ENTRY PLAN FOR A SOLAR PRODUCT MANUFACTURING COMPANY,

Case: Suntrica Limited and Ghana

LAHTI UNIVERSITY OF APPLIED SCIENCES
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This thesis research concerns a fast growing solar product manufacturing companies’ passion to enter the renewable energy market in Ghana. Solar energy has been considered as one of the alternative sources of renewable energy in Ghana which can be relied upon in the provision of sustainable energy and electricity.

The main purpose of this research work was to understand the renewable energy business environment in Ghana and to develop a market entry plan for the case company Suntrica in selling its business-to-customer and business-to-business products in Ghana.

In fulfillment of the purpose, a qualitative research method was applied with emphasis on interviews. Data was collected from earlier studies relating to the subject matter in both printed and electronic formats, books, articles, journals, online sources, internet and a list of semi-structured interview questions.

The interviews were conducted with five different experts in the renewable energy business to enable the author to have a fair idea and understanding of the market to be entered. Four different entry plans were suggested to be considered by the case company in entering the market in the sequence of four separate time frames.

These entry strategies includes direct export and distribution channel design positioning, hypothetical parallel distribution strategy, direct export mode with emphasis on corporate social responsibilities and government cooperation, and joint venture business model.

Key words: Ghana, Entry plan, Market entry modes, renewable energy and distribution channels.
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<tbody>
<tr>
<td>AC</td>
<td>Alternating Current</td>
</tr>
<tr>
<td>AGECC</td>
<td>Advisory Group on Energy and Climate Change</td>
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<tr>
<td>AU</td>
<td>African Union</td>
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<tr>
<td>ARE</td>
<td>Alliance for Rural Electrification</td>
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<tr>
<td>B2B</td>
<td>Business-to-business</td>
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<tr>
<td>BNI</td>
<td>Bureau of National Investigation</td>
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<tr>
<td>CE</td>
<td>European Conformity</td>
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<tr>
<td>CEPS</td>
<td>Customs, Excise and Preventive Services</td>
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<tr>
<td>CEO</td>
<td>Chief Executive Officer</td>
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<tr>
<td>CDD</td>
<td>Center for Democratic Development</td>
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<tr>
<td>CHRAJ</td>
<td>Commission on Human Rights and Administrative Justice</td>
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<tr>
<td>CIA</td>
<td>Central Intelligence Agency</td>
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<tr>
<td>CIGS</td>
<td>Copper Indium Gallium Selenide</td>
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<tr>
<td>CSIR</td>
<td>Council for Scientific and Industrial Research</td>
</tr>
<tr>
<td>DC</td>
<td>Direct Current</td>
</tr>
<tr>
<td>EADS</td>
<td>Environmental Assessment Data System</td>
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<td>EAP</td>
<td>Environmental Action Plan</td>
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<tr>
<td>ECOWAS</td>
<td>Economic for West African States</td>
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<tr>
<td>EOCO</td>
<td>Economic and Organize Crime Office</td>
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<td>EPA</td>
<td>Environmental Protection Agency</td>
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EPC  Environmental Protection Council
FCC  Federal Communication Commission
GACC  Ghana Anti-Corruption Coalition
GECCA  Ghana Environmental Convention Coordinating Authority
GEDAP  Ghana Energy Development and Access Project
GDP  Gross Domestic Product
GHC  Ghanaian Cedi
GNI  Gross National Income
GNH  Gross National Happiness
GJA  Ghana Journalist Association
GII  Ghana Integrity Initiative
GIPC  Ghana Investment Promotion Center
GPI  Genuine Progress Indicator
GPS  Global Positioning System
GW  Gigawatt
HDI  Human Development Index
IBRD  International Bank for Reconstruction and Development
IBO’s  International Business Operations
ICC  International Criminal Court
ICSID  International Centre for Settlement of Investment Disputes
IEA  International Energy Agency
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Full Form</th>
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<tr>
<td>IRS</td>
<td>Internal Revenue Service</td>
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<tr>
<td>IPP’s</td>
<td>Independent Power Producers</td>
</tr>
<tr>
<td>JICA</td>
<td>Japan International Co-operation Agency</td>
