the technological developments in Nigeria?
* What are the ecological developments in Nigeria?
* What are the political developments in Nigeria?
* What are the overall opportunities/threats for doing business in Nigeria?

1. What is the current agricultural situation in Nigeria?

* Where are Nigeria’s smallholder farmers based?
* What is the profile of the Nigerian smallholder farmers?
* What are the main reasons of post-harvest fruit and vegetable loss in Nigeria?
* What is Nigeria’s current agricultural situation regarding labour and (under) development?
* How is the Nigerian agricultural industry regulated?
* Who are Wakati’s competitors in Nigeria?
* What does the competitive environment in Nigeria look like, according Michael Porter’s Diamond Framework?

1. What is the best way of doing business in Nigeria for Wakati?

* What cultural differences are there between Belgium and Nigeria?
* How do Nigerians make decisions?

1. What are the benefits of the Wakati One for the Nigerian smallholder farmers (target group)?

* What are the main fruits and vegetables that the Nigerian smallholder farmers harvest?
* For which purposes could these Nigerian smallholder farmers use the Wakati One?
* What is the return on investment (ROI) for the smallholder farmers for the fruit and vegetables they harvest?

1. How can Wakati export to Nigeria and therefore enter the Nigerian market?

* How will the distribution be structured?
* Is Wakati going to work with NGOs, social enterprises or distributors in Nigeria?
* With which NGOs, social enterprises and distributors is Nigeria going to work together?
* What barriers of entry apply for Nigeria?
* With which countries does Nigeria have international alliances?
* What documents are needed when exporting to Nigeria?
* What VAT is attached to the Wakati product and its HS code?
* What are the transportation costs?
* What will the ultimate price be for one Wakati in Nigeria?

1. How can Wakati connect with its (potential) customers through marketing communication in Nigeria and communicate its values?

* What is the current situation in Nigeria regarding marketing?
* What can Wakati do regarding marketing in Nigeria?
* How will the marketing strategy be communicated to the exporting/distribution partners and the smallholder farmers?

1. In what way can Wakati implement its export and marketing communication strategy in Nigeria?

* How will the export be structured?
* How can Wakati distribute to Nigeria?
* What steps need to be taken when exporting to Nigeria?
* In what way will the export plan be implemented?
* In what way will the marketing communication strategy be implemented?

### *Word definitions*

The research sub questions contain several words that ask for further definition.

* Smallholder farmers – those marginal and sub-marginal farm households that own and/or cultivate less than 2.0 hectare of land. Smallholder farmers produce relatively small volumes of produce and are generally less well-resourced than commercial-scale farmers (Dixon, Tanyeri-Abur, & Wattenbach, 2003).
* Post-harvest fruit and vegetable losses: is defined as measurable qualitative and quantitative food loss along the supply chain, starting at the time of harvest till its consumption or other end uses. They occur, in this content, due to inadvertent losses along the way due to infrastructure and management limitations (Hodges, Buzby, & Bennett, 2011).
* Agricultural developments – providing assistance to the crop producers with the help of various agricultural resources (EconomyWatch, 2010).
* Technological developments – The scientific method and material used to achieve a commercial or industrial objective (The Free Dictionary, 2012).
* Political developments – the developments necessary to satisfy the changing needs of the members of the society (Park, 1984).
* Economic developments – efforts that seek to improve the economic well-being and quality of life for a community by creating and/or retaining jobs and supporting or growing incomes and the tax base (Salmon Valley Business and Innovation Center, 2008).
* Return on investment (ROI) – measures the amount of return on an investment (the gain) relative to the investment’s cost (Entrepreneur, 2001).

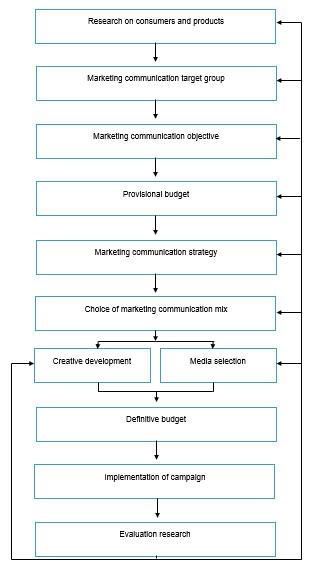
## Appendix C – Theoretical conceptual models

* Business Model Canvas: a strategic management and entrepreneurial tool that describes a business model more visually. This will help with the visualisation of Wakati’s business (Osterwalder, 2004);
* Abell Three Dimensional Business Definition Model: analyses the business’ scope of operations. This model will provide a clear market delineation of the current activities of Wakati related to customer groups, customer needs and technologies (Abell D. F., 1980);
* Ansoff Matrix: strategic planning tool that provides a framework to devise strategies for future growth. It can be seen as a definition for product-market strategy as ‘’a joint statement of a product line and the corresponding set of missions which the products are designed to fulfill (Ansoff I., 1957)’’;
* Value Disciplines Model of Treacy and Wiersema: describes three generic value disciplines that any company must choose one out of and act upon. The chosen strategy for Wakati will help with its business model and further development of its business in both Belgium and Nigeria (Treacy & Wiersema, 1995);
* DESTEP analysis: complete analysis of the Nigerian market. The DESTEP analysis that will be made will comprehend the factors related to Wakati, post-harvest food losses, agriculture and agricultural developments to keep the research in scope (Van Vliet, 2013);
* Porter’s Diamond of National Advantage: serves as an illustration of the determinants of national advantage. It clarifies the dynamic process by which competitive advantage is created. This will help with determining the Nigerian agricultural industry regarding strategy, structure, industry and factor/demand conditions (Porter, 1990);
* Geert Hofstede’s Dimensions of National Culture Model: consists of six dimensions that represent independent preferences for one state of affairs over another that distinguish countries from each other. This model will help determine on which dimension Nigeria differs from Belgium (Hofstede, 2001);
* Supply Chain analysis: an analysis of the system of organisations, people, activities, information and resources involved in the process of moving one product from supplier to customer. This model will help visualise Wakati’s current supply chain and investigate whether this needs to change for Nigeria (Beamon, 1998);
* SWOT analysis: evaluates a business’ strengths and weaknesses and the environment’s opportunities and threats that are involved. This will help benchmark Wakati’s strengths and weaknesses and what it can do with the Nigerian opportunities and threats (Goodrich, 2015).

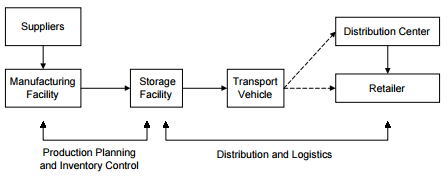
## Appendix D – Overview of methodology and theoretical conceptual models per research question

|  |  |  |
| --- | --- | --- |
| Subsidiary research question | Methodology with motivation | Conceptual models and motivation |
| 1 | Desk research – question 1 is based on an internal analysis for which desk research suffices | Business Model Canvas, Ansoff growth strategy, Treacy and Wiersema, Abell model – these models will provide the basis of the internal analysis of Wakati |
| 2 | Desk research – question 2 is based on fact-finding and field research | DESTEP – the DESTEP analysis will provide this thesis with a general outline of the country and important factors for doing business. The semi-structured interviews will give additional information on the macro-environmental factors |
| 3 | Desk research – question 3 is based on fact-finding | Diamond of Porter – the Diamond of Porter will analyse the competitiveness in the Nigerian market with the use of six key tools |
| 4 | Desk research and field research (qualitative) – question 4 is in need of both desk and field research and its answers | Hofstede’s cultural dimension model – this model will give insight in Nigeria regarding 6 ‘pillars’. The field research carried out will consist of semi-structured interview with possible partners |
| 5 | Desk research and field research (qualitative) – question 5 relies on the outcomes of field research since the benefits of a Wakati One can solely be measured with the outcomes of the tests that have been done. Additionally, the prospected business associates in Nigeria have a good perspective on the agricultural business in Nigeria | The semi-structured interviews will be held with prospective business partners that work closely with the smallholder farmers and, since they are hard to reach, could provide Wakati with useful information |
| 6 | Desk research and field research (qualitative) – question 6 relies on desk research before it can be answered. This will be done with the use of fact-finding as well as with the use of the research model. Regarding field research, there will be held semi-structured interviews with possible partners for Wakati in Nigeria | Supply Chain analysis – The Supply Chain analysis will help to understand the distribution of Wakati into Nigeria |
| 7 | Desk research and field research (qualitative) – question 7 can partly be answered with desk research as well as field research. With desk research it can be investigated what marketing communication With field research the businesses can provide information regarding marketing in Nigeria | No conceptual models will be used to analyse and answer question 7 |
| 8 | Desk research and field research (qualitative) – question 8 can be seen as the conclusion of all the other questions. | No conceptual models will be used to analyse and answer question 8 |