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<tr>
<td>KITE</td>
<td>Kumasi Institute of Technology and Environment</td>
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<tr>
<td>KNUST</td>
<td>Kwame Nkrumah University of Science and Technology</td>
</tr>
<tr>
<td>KWH</td>
<td>Kilowatt Hour</td>
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<tr>
<td>LED</td>
<td>Light Emitting Diode</td>
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<tr>
<td>LPG</td>
<td>Liquefied Petroleum Gas</td>
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<tr>
<td>MJ</td>
<td>Mega joule</td>
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<tr>
<td>MSA</td>
<td>Meteorological Services Agency</td>
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<tr>
<td>MW</td>
<td>Megawatt</td>
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<tr>
<td>NEPAD</td>
<td>New Partnership for African Development</td>
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<td>NDC</td>
<td>National Democratic Congress</td>
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<tr>
<td>NLC</td>
<td>National Labor Commission</td>
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<tr>
<td>NPP</td>
<td>New Patriotic Party</td>
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<tr>
<td>OAU</td>
<td>Organization of African Unity</td>
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<tr>
<td>OECD</td>
<td>Organization for Economic Cooperation and development</td>
</tr>
<tr>
<td>PESTEL</td>
<td>Political, Economic, Socio-cultural, Technological, Environmental and Legal</td>
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<tr>
<td>PV</td>
<td>Photovoltaic</td>
</tr>
<tr>
<td>PPP</td>
<td>Purchasing Power Parity</td>
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<tr>
<td>SEHU</td>
<td>Solar Energy Harvesting Unit</td>
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<tr>
<td>Abbreviation</td>
<td>Description</td>
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<tr>
<td>SFO</td>
<td>Serious Fraud Office</td>
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<td>SME’s</td>
<td>Small and Medium Size Enterprises</td>
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<td>SS</td>
<td>Solar Straps</td>
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<tr>
<td>SWERA</td>
<td>Solar and Wind Energy Resource Assessment</td>
</tr>
<tr>
<td>SWH</td>
<td>Solar Water Heater</td>
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<tr>
<td>UN</td>
<td>United Nations</td>
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<tr>
<td>UNCTAD</td>
<td>United Nations Conference on Trade and Development</td>
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<tr>
<td>UNDP</td>
<td>United Nations Development Programme</td>
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<tr>
<td>UNESCO</td>
<td>United Nations Education, Social and Cultural Organization</td>
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<tr>
<td>USB</td>
<td>Universal Serial Bus</td>
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<tr>
<td>USD</td>
<td>United States Dollars</td>
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<tr>
<td>VAT</td>
<td>Value Added Tax</td>
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<tr>
<td>WIFI</td>
<td>Wireless Fidelity</td>
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<tr>
<td>WiMax</td>
<td>Worldwide Interoperability for Microwave Access</td>
</tr>
<tr>
<td>WTO</td>
<td>World Trade Organization</td>
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1 INTRODUCTION

In this first chapter, the reader will be introduced to the subject. The background of this study will provide the reader with an overview in respect to the subject matter of this thesis research. This chapter will also serve as a solid base for the reader in assimilating the theories to be discussed in this piece of work. Finally, the structure of the entire thesis work will be presented in this chapter.

1.1 Background

The fluctuations in the prices of oil and gas and its scarcity in recent times have led to the discovery of renewable energy as an alternative source of energy in combating this shortfall. The linkage between the economic development of a nation and the energy sector cannot be underestimated. In recent times, majority of the commercial energy supplies of the world are enhanced by the use of fossil fuels. The use of fossil fuels has its own inherent emissions affecting the livelihood of inhabitants in the natural environment. The projection for the future specifically for the year 2050 indicates that there is going to be an enormous increase in the demand of energy worldwide especially in developing countries including the Sub Saharan Africa. Renewable Energy can be said to be the main antidote in solving the energy crisis happening these days. This type of energy gives an excellent alternative to the traditional energy sources in the developing countries as a whole. In my own opinion, renewable energy is the future of electricity generation globally.

However, the concept of energy has become a very important ‘‘commodity’’ in the entire world today. Energy is considered as one of the important needs of a functioning society, community and the entire nation as a whole. The scale of its use is fundamentally associated with its capabilities and the quality of life the inhabitants’ experience. (Tester et al. 2005, 2.)

Renewable energy has become the core partner in order to improve the livelihood of about two billion inhabitants living mostly in rural communities. There is estimation also in recent times that about half a billion people are living in areas associated with unreliable access to energy.
The author of this thesis research is currently involved in the Connect network creation project in Lahti University of Applied Sciences. This project which is aimed at supporting the growth and internationalization of the Finnish Renewable Energy Small and Medium Size Enterprises to developing countries is a great welcome news. This project has really re-ignited the passion in the author to specifically conduct a thesis research on market entry focusing mainly on solar energy as a type of renewable energy. The current situation back home in Ghana is so pathetic in relation to electricity sources and the annual power rationing repeating itself all over the nation. The current pattern of energy use in Ghana is unsustainable not forgetting its environmental damaging effects. There is a vast energy market in Ghana regarding the annual sunshine all over the country which is yet to be fully harnessed. The author of this piece of work hails from a locality where majority of the people have no access to electricity and other forms of thermal powers existing in the entire country. For instance, people have to travel several kilometers to nearby cities in order to charge the batteries of their mobile communication devices whilst there is abundant of sun entirely left unharnessed.

The case company of this thesis research SUNTRICA Limited is the "messiah" in averting these happenings due to the fact that it is a fast expanding small and medium size enterprise on solar energy. The company’s expertise are in solar energy products and currently existing and very successful in 40 different markets including Africa. This thesis research work focuses on understanding the renewable energy market in Ghana and providing Suntrica Limited with a market entry plan in penetrating it in the near future.

According to 2010 estimates, approximately 3 billion people worldwide rely on traditional biomass for cooking and heating, and about 20% of the world’s populations, 1.4 billion people have no access to electricity. (OECD/IEA 2010.) It is also observed that up to a billion more have access only to unreliable electricity network (UN-AGECC 2010).

In the African continent, according to Alliance for Rural Electrification elaboration of IEA data (ARE 2011), the overall amount of people without access to electricity has reached 589 million in 2008, with additional 9 million of people with no access to electricity yearly since 2002. It is also estimated in the United
Nations Energy report (UN 2011) that around 59.6% of people are observed to be living in sparsely rural populated areas hence their access to energy particularly electricity remains an inherent issue for most of the continents. In the European Union for instance, solar energy and its capacity growth in 2011 was dominated by Italy and Germany. Italy recorded 9.3Gigawatt (GW) whilst Germany recorded 7.5GW. The two countries together accounted for 57.1% of global capacity growth in 2011. Germany still remains the leader with an installed capacity of 24.8GW with Italy having 12.8GW ahead of Japan with 4.9GW. The world’s emerging economic giant China is already leading in the manufacture of solar photo voltaic panels in its domestic market with a 2.2GW in 2011.

All these statistics on renewable energy especially solar are indications that there is more work to be done in bridging the gap between the urban and the rural inhabitants. Suntrica Limited in Ghana with its products and services will help in solving at least part of the power outages existing over decades now especially in the rural communities.

1.2 Objectives, Research questions, Scope and Limitations

The paramount importance of conducting a thesis research in this area is because of the need by modern companies’ especially case company Suntrica Limited in entering the Ghanaian solar energy market. This research will help Suntrica in thoroughly understanding the new market environment in Ghana in terms of culturally accepted practices or principles, environmental factors, policies, legislations and other business ethics existing in the new market.

The main objectives of this research include the following:

- To understand the renewable energy business environment in Ghana.
- To analyze the distribution channels existing currently in this business in Ghana.
- To develop a market entry plan for Suntrica in selling its business-to-customer products and business-to-business off-grid solutions.

This thesis research will thoroughly answer the following questions with respect to Suntrica’s entry into the solar business market in Ghana.
These are:

- What are the existing theoretical international business operational models (IBOs) today?

- Identification of the case company’s entry modes currently been used in other African markets which could also be employed in the Ghanaian market.

- Which one of the entry modes or International Business Models would be suitable for governmental organizations, ministries and departments in Ghana?