## Appendix E – Marketing Communication Plan Structure

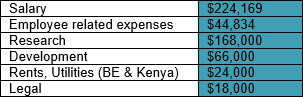


## Appendix F – The Supply Chain Process

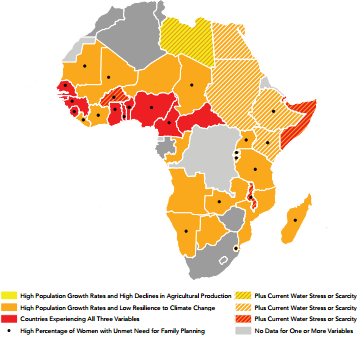


## Appendix G – Business Model Canvas

|  |  |
| --- | --- |
| Asset sale | $201,000 |



## Appendix H – Population and Climate Change Hotspots in Africa



## Appendix I – Interview with Gerard Vos – Consultant at Buck Consultants International

Gerard Vos contacted Wakati on its own accord on December 11th 2015. When the topic of my thesis became clear in the first week of February, I searched for people that had contacted Wakati (or already were in contact with Wakati) that had knowledge related to Nigeria and its agricultural sector. Gerard Vos stated that, after having finished agro-logistical research in Nigeria, Saudi-Arabia, Morocco and Benin he was referred to Wakati and was under the impression that he could assist us with entering the above countries. After having discussed the matter with Arno Nurski I was able to contact Gerard Vos for a semi-structured interview related to Nigeria and the agricultural logistics.

The interview was conducted on April 4 2016 and took place via Skype. The conversation was supervised by Arno Nurski since he also wanted to know more about the results in Benin and Morocco. The entire interview between me and Gerard Vos was a total of 12 minutes long.

For the interview with Gerard Vos I wanted to discuss the following:

* his findings in Nigeria that were related to logistics;
* his findings related to the need for training and agricultural investments in Nigeria;
* the Nigerian business culture;
* the willingness of both the smallholder farmers as the government to adapt their current practices with the help of third parties (Wakati).

The conversation started with the introduction to Wakati; the company, the post-harvest storage solution Wakati offers, the test results and current business practices. Afterwards, Gerard Vos explained that he had been in Nigeria and Benin for a year (6 months per country) to hands-on experience the logistics of agriculture and the effect of it to fruits and vegetables. He researched the entire supply chain of fruits and vegetables; from harvesting, handling, storage, processing, packaging, transportation and marketing until the crops were delivered to the final consumers. He noted that the problem starts with the harvesting, handling and storing of the perishable crops since both the farmers in Nigeria and Benin had close to no measures taken to reduce the loss. Because of the high, ambient temperatures and humidity pests and moulds developed quickly that immediately had negative effects on the produce. Many smallholder farmers in Nigeria and Benin work together with distributors and multinationals that buy their fruits and vegetables. Most of these smallholder farmers have arranged that their produce is being picked up on the same day that their produce is being harvest. Others have arranged that picking up the produce happens a day or two after harvest, during which a lot is lost. Smallholder farmers that do not work with these businesses either harvest their fruits and vegetables for their own use (subsistence level) or sell it on the town market, with which the most fruits and vegetables are lost because the storing of fruits and vegetables does not happen sufficiently. At home as well as at the market place the fruits and vegetables are stored in immediately sunlight with nothing more than a towel covering it.

After having discussed the, most common, logistical structure of smallholder farmers’ harvest to the market place, I asked him how he thinks that Wakati should establish themselves in the Nigerian market. He advised Wakati to market themselves as a company that provides training to the smallholder farmers relating to the Wakati product. Currently, the practices used by smallholder farmers do not concern solar panels, with which they have no experience. Additionally, they are most likely not able to set up a tent with a simple instruction manual since they are just not accustomed to do so. Additionally, he believed that the consumer price of $150 would be affordable for the smallholder farmers if they were able to buy one with the use of microfinancing. With microfinancing, that is being offered by many banks that already work together with smallholder farmers, financial services are provided to the poor who are not served by the conventional financial institutions. He addressed that Wakati could sell to the smallholder farmers with the use of microfinancing, or could emphasize to the partners of Wakati that they sell the Wakati via microfinancing. Gerard Vos stated that he believes the adoption rate of the Wakati would be higher if it was sold via microfinancing, the same goes for training.

When I asked about the business culture, Gerard Vos could only tell me much about the decision making and culture amongst the smallholder farmers instead of doing business with Nigerian companies, since he did not experience that much. He stated that the person making the decision on the farm depends on the importance of the decision that has to be made. He acknowledged that women play a key role in the smallholder sector but it is the men that make the decisions that have effect on the outcome of the harvest related to quality and quantity.

He concluded the interview with stating that he sees the benefits of the Wakati but mentioned that, for farmers within Nigeria, the tent is a little small with the possibility to store up to 200kg of produce. The farms he visited sometimes harvested over 300kg of produce, for which the current Wakati would have been too small. He applauded that Wakati wants to address the African market country by country by first looking closely at the post-harvest food loss problem. He noted that after Kenya and Nigeria, both entire West and East Africa could be a market for Wakati because of both countries’ free trade associations. Nigeria is part of the ECOWAS Community with fourteen other countries. Kenya is part of the EAC together with five other countries.

## Appendix J – Interview with Williams Angban – Regional Commercial Manager at Notore Chemical Industries Ltd.

Currently, Williams Angban works as a commercial manager at Notore Chemical Industries Ltd for the north-eastern region of Nigeria. As a commercial manager, Williams Angban oversees the daily operations of Notore in North East Nigeria. He pursues new business opportunities that are both beneficial for the growth of the company as well as the wellbeing of smallholder farmers they serve. Williams Angban has been working at Notore since 2007 and has completed multiple projects for the company for which he had a lot of contact with smallholder farmers.

Caleb Usoh (interview three) mentioned that Notore could be another good company for Wakati to do business with. After having called the corporate office in Rivers State on April 8, I was referred to Williams Angban who was willing to schedule a Skype call on Wednesday April 11, 2016. The entire conversation was a total of 16 minutes.

For the interview with Williams Angban I wanted to discuss the following:

* the footprint that Notore had on the lives of smallholder farmers in Nigeria;
* where the smallholder farmers Notore is working with are located and how many there are;
* the functions of the Wakati and the applicability of it for the smallholder farmers that Notore is working with;
* possible suggestions for the Wakati product;
* the possibility to do business with Notore.