- Which one of the entry modes would be suitable for private individuals and private organizations/company’s for the case company to adopt immediately?

Scope

This thesis research seeks to solely concentrate on entry plan for the sale of Suntrica’s solar energy products. Although there are different types of renewable energy, the author only limits his findings on solar energy market in the target country. The scope of this piece of work is also limited based on the literature availability and within a specific time frame of its execution. Due to the fact that the topic is very wide, the author is not able to present all the full literature range in the aspect of market entry models but rather will examine an overview of the main issues and areas concerning the objectives of this thesis. For the purpose of this thesis, the author wishes to limit his findings from printed materials, electronic materials and other internet web related sources to the country Ghana. The gathering of accurate market information about the energy market in Ghana requires the need to find the authorized personnel. There is also the tendency that some of these information’s and statistics given by them may be classified.

Finally, the scope of this work pertaining to limited literature availability, accuracy of the information’s back home and the time frame of executing this research cannot serve as an impediment in conducting this research to meet Suntrica’s Limited expectations.
1.3 Knowledge base of the research

The knowledge base of this research will be focused on assessing the distribution channels currently existing in Ghana. This will help in affirming the various means by which the imported products can get to the final consumers upon arrival from overseas. The discussion on market entry modes/strategies will also serve as a basis of knowledge in this piece of work. This is because a proposed entry plan mechanism will be recommended to Suntrica in order to get started in entering the energy market in Ghana.

1.4 Research approach

Research as an important issue in the world today has various forms of definitions depending on the context in which one is considering it. According to Hyde (2000, 75) research is “a process of enquiry and investigation done in a systematic and methodical manner which ends up in an increase of knowledge”.

The three approaches of carrying out research examined by Brymen and Bell (2007), Hyde (2004), are shown in the diagram below.

![Diagram of research approaches](adapted from Hyde 2000, 75).

The deductive approach according to Saunders et al. (2007, 117) is when researchers “develop a theory or hypothesis and design a research strategy to test the hypothesis”. The characteristic of this type of research is that conclusions are drawn from logic rather than observations.
An Inductive approach according to Strauss and Corbin (1998, 23) is one that the result is arrived from the study of a phenomenon it represents. The theory from inductive approach is based on observations which commences with the area under study. Inductive research approach should be a representation of the main reality of things happening and the various forms of data collected from this research should be free from bias. When the two methods are combined together, then there is abductive approach.

Kovacs & Spens (2005,133) propose that for researchers to take on the abductive approach there is the need to examine the insight with regards to the present phenomena by trying to explain things from a creative point of view which should be a new aspect. The two approaches are excellently important in the design of any research project.

1.5 Qualitative Research Method

This thesis research follows the qualitative research design method which is suitable in studying business and management issues. Qualitative research can be defined as an “array of interpretative techniques which seek to describe, decode, translate, and otherwise come to terms with the meaning, not the frequency of certain more or less naturally occurring phenomena in the social world.” (Cooper & Schindler 2011, 160.) This type of research technique is used during the data collection and data analysis stages of the proposed research project. During the data collection stage, different forms of techniques are used including individual interviews, observation, grounded theory, focus groups, case studies, and ethnography. At the analysis stage, the researcher may decide to use content analysis of written or conversations recorded from the participants interviewed previously. This method makes use of projective techniques that allows the participant to freely express his feelings, ideas and personal career experiences that are directly linked with the subject matter. The researcher can also analyze the contents he/she has written during the observation process. Qualitative research method main aim is to present an in-depth understanding of a particular situation.
Cooper and Schindler (2011, 183) stated that qualitative research methodologies differ from quantitative methodologies based on the focus of the research; its purpose; researcher involvement; sampling size; research design, including participant pretasking; data source, type, and preparation; methods of data analysis; level of insights and meaning extracted. It is possible also to use qualitative methodologies alone in addressing organizational challenges or in combination with other quantitative methodologies. Qualitative research is a kind of informative research that tries to tell the researcher how and why things happen as they do. In the field of business and decision making processes, qualitative methodologies are employed in sales analysis, sales development, and market segmentation, advertising processes and buying behavior of consumers.