Since both Williams Angban and I had no clear vision of both companies, the conversation started with me explaining Wakati, the company and the product. I explained that the current vision is on Kenya and East Africa (Tanzania, Burundi) and in January 2017, the focus will shift towards West Africa, with starting points in Nigeria. Afterwards, Williams Angban started to tell about Notore and his function in the company. He stated that, in Nigeria, Notore directly or indirectly (via the government) supplies fertilisers to smallholder farmers across the entire country. Notore targets their fertilisers to smallholder farmers with the packages they have made that start at 1kg and sell to even the smallest village sites with the use of so-called ‘’village promoters’’. These VPs are being trained by Notore so they can, in turn, train the smallholder farmers on the use of fertilisers, which not only increases the effectiveness of the fertilisers but also the output from the harvest.

According to mister Angban, the total amount of smallholder farmers that have done business with Notore since 2010 were over 10 million, many of these were trained by the village promoters and still continue to do business with Notore by buying fertilisers and contribution in the training days. When asked in which regions Notore sells their fertilisers and does training, he mentioned that every state in Nigeria has smallholder farmers of many sorts and Notore does business with the many of them, in every state. He mentioned that the smallholder farmers in the south are better equipped with smallholder farming practices (fertilisers, seeds, small storage and harvesting tools) compared to the poorer northern part of Nigeria. He stated that fruits grow better in the south and vegetables grow better in the north because of the arid zones in Nigeria.

Mister Angban started talking about Boko Haram in the North, after I explained Wakati’s possible vision of doing business across entire Nigeria. Before Boko Haram invaded much of the northern regions of Nigeria, Notore had a viable business running with the smallholder farmers in those regions. However, lately it is becoming really hard to reach them because of roadblocks and theft that have all been initiated by the Boko Haram servants, according to him. Mister Angban said that even though Boko Haram makes doing business very tough, the company still wants to reach these farmers since they are believed to be the poorest and in the biggest need of fertilisers.

After having discussed the smallholder farmers in Nigeria, their location and their practices, I asked mister Angban about his thoughts about the Wakati. I shared with him the set up manual and he immediately told me that, even though that it might be really easy for ‘Westerners’, the smallholder farmers in Nigeria are most likely not able to set up the tent since it is in black and white. He mentioned that a manual in which the steps and parts of the tent are colour coded, the connection of what goes where can be made easier for the smallholder farmers. Additionally, he mentioned that a 200 kg storage solution is too little for smallholder farmers, therefore there would need to buy a minimum of three units to fully benefit from it. After having shared the test results of the Wakati, he was very enthusiastic about the product and the functionality for the Nigerian market. He completely understood the need for Wakati to introduce the product country per country, since he acknowledged the difficulty of entering each African country.

The conversation concluded with him stating that Notore would be willing to do business with Wakati when it comes to distributing the Wakati to smallholder farmers that they work with. He encouraged Wakati to contact him when the company was ready to move into the Nigerian agricultural sector. He stated that they would want to test the Wakati’s first with selected smallholder farmers and afterwards, if the results were promising, Notore would buy more Wakati units that they would sell and distribute to other smallholder farmers.

## Appendix K – Interview with Tony Bello – Agribusiness Specialist at the UNDP

Tony Bello works as an agribusiness specialist at the UNDP of Nigeria, whilst closely working together with the Nigerian Federal Ministry of Agriculture and Rural Development. He serves as an advisor and lead consultant for the ministry related to agribusiness investment and capacity building initiatives. In this position he tries to find solution for economic growth of agribusiness as well as for smallholder farmers.

I was referred to Tony Bello by Janet Hawkes (interview one). She recommended me to conduct an interview with him since his insights on the Nigerian agricultural sectors were, according to her words, very interesting. She provided me with his email address. I first contacted him the April 1st after which the eventual interview took place on the 25th of April, via Skype. The interview was supervised by my internship coordinator Arno Nurski, since he found it very interesting to talk with a person connected to the United Nations as well as the Nigerian government. The entire conversation lasted 24 minutes, of which 9 he spoke with me.

For the interview with Tony Bello I wanted to discuss the following:

* the initiatives of the Nigerian government for smallholder farmers;
* the initiatives of the UNDP for smallholder farmers;
* the Agricultural Transformation Agenda launched in 2011;
* the applicability of microfinance on smallholder farmers.

The conversation started with Arno Nurski explaining Wakati, the company and the product. Afterwards, Arno asked Tony Bello about his work for the UNDP as well as the Nigerian government. Mister Bello explained that it his job to provide the government with partners that are able to unlock the agricultural potential of Nigeria that he then connects to a UNDP project. Most of the product initiatives he had so far researched were targeted to smallholder farmers, since, according to his opinion, they are the key to agricultural growth in Nigeria. He acknowledged that the post-harvest losses of fruits, vegetables and tubers in Nigeria should be diminished in order for the Nigerian government to reduce import and increase the wellbeing of the entire country, starting at the smallholder farmers.

Tony Bello mentioned the UNDPs current projects related to smallholder farmers; the Green Commodities Programme (GCP) that has been launched across the world, in which the programme selects sustainable agricultural practices that are in turn being tested by the UNDP and the smallholder farmers. With this programme, the UNDP as well as the Nigerian Ministry of Agriculture and Rural Development seek to provide smallholder farmer with viable production practices that will improve the production by increasing efficiency, giving higher yields and improved quality and quantity of the products. Tony Bello mentioned that the government’s ATA programme closely works together with the UNDP in order to improve smallholder farmers’ agricultural productivity.

When being asked about other initiatives for smallholder farmers, Tony Bello mentioned that in 2015, 17 sustainable development goals have been established of which *zero hunger* and *life and land* are being valued by the Ministry of Agriculture and Rural Development. Especially these two goals get a lot of attention from the UNDP in Nigeria and, therefore, has a lot of programmes attached to it.

With this remark, the conversation between Arno Nurski and Tony Bello ended, giving me the chance to ask about microfinancing, since that was the only topic left unanswered. Tony Bello stated that he had some experience with microfinancing and agricultural programmes, stating that with the UNDP programmes, micro-financing is not an issue since all resources for the smallholder farmers within the programme are being funded by the UNDP. However, he was able to tell me that many smallholder farmers team up together in order for them to be able to A: get a micro financing deal with the bank and B: to be able to pay back the interest. He noted that it might be a good thing for Wakati to check out the option to sell the Wakati with a microfinancing deal in collaboration with the Central Bank of Nigeria. He did mention that selling the Wakati via microfinancing will most likely not succeed in the northern part of Nigeria because of the Muslim communities that live there and feel that microfinancing ‘violates their principles because of the interest that has to be paid’.

The conversation ended with him stating that, when Wakati is ready to target the product to West Africa, he would be more than happy to initiate the sales and research on the Nigerian market via the Ministry of Agriculture and Rural Development and the UNDP.

## Appendix L – Interview with Janet Hawkes – Advisory Board of the United Nations FAO

Janet Hawkes serves on the Advisory Board of the UN FAO for the ‘’Growing Connections’’ and ‘’Energy and Agriculture’’ programmes’ development team. She also serves on the American Council on Renewable Energy Biomass Coordination, which is why she is an official advisor for Wakati and its business development in Africa. Her expertise lies within growing agricultural awareness in the United States as well as Africa and has wide knowledge on business practices in Africa’s emerging markets: Nigeria, Kenya, South Africa, Ethiopia and Ghana.

There has been chosen to do an interview with Janet Hawkes because of her immense knowledge on the African market related to agriculture. Miss Hawkes has been an official advisor of Wakati since September 2015, immensely helping Wakati with setting up their business in Kenya. My internship supervisor, Arno Nurski suggested that my first interview would be with Janet Hawkes because of her wide, independent knowledge on Nigeria and its agricultural sector.

The interview was conducted on March 30, 2016 and took place via Skype. The conversation was supervised by my Arno Nurski, since he was interested in her findings related to Nigeria as well. The entire interview was a total of 34 minutes, the conversation between solely me and Janet was a total of 19 minutes long.

For the interview with Janet, I wanted to cover the following topics:

* the main reasons for post-harvest losses in Africa/Nigeria;
* the advised way of entering the Nigerian market related to competition and other influencers that Janet Hawkes would come up with herself;
* how and why other businesses have failed when having entered Nigeria;
* Nigeria’s business culture.

Since Janet was already highly aware of Wakati’s operations and encourages Wakati’s development across Africa, there was no need to explain the business and its plans to broaden its scope. When I told her about my thesis and my research concerning Nigeria, the conversation started with the high urgency for storage solutions in that country. She acknowledged that post-harvest losses are a huge problem in Africa, as well as for Nigeria. She believed that the problem of post-harvest food losses lies within the education of smallholder farmers and their knowledge of agricultural inputs (seeds, fertilisers) and storage solutions. She stressed that the entire African smallholder farmer population is affected by post-harvest losses but are in no position to develop a solution. She mentioned the zeer pots as being used by smallholder farmers in Nigeria that provide a limited solution to the problem since it can only store approximately 15 kg of fruits and vegetables. Because of the small proportion that can be stored, many qualitative as well as quantitative losses occur.

She started with one of the FAOs researches on zeer pots for tomato farmers in Nigeria. Without having the intention to ask Janet, she started to talk more about the smallholder farmers that the UN FAO holds documentation for. She shared a file with me regarding a business case of a particular smallholder tomato farmer in Nigeria and the total income/total cost of that farmer in 2015. With this document, she advised me to calculate the return on investment for Wakati.

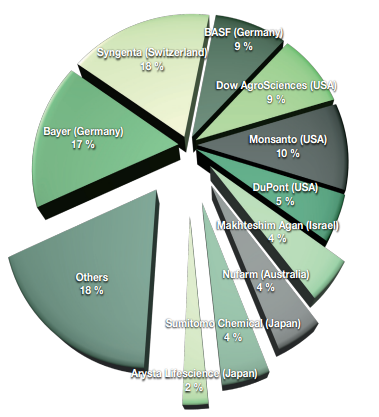
*For one of my sub research questions I had the intentions to calculate the return on investment of the Wakati. I did not expect that Janet/the UN FAO would share their documentation with me, especially in such detail. Before my interview with her I intended to ask the question related to farmer income/costs to one of the distribution companies that follow in this interview section. From thereon out I expected to make assumption regarding ROI since I did not expect to get such detailed cost of one particular farmer.*

After having addressed the topic of smallholder farmers and their post-harvest food loss problem, Janet immediately switched to some possible partners that Wakati should definitely contact, she suggested: Notore, Babban Gona and Bayer because of the impact their businesses have on the smallholder farmers they work with. Janet has been in contact with Notore because of their world-wide operations and, therefore, could not elaborate much about the specific business culture in Nigeria. She advised to closely work together with NGOs, social enterprises and (seed/fertilizer) distributors before opening a warehouse, since they have a wide network of smallholder farmers and distribution offices themselves. She recommended to firstly penetrate the Nigerian market via those channels before opening up a Nigerian entity.

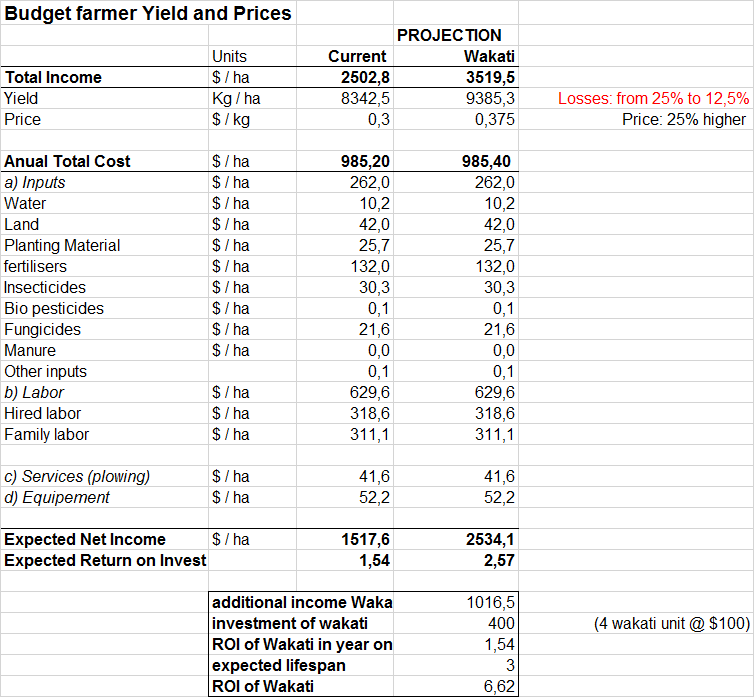
After having discussed the possible partners that could help with entering the Nigerian market, I asked Janet if she could shed some light about other businesses she had advised with entering the Nigerian or West-African market, and that eventually had failed. According to her, many businesses, not even start-ups but also businesses with many years of experience in Nigeria, fail because of their lack of research on the country and their target group. She stated that there had been many companies that wanted to eliminate food loss in Nigeria but failed because they did not take in mind the smallholder farmers’ mind-set. She mentioned a company that exported drip irrigators to Ghana and Nigeria (i.e. a form of irrigation saving water by allowing it to drip slowly to the fruits and vegetables in the ground through a network of pipes) that did not take in mind the huge cost that was connected to buying, maintaining and repairing a drip irrigator. Therefore, the drip irrigation systems were not bought by the smallholder farmers since they could not afford to buy them, let alone repairing one.

Without having asked a question related to the government, Janet stressed that having the government by your side when entering the Nigerian market will be vital for the success of a business since their support can hugely benefit the outcome. Especially in Nigeria with its new Agricultural Transformation Agenda that promotes agribusiness that benefits the Nigerian (smallholder) farmers and agriculture. Therefore, she suggested that I interviewed Tony Bello (interview five) since he works for the United Nations Development Programme and advises the Nigerian Ministry of Agriculture and Rural Development.

## Appendix M – Pie chart of top 10 corporations market share of the global pesticides market



## Appendix N – Return on investment



## Appendix O – Explanation of cultural differences with Hofstede’s six dimensions

**Power Distance** is the extent to which the less powerful members of institutions and organisations within a country expect and accept that power is distributed unequally (Hofstede, 1980).   
Nigeria has a score of 80 and is seen as having a high power distant culture. According to Grzeda and Assogbbavi (1999), in high distance cultures authority is assigned on ground of education, experience and age. The exercise of authority occurs through political systems that support centralisation of power. Nigerian businesses favour a highly hierarchical structure; subordinates are expected to aspire to ranked privileges (Adegboye, 2013). Additionally, a high power distance indicates that individuals tend less toward challenging their superiors (Hofdstede, 2015).   
Belgium has a score of 65 indicating that one person regulates mostly everything related to important decisions. In Belgium, the role of hierarchy is important but it is still possible to criticise decision made or contribute to negotiations (Brans, Visscher, & Vancoppenolle, 2006). The attitude towards managers in Belgium is formal, and the information flow and control in the working space are hierarchical (Ivanchikova, 2015).