Qualitative research draws data from several sources, namely “people (individuals or group); organizations or institutions; texts (published, including virtual ones); settings and environments (visual/sensory and virtual material); objects, artifacts, media products (textual/visual/sensory and visual material); events and happenings.” (Cooper & Schindler 2011, 160.) In comparing qualitative with quantitative research, the latter can be defined as exact measurement of something that is been carried out. In business related research processes, quantitative methodologies normally measure the behavior, opinions or attitudes of consumers.

Benchmarking as defined by (Watson 1994, 6) is “a systematic and continuous measurement process; a process of continuously comparing and measuring an organization’s business processes against business leaders anywhere in the world, to gain information that will help the organization take action to improve its performance”. This type of research method enables one company to compare its operations with other organizations in terms of competitions, comparative advantage and other performance strategies using objective and subjective criteria.

Primary and Secondary Data Collection

There are two major types of data that have great dominance in research methods. This data emanate from primary and secondary sources. The primary data is facts and information collected by researchers for specific purposes. (Rabianski 2003,
The methods for primary data involve interview techniques which can be used in different forms such as personal direct contact, phone, e-mail or other communication media. The interviews consist of three main types: structured interviews, semi-structured interviews and unstructured interviews. Structured interviews are the use of questions based on specific set of queries read out by a researcher. For semi-structured interview, the interviewer will have a list of some standardized questions but the interviewer may add or omit some questions depending on the situation. Unstructured interviews are informal discussions. The researcher will have a range of topics to handle the discussion. (Neville 2005.)

The process of observation is the way of gathering data by the researcher and sharing the experiences in any situation. Observation takes place at the same place and same time when the action occurs. During the observation, the observer risks loss of information with regards to forgetfulness, disorganization or mismanagement of the facts. The questioning process can provide information through the set of questions. However, the collected information might be inaccurate due to misunderstood question and fabricated answer. Primary data can lead to error or less accuracy, therefore secondary data is considered for more accurate information. (Rabianski 2003, 49.)

Secondary data is the facts and information from secondary sources including published and unpublished work based on research of primary data. (Rabianski 2003, 49.) The greater use of secondary data is freely available without limitation. Everyone can access data and benefit from the shared research data. The researcher may add value by analysis of impartial secondary source. Secondary data can be found in all written materials such as books, articles, and reports. In this thesis research, data would be gathered from both primary and secondary sources. The primary data would be gathered from interviews. The author wishes to conduct five interviews with key policy and stakeholders back home in Ghana via phone, emails, Skype and other available means possible.
The figure below shows the schematic diagram of the data collection method for this thesis.

FIGURE 2. Methods of Data Collection

The secondary sources of this thesis research would be gathered from books both printed and in electronic formats, academic articles, reports, documents and journals.

1.6 Structure of the research report

The overall structure of this thesis research is presented as follows with reference to the contents of the individual chapters.

In Chapter one, explanation of the background of the study presents the research objectives, outlines the research questions, the scope of the study, the knowledge base of the research, research approach with emphasis on qualitative method, the primary and secondary sources of data collection and finally the structure of the entire research work.
In Chapter two, theoretical framework related to this thesis will be presented. The first part of this chapter is going to discuss market entry modes, distribution and an analysis of channels existing in Ghana.

In Chapter three, renewable energy business and its potential in Ghana would be discussed. The different types of renewable energy will be discussed briefly here with emphasis on a thorough technical analysis of the solar energy market.

In Chapter four, a presentation shall be made on the target market Ghana using PESTEL market analysis tool.

In Chapter five, the commissioning company of this research work shall be presented using the 4P’s in marketing. These are placement, price, promotion and products. The empirical research type shall also be elaborated upon in this chapter.

The chapter six which also serves as the main core of this work will focus on the presentation of an entry plan for Suntrica Limited in selling its business-to-customer products in Ghana and its business-to-business off-grid solutions/products. Interviews made with stakeholders and energy commission directors will also be included in this chapter.

In chapter seven, conclusions shall be drawn on this research work with emphasis on various suggestions for future research work and possible recommendations including the reliability and the validity of the research. In chapter eight, an overall summary and reflections on executing this research shall be presented.
The figure below is a schematic diagram showing the structure of the entire thesis research.