**Individualism** refers to the degree of interdependence a society maintains among its members (Hofstede, 1980). Nigeria has a score of 30; a culture of communalism (Adegboye, 2013). Most of the individuals’ life aspirations are nurtured by the society through the system of praise and blame, and sanctions and rewards (Ikwuemesi, 2012). In Nigeria, offence leads to shame and loss of face (Hofdstede, 2015). A collective effort allows for communal ownership of resources and effort. In this atmosphere, trust becomes very important (Sand, 2015).   
Belgium has a score of 75 indicating that Belgians stress self-direction and self-achievement (Kim, 2005). The direct style of speech is associated with individualism; the goals of the speaker are obvious in the spoken message (Rojjanaprapayong, 1997). In Belgium, young people learn to define themselves in terms of their personal characteristics and to derive their general sense of well-being from their success at doing so (Arnett, 2007).

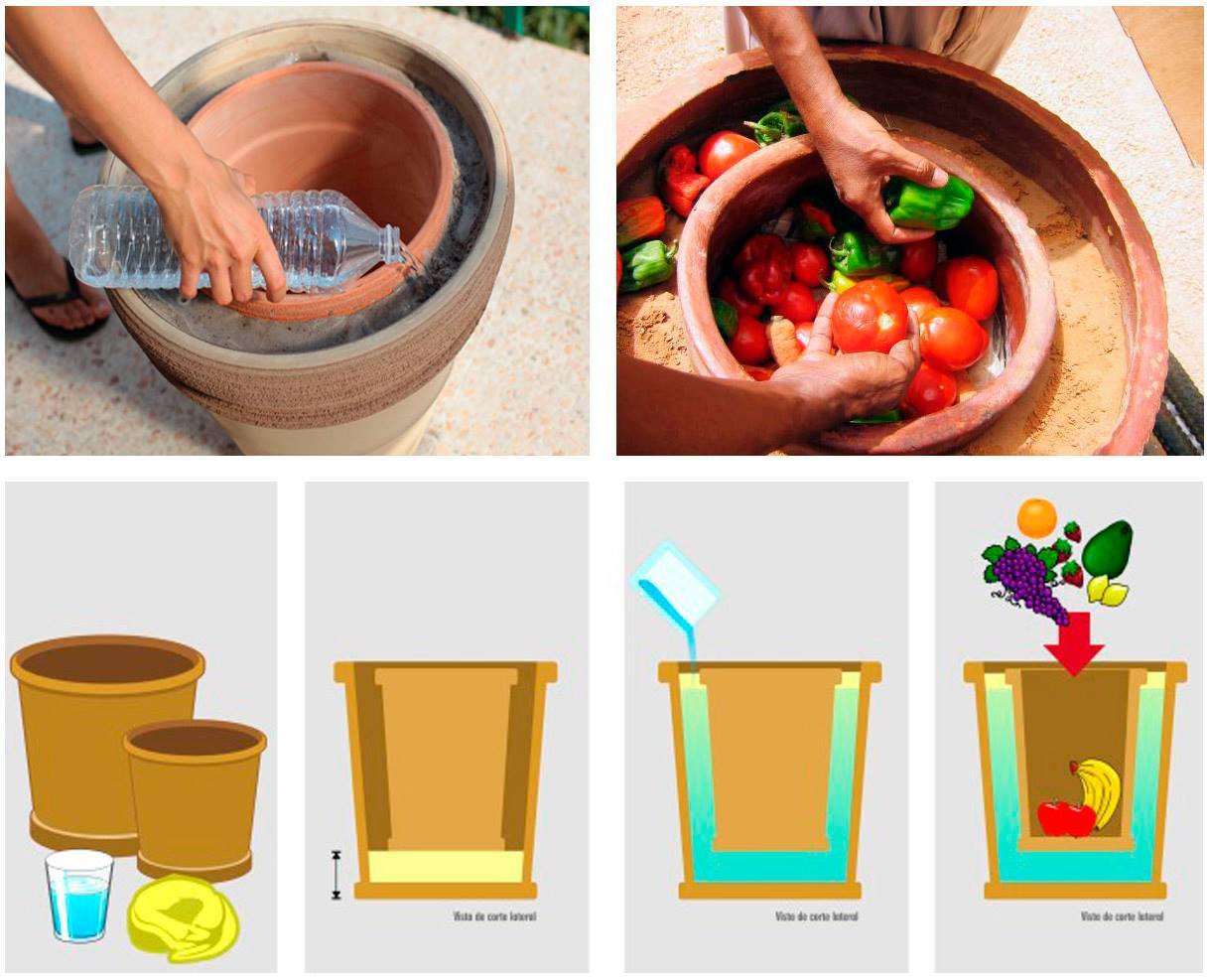
**Masculinity** refers to what motivates people, wanting to be the best (masculine) or liking wat you do (feminine) (Hofstede, 1980). Nigeria has a score of 60. According to Budhwar and Debrah (2001) Nigeria is essentially a male-dominated, masculine society. In masculine countries, men are favoured for positions of power in organisations (Hamilton & Webster, 2015). In the Nigerian society, people ‘’live in order to work’’ and managers are expected to be decisive and assertive; what motivates people is wanting to become the best (Hofdstede, 2015). High masculine cultures emphasise the need to be competitive and value power (Niroomand, 2010).   
Belgium has an average score of 54, which makes it ‘balance in the middle’ and closely related to the Nigerian culture on this dimension. In countries having a masculine culture, the management style is likely to be more concerned with task accomplishment than with the development of social relationships (Information Resources Management Association, 2016).

**Uncertainty Avoidance** is defined as how people in a society will tolerate ambiguity when they encounter an unstructured, unclear or unexpected situation (Hofstede, 1980). Nigeria has a score of 55, indicating that the Nigerian society does not show a clear preference for avoiding uncertainty. It is argued, however, that the Nigerian society may prefer to avoid compromising to decrease the feeling of risk and giving up control to others (Purohit & Simmers, 2006). This level of uncertainty avoidance is in line with the fact that Nigerians do not care for formal procedures, rules and regulations (Isyaku, 2014). Belgium has a score of 94, which should indicate that entrepreneurs in Belgium have difficulties with ambiguity of what the future brings and therefore will try to protect itself from unexpected situations (de Wit, 2013). In management structure, rules and security are welcome and if lacking, it creates stress (Hofdstede, 2015).

**Long Term Orientation** describes how every society has to maintain some links with its own past while dealing with the challenges of the present and future (Hofstede, 1980). Nigeria has a score of 13, which suggests that this low score hinders commitment to relationships and values associates with motivating employees (Bamgboje-Ayodele & Ellis, 2015). According to Ford, Gadde, Hakansson and Snehota (2011), the short term orientation prevails with absence of trust and commitment that leads to unwillingness to make a relationship-specific investment.   
Belgium has a score of 82, indicating that the Belgians look for quick results, and social statues issues are often of importance (Hopkins, 2009). It is argued that long term orientation may inhibit a business owners from engaging in high-risk projects that might hurt a firm’s financial position (Lumpkin, Brigham, & Moss, 2010). Long term orientation can, therefore, be associated with greater caution and conservative decision-making (Block & Walter, 2012).

**Indulgence** defines the extent to which people try to control their desires and impulses. Nigeria has a score of 84, which makes it a culture of indulgence (Hofdstede, 2015). According to Hofstede, Hofstede and Minkov (2010), indulgent societies do not care much for material rewards, since people value their happiness over other values such as gratitude and empowerment. Multinationals investing or having business relationships with these cultures should focus on giving good experiences to people with whom they are in contact.   
Belgium has a score of 57, which indicates that the society has a small preference for optimism (Christiansen, 2015). In an indulgent society, people will place a priority on their sense of freedom and personal enjoyment through leisure time and interacting with friends (Samovar, Porter, McDaniel, & Roy, 2013).

## Appendix P – Pot-in-pot refrigerator



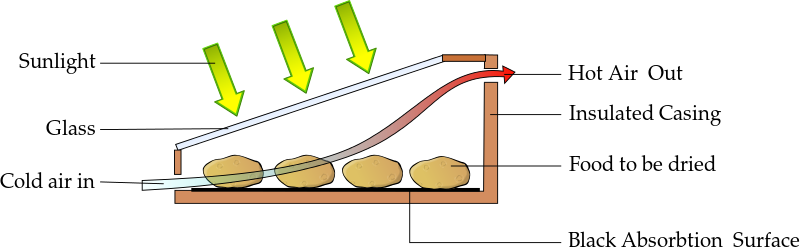
(Saeed, 2014)

## Appendix Q – ColdHubs



(Lufkin, 2015)

## Appendix R – Solar dryer



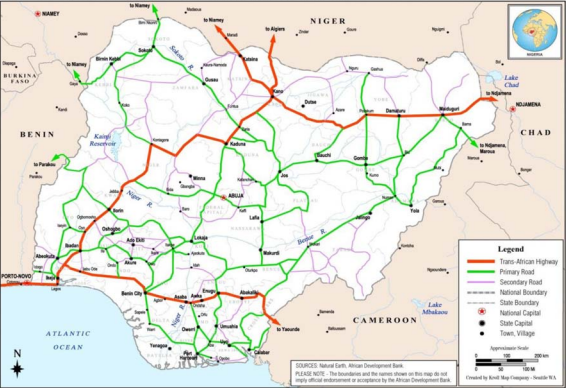
(Devi & Singh, 2013)

## Appendix S – Test results of extended shelf life of fruits and vegetables that have been tested by Wakati



## https://upload.wikimedia.org/wikipedia/en/thumb/0/09/The_Porter_Diamond.svg/400px-The_Porter_Diamond.svg.pngAppendix T – Diamond of Porter

(Porter, The Competitive Advantage of Nations, 1998)

* **Factor conditions** are values of the firm’s skill to supply those factors of research production that allow a unit to compete and relate to human resources, physical resources, knowledge resources, capital resources and infrastructure (Bakan & Dogan, 2012).   
  In Nigeria, agriculture is an important industry, employing about 60-70% of the population and is still dominated by traditional smallholder farmers (Robert Gordon University, 2013). Farm labour is a major source of employment opportunity for the rural labour force in Nigeria. However, declining farm labour supply is compounded by the fact that the agricultural sector, with a few exceptions, has the worst poverty conditions (Ruerd & Van Den Berg, 2001). Additionally, rural population declined as the young and able left to seek better employment prospects in urban areas (Agwu, Nwankwo, & Anyanwu, 2012). In Nigeria, and many other parts of the world, child labour is a great concern and it appears to be particularly widespread in the informal small and medium-sized sectors (Edet & Nsikak-Abasai, 2013). Previous studies have shown that available farm labour force comprised mostly the old people, thus having a negative impact on agricultural productivity. The increasing absence of young people in farming could be attributed to farm drudgery (i.e. work that is unpleasant/monotonous), absence of social infrastructure, poor farm income and generally low life expectancy in rural areas (Anyanwu, 1989; Nweke, 1980; Iwueke, 1987).   
  Nigeria has good agricultural land covering a wide range of agro-ecological zones and allowing for diverse crop and livestock production (IFAD, 2014). Smallholder farmers in Nigeria operate on between 0.1 and 4.99 hectares of land (Eze, Amanze, & Nwankwo, 2010). In Nigeria, about 20kg of fertiliser is used per hectare which negatively correlates with the crop yield (Odum, 2015). Fertiliser is very crucial to the success of modern agriculture, but it is very costly (Agbaeze & Onwuka, 2013). The traditional methods of food preservation remain at the empirical level (Adeyeba, 2014). The absence of storage facilities culminates in huge post-harvest losses (Agbaeze & Onwuka, 2013).   
  Socioeconomic characteristics of vegetable farmers in Nigeria indicated that 78% attended primary school, indicating that most farmers are less educated (Abang, Kouamé, Abang, Hanna, & Fotso, 2014). This confirms the conclusion by Ratta (1993) that farming is a viable alternative to waged labour for those who lack formal employment due to limited education. Exposure to education will increase farmer’s ability to obtain, process and use information relevant to the adoption of improved agricultural technologies (Otunaiya & Akinleye, 2008). In Nigeria, education helps people to acquire knowledge, make better use of natural resources and protect the environment (Ballara, 1991). The level of education of a farmer is important since it determines the ability to understand policies or programmes that affect farming (Abulsalam, Yaro, & Alobo, 2010). In an effort to diversify the oil-based economy of Nigeria, it is placing emphasis on financing the agricultural sector. Finance is required to purchase land, construct buildings, acquire machinery and equipment, hire labour, irrigation etc. (Obansa & Maduekwe, 2013).   
  Nigeria’s agricultural sector lacks critical infrastructure, such as roads, access to reliable sources of energy, clean water, and modern IT tools. Investment in rural roads would link farmers and their produce to profitable markets, since currently less than 30% of the rural population lives close to quality roads (Essiet, 2014). According to FAO (2005), rural infrastructure plays a crucial role in poverty reduction, economic growth and empowerment for the African rural poor. The lack of adequate and reliable infrastructure touches the life of every rural African family daily (Fakayode, Omotesho, Tsoho, & Ajayi, 2008). The roads and rail are in a wrecked condition and a significant proportion of investments made in road networks have disappeared because of lack of maintenance (Oyewole & Oloko, 1999).
* **Demand conditions** are values of demand by the society that affect how companies perceive, interpret and respond to customer needs (Frynas & Mellahi, 2011). In Nigeria, the agricultural losses are one of the greatest problems facing agricultural production and concerns everyone from the farmer to the government (Oyewole & Oloko, 1999). One of the fundamental constraints in agriculture is the peasant nature of the production system, with its low productivity, poor response to technology adoption strategies and poor returns on investment. Traditional storage facilities have certain disadvantages, including a low elevated base giving easy access to rodents, wooden floors that termites could attack, weak supporting structures that are not moisture proof, and inadequate loading and unloading facilities (Olukunle, 2013). In Nigeria, there is a need for storage that does not let in pest and diseases that affect fruits and vegetables after they have been harvested since it affect their shelf life and appearance. Additionally, Nigeria is in need of a longer shelf life for their crops to ask for a better price for their produce or decide not to sell (yet) and await a better price (Ibeawuchi, et al., 2015). Many recourses are being devoted to planting crops, irrigation fertiliser application and crop protection, little, however, is done to minimise post-harvest losses (Adepoju, 2014). The demand, however, is big; a reduction in post-harvest food loss could guarantee an increase in food availability, reduces the need for food importation and consequently positively impacts the welfare of farmers (Adesina, 2012). For people living in rural areas but are not into smallholder farming, the need for a preservation material comes from wanting to keep bought fruits and vegetables good for a longer period of time (Natsa, 2014). With demand for post-harvest storage solutions comes the demand for training. Many smallholder farmers do not have the adequate knowledge and implementation skills for the solutions that are being offered (Bureau of Economic and Business Affairs, 2013). Because of the huge losses of fruit and vegetables, stakeholders such as the World Bank and the Rockefeller foundation discuss ways to develop the value chain, especially expanding the assistance to farmers’ organisations (Odum, 2016).
* **Related and supporting industries** relates to the presence or absence of related industries and supporting industries, which interact with the target sector (Mehrizi & Pakneiat, 2008). Since Wakati is a firm with a global strategy, it can source materials, components, or technologies anywhere in the world (Frynas & Mellahi, 2011).   
  Concerning the related industries in Nigeria, Wakati will benefit hugely from the presence of agricultural NGOs, social enterprises and agricultural dealers in Nigeria, since their contact with the smallholder farmers is the current entry strategy of Wakati into many African countries. The lack of direct competitors in Nigeria for the Wakati could somewhat create a monopolistic environment.  
  Relating to the supporting industries, solar panels are hardly being made in Nigeria for the price it is being sold in Shenzhen, China. In Nigeria, there is a knowledge gap in the manufacturing sector because of the lack of education (Egbunike, 2015). The manufacturing of the Wakati and its accessories has been made possible because of China’s Silicon Valley: Shenzhen (Whitwell, 2014). In Shenzhen both the tent as the solar panel are being manufactured by Nomad and The Folding Solar Panel Company. Because the production of, almost, the entire Wakati takes place in Shenzhen, lines of communication and exchange of ideas and innovations are very long.   
  Concerning infrastructure as a supporting industry, Nigeria has relatively advanced power, road, rail and information and communication technology (ICT) networks that cover extensive areas of the country. However, the condition of the road network is poor and as a result, national connectivity is impaired. About 47% of rural inhabitants live within two kilometres of an all-season road; the adjacent figure shows the primary and secondary roads in Nigeria. The main issue is that the quality and quantity of road service are inadequate due to lack of maintenance, which has led to the dilapidated state of road networks (African Development Bank Group, 2013).
* **Firm strategy, structure and rivalry** refers to the strategy of firms, the structure of the industry and the rivalry amongst companies that have an effect on the competitiveness (Bakan & Dogan, 2012).  
  Regarding firm strategy, Wakati seeks to achieve to fight poverty in developing countries by reducing the post-harvest losses through providing an effective storage solution. This is being done via partnerships. It is noted that Nigeria has the most accredited NGOs and social enterprises in the West African region (Zoromé, 2009). Since the rivals of the Wakati in Nigeria (zeer pot, ColdHubs and solar dryers) are not of the best quality and do not have the best effect on the fruits and vegetables, this serves as an incentive for Wakati to make their product better than the current options available (Saito, Mekonnen, & Spurling, 1994). Wakati wants to increase the price asked for their fruits and vegetables to give them a better economic stability.
* **Government** relates to the extent that governmental policies can influence the competitive advantage. In 2011 Nigeria instituted the National Economic Transformation Agenda whose aim is to diversify its economy from reliance on oil, assure food security and create jobs, especially for the youth. The Federal Ministry of Agriculture and Rural Development (ARD) is implementing an Agricultural Transformation Agenda (ATA) that will promote agribusiness, attract private sector investment in agriculture, reduce post-harvest losses, add value to local agricultural produce, develop rural infrastructure and enhance a farmer’s access to financial services and markets (Agboma, 2013). With the ATA’s Growth Enhancement Scheme the agricultural productivity has been enhanced through timely, efficient and effective delivery of yield-increasing farm inputs, which have been subsidised. Within two years, fourteen million farmers have been registered (Iruobe, 2014). The vision of the ATA is to grow Nigeria’s agricultural sector and stop treating agriculture as a development project (Adesina, 2012). Together with the United Nations Development Programme, the Nigerian Ministry of ARD has been implementing 17 sustainable development goals that are targeted to the agricultural sector and smallholder farmers as has been mentioned by Tony Bello.