1. Introduction

2. International Marketing Strategy, Market Entry Modes, Distribution Channels.


5.0 Case company analysis using the 4P’s in marketing and empirical methods.

6.0 Entry plan for Suntrica’s products and analysis of the interviews with experts.

7.0 Conclusions, suggestions for future research.

8.0 Summary.

References, Appendixes.

FIGURE 3. The structure of the thesis

The above figure shows a summary of the various contents in the individual chapters of the thesis research.
Globalization in recent times have led to the internationalization of the activities of companies. Porter (2004, 287) pointed out several different reasons that trigger globalization. Some of these factors are technological advancements, decrease in transport and storage costs and identification of new target segments. Bradley (2005, 1) describes international marketing as “the distinctive attribute of the strategic development of a firm in international markets”. This means that the firms undergoing this type of marketing transfers its products, services, technologies and its ideas as intellectual property across national borders. These ideas can be tangible or intangible assets. Doole & Lowe (2004,5) pointed out that “the complex level of international marketing is when the firm involved establishes manufacturing facilities overseas and coordinates its marketing strategies across the globe”.

Sanchez-Peinado & Pla-Barber (2006, 216) indicated that service companies have become a force to reckon with in the global economy since their activities are so paramount these days. The sector is recording an enormous growth in recent years as their overseas investments are always increasing. The flow of goods, services and investments has tremendous effect on globalization, although the flow of ideas and knowledge has had the greatest impact on people (Johnson 2002, 428).

2.1 Market Entry Modes

Market globalization and its global competition have led to majority of the existing companies deciding on how to go into new markets with the motive of increasing their market share. Porter (2004, 287) pointed out that the global markets in existence recently have made companies taken these entry decisions in new markets. A foreign entry mode is “an institutional arrangement that makes possible the entry of a company’s products, technology, human skills, management or other resources into a foreign country” (Root 1987, 5). Porter (2004,277) also pointed out that a company’s decision to enter into a global foreign market is due to the fact that there are economic and other beneficial advantages in that country that needs to be harnessed.
Hollensen (2007, 297-302) proposed certain factors that influence the type of entry mode to be adopted by companies when entering a foreign market. These influencing factors include characteristics of the desired mode, transaction specific behavior and others like internal and external factors. Internal factors include the size of the company, the product or service and previous international experience of the company. The size of the company is of great importance as it shows the financial resources available. It can also be argued that the bigger the company, the larger its resources hence its involvement in a foreign market increases. Despite the fact that a high involvement or control in the foreign market is desirable for any company, small and medium size companies are not in most cases able to afford this high involvement in terms of financial resources. Therefore entry modes which require fewer resources might be suitable for smaller companies with emphasis on the fact that the growth of the company and its resources will bring a more hierarchical mode on board. (Hollensen 2007, 297-302.)

Hollensen (2007, 297-302) again pointed out that the amount of previous international experience strongly influences the choice of entry mode since experience reduces cost and uncertainty, and in turn raises profitability to a large extent. The characteristics of the product or service will also affect the mode of entry into a foreign market. For instance, the weight and size of a product will determine whether export mode would be preferable to manufacturing abroad. (Hollensen 2007, 298-299.) External factors also include socio-cultural differences, the risk of the country, trade barriers, market size and growth, and existing competition. (Hollensen 2007, 300-301.)

The cultural difference of the foreign and home countries might also affect the choice of entry mode as increased differences create uncertainty. The greater the difference in the culture of doing business and the economic systems, the more likely a company is to choose joint ventures instead of direct investments in that country. (Hollensen 2007, 300-301.)

There are different types of entry modes that can be used by companies in entering new foreign markets. Root (1994, 6) divided these modes into three groups. These are; entering new foreign markets through export modes. This type
can either be direct or indirect exporting, direct agent/distribution, and direct branch subsidiary. Secondly, contractual entry modes including licensing, franchising, service contracts, management contracts, construction /turnkey contracts, technical agreements and co-production contracts. The third group identified is investment entry mode which includes sole venture, new establishment, acquisition and joint venture.