Nonetheless, corruption has become one of the major social ills plaguing the stability of Nigeria. Factors of corruption in Nigeria concern, among others, the discrimination in wealth distribution, greed and materialism (Ene, Abam, Williams, & Dunnamah, 2013).

* **Chance** concerns the developments beyond the control of firms. Would Wakati still be necessary if Nigerian technicians came up with a post-harvest storage solution themselves? What would happen if Nigerian government decided to take all the work of NGOs and social enterprises out of their hands and started to do the work for them? What if the oil sector drops massively and every worker would start in agriculture? What if Nigeria bans trade with the entire world so that the Nigerian workforce needed to become self-sufficient? What if the Nigerian soil became infertile and fruit and vegetables would not be able to grow anymore? What if the Nigerian climate changed drastically so that agriculture will not be possible in Nigeria?

## Appendix U – Interview with Caleb Usoh Country Manager Nigeria for Bayer CropScience

Caleb Usoh is currently the country manager of Bayer CropScience in Nigeria. Being country manager for Nigeria entails being responsible for the overall development and implementation of the Bayer CropScience department in the country. Bayer CropScience has only been present in Nigeria as an entity since 2015 and thereby formally launched ‘Bayer Middle Africa Limited’. In Nigeria, Bayer CropScience supplies high-quality products for crop protection as well as seeds. Wakati already does business with Bayer and its CropScience division in Kenya, whose country manager recommended that I interviewed Caleb Usoh.

The interview was conducted on April 7, 2016 and took place via Skype. The conversation was not supervised by my internship coordinator, since he did not see the benefits of it regarding sales. The entire interview between me and Caleb Usoh was a total of 12 minutes.

For the interview with Caleb Usoh I wanted to discuss the following:

* Bayer CropScience within Nigeria and its main focus/business for the smallholder farmers;
* how Bayer CropScience does business within Nigeria;
* his thoughts related to Wakati’s applicability to smallholder farmers;
* the possibility to do business with Bayer CropScience when it comes to distributing the Wakati to its smallholder farmers.

The conversation started with me introducing Wakati, as a company and as the product since Caleb Usoh had only read a product brochure about Wakati. I explained the technology behind Wakati and the results it has had so far on the smallholder farmers’ life in, among others, Kenya. After having explained the vision of Wakati and why I was finding out the ability of doing business in Nigeria for my thesis, Caleb Usoh immediately assured me that I came to the right person for discussing business in Nigeria.

Caleb Usoh started by saying that Bayer had been doing business Nigeria for solely one year and is therefore still establishing themselves on the market. Caleb Usoh mentioned that currently, he has 26 colleagues who all work hard to establish a viable business in Nigeria by providing seeds, crop protection technologies and training to smallholder farmers. In Nigeria, as well as other African countries, the variations of seeds and crop protection products that Bayer offers are all customised to the smallholder farmers’ needs. He noted that, besides solely selling the agricultural elements, Bayer also researchers the smallholder farmers’ environment and their lifestyle in order for them to be completely able to address different products for different farmers. Currently, Bayer CropScience does business with smallholder rice and cacao farmers that are mostly present in the southern states of the country.

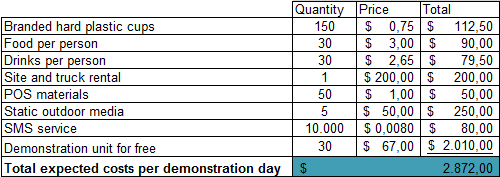
Caleb Usoh mentioned that the smallholder fruit and vegetable farmers Bayer works with are mostly located in the north western region of the country. In this region, Bayer also customises their offerings to the needs of all smallholder farmers. When asking Caleb Usoh about the applicability of the Wakati storage solution to the fruits and vegetables that are being harvested by the farmers to which they supply their crop solutions, he had a very positive mind set. According to him, depending on the type of farmer and with whom they got contracts related to picking up the produce, fruits and vegetables lose quality as well as quantity extremely quickly, since the storage solutions are close to non-existent to the farms he has visited across Nigeria. Hereafter, Caleb Usoh mentioned that training the smallholder farmers would be vital for the success of Wakati within Nigeria.

The conversation concluded with Caleb Usoh mentioning that Bayer would be willing to assist with providing training to smallholder farmers in groups per Nigerian state as well as thereby distributing the Wakati. Bayer has had many years of experience with training smallholder farmers related to the use of their agricultural solutions in many countries across Africa. He stated that, even though the Wakati is a tent that looks easy to set up, most smallholder farmers are not accustomed to even the slightest technology and therefore could have difficulty with setting up the tent. According to Caleb Usoh, the inability to set up the tent will immediately lead to failure of the Wakati in Nigeria, since it has no use for the smallholder farmers in that way. The findings of Caleb Usoh related to going to market and providing training is in line with the information received from Gerard Vos (interview two).

## Appendix V – Advertisement of Wakati towards the smallholder farmers

Front Back

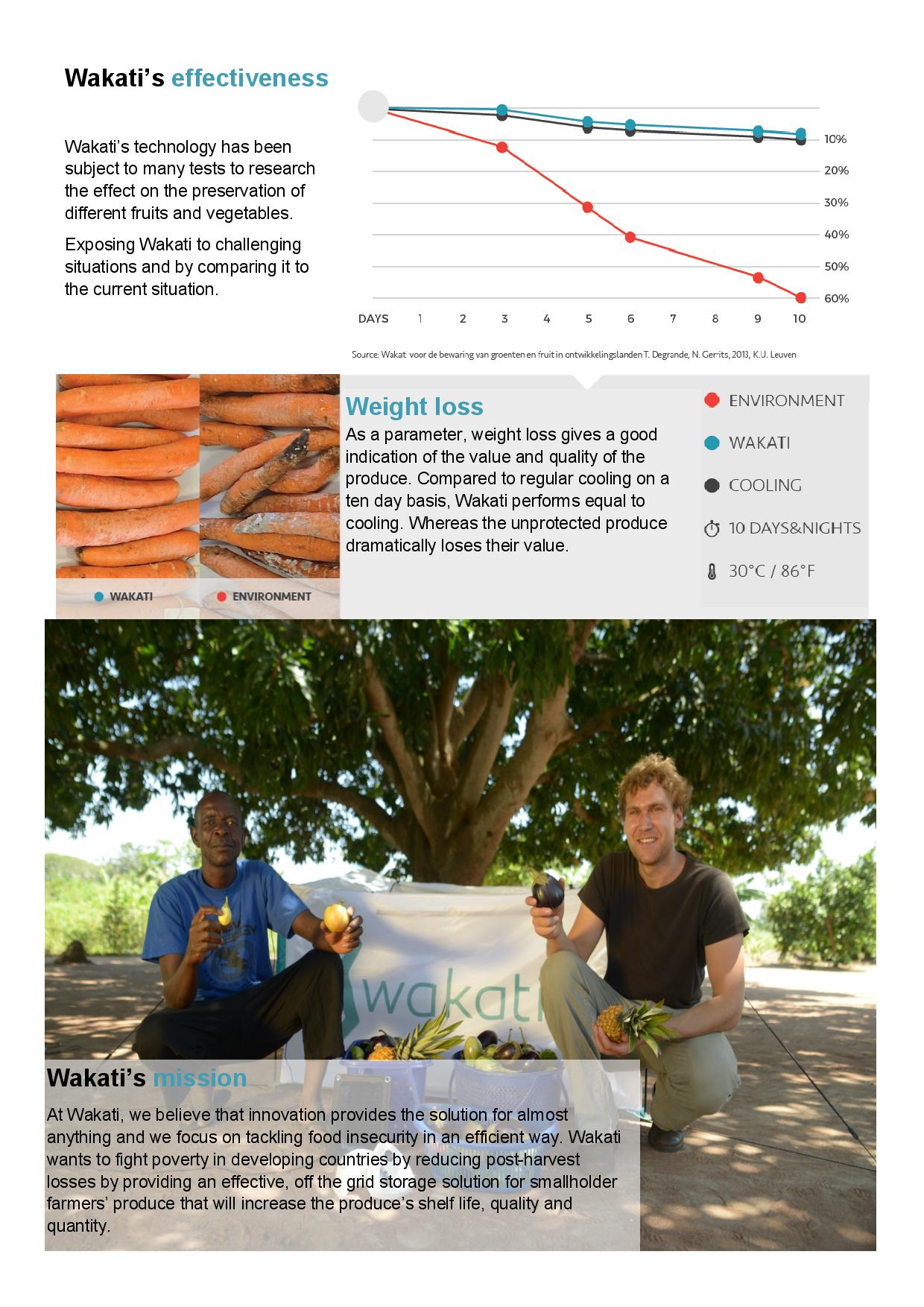
## Appendix W – Calculations of the demonstration day



Above the calculation per demonstration day has been specified. There will be given a demonstration unit for free for each 10-15 smallholder farmers that are present. For this calculation there has been established that there will contribute 300-450 smallholder farmers.

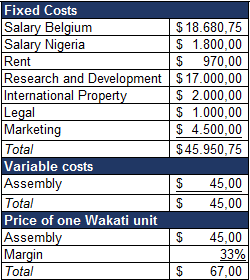
## Appendix X – Product brochure of Wakati towards the prospective companies

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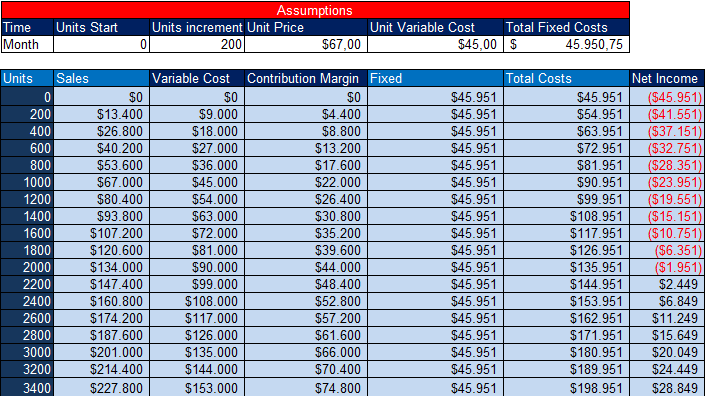


## Appendix Y – Calculations used for the break-even analysis

The break-even analysis of Wakati’s entry strategy within Nigeria has been calculated with the use of fixed costs, variable costs and the price per one Wakati unit that have been forecasted for January 2017, which is when the entry strategy into Nigeria will take place.

This overview shows the fixed and variable costs of Wakati as well as the price per unit. The fixed costs comprise of costs being made in Belgium as well as in Nigeria, since one cannot operate without the other. *Salary Nigeria* comprises of the monthly pay that the Nigerian sales agents (4) receive for their work with the demonstration days and locating of smallholder farmers.  
*Marketing* costs comprise of the budget made available for the marketing communication strategy: printing of leaflets, costs of the demonstration days, sponsoring an agricultural event with Wakati units and marketing materials for the exhibitions. The variable costs comprise of the assembly/production price of the Wakati tent, solar panel and climate unit. The price is made up out of the assembly price and a fixed margin.

The following excel overview shows the calculations that have been made in order to calculate the break-even point. For this calculation there has been made use of the *units, sales, fixed,* and *total.*



## Appendix Z – Transportation documents and costs

Related to exporting products to Nigeria, the Standard Organisation of Nigeria (SON) is the sole body that is responsible of standardising and regulating the quality of all products that enter Nigeria. With its Conformity Assessment Program (SONCAP) each good is to be inspected for conformity to the relevant Nigerian standard before release into the Nigerian market. Cotecna has been officially appointed by the SON to issue these certificates. In order for Wakati to be able to ship to Nigeria, the company needs to follow three steps. One being obtaining a Product Certificate, two being issuing test results and three, eventually, obtaining the SONCAP Certificate that grants access to the Nigerian market. The costs of these certificates will be around $350 per month (Standards Organisation of Nigeria, 2016).

Taking into account that one Wakati tent weighs around 4,5 kg, the transportation costs attached to that for shipping to Nigeria will amount to approximately €18,00 per parcel (TNT Belgium, 2016). The VAT that will be added because of the HS Code 8543.70.90.99will amount to 10% (CustomsInfo, 2015).