2.1.1 Export Mode

Exporting is the most common term used when describing export mode as a market entry approach. It is considered by majority of researchers as the most common way or option of entering a foreign market especially for small and medium size companies. Bradley (2005, 225) described exporting as the quickest and easiest way in entering a foreign market. Chung & Enderwick 2001,443 and Porter 2004, 277 also pointed out in their books that this type of market entry approach is used initially to gain knowledge and experience of the new market. Indirect export is described by (Albaum & Duerr 2008, 308) as when the exporting manufacturer decides to use a firm or company in the domestic country to do the exporting on their behalf. This method according to Root (1994, 57) can be considered as a good way of gaining knowledge about the potential market although it may be disadvantageous also as the company has no control over the international market entry strategy. Direct exporting occurs when the producer sells directly to the importer or buyer located in a foreign country (Root 1994, 57; Albaum & Duerr 2008, 321).

This type of entry mode requires very little or no knowledge about the foreign market from the manufacturer’s point of view (Root 1994, 57). Some of the advantages are that the manufacturers have the ability to control part of the foreign market plan and gives the manufacturer full concentration on the marketing strategies of its product line. This type of business model also gives the tendency to get quick feedbacks from the target market. Additionally, this type of export mode gives better protection of trademarks, goodwill, patents and other intellectual property to the manufacturer. The only paramount requirement for this to be effective is the ability of the exporter to learn the procedures and
documentation of export shipments and the international payments that needs to be arranged.

Direct exporting mode is also connected to entry strategies such as direct agent/distribution and direct branch subsidiary according to Root (1994, 7). Direct agent/distribution as described occurs when the middleman in the foreign market handles all the marketing for the producer.

2.1.2 Licensing

Root (1994, 86) proposed that licensing involves the transferring of intangible assets that are not subject for import restrictions. Bradley 2005, 243 describes licensing as when a firm or company provide other companies in a foreign market with the technology that they need for a fee or royalty. This type of entry mode involves one or a combination of brand names, operations expertise, manufacturing process technology, access to patent and other trade secrets. Licensing also offers the firm who is in licensing partnership the opportunity to gain access to a foreign market with very low investment cost and obtains its market knowledge from established and competent local firm/companies.

Maskus & Yang 2001,61 cautioned companies using this type of market entry mode to be careful of not been robbed of their rightful possession and thereby losing their excluding right to it due to high legal costs and under laws.

2.1.3 Franchising

Czinkota and Ronkainen explained franchising as a process where “a parent company (the franchisor) grants another independent entity (the franchisee) the right to do business in a specified manner. This right can take the form of selling the franchisor’s products or using its name, production, preparation and marketing techniques”. (Czinkota & Ronkainen 2004, 204.) Franchising is a fast growing business in the 21st century. For instance, in the year 2002, 16000 businesses globally with over 1million franchisees generated over 1.5 trillion in sales. In Britain, 24% of franchisors and 30% of French franchisors were active abroad as well, indicating the international adaptability of the system. This is due to its
market potential, the financial gains or the saturated home market. (Czinkota & Ronkainen 2004, 240.) Franchising offers great advantages and disadvantages from the franchisors perspective hence the need to consider each other with regards to its weight. Hollensen (2007, 335-337) proposed two types of franchising as product or trade name franchising and business format “package” franchising. Product or trade name franchising are typically contracts allowing the franchisee to use the trade name, trade mark and product line. Package franchising is a more advanced system or method of entering a foreign market. The franchisor provides a package including all necessary elements to run a profitable business to the franchisee, thereby keeping control and regulation. When deciding on entering a foreign market, in most cases, the stability of the country plays an important role in deciding which country to enter. In the case of new entrants, the starting of franchising is a learning process until a proven package has been developed, giving the opportunity to penetrate foreign markets and thereby becoming competitive. (Hollensen 2007, 337.)

2.1.4 Contract Manufacturing

Albaum and Duerr (2008, 380) pointed out that this mode is usually a cross between licensing and investment entry mode. The company usually contracts a firm /company in the foreign market to assemble or manufacture the products but they still have responsibility of marketing and distributing the products to their end users or customers. It is also indicated that this type of market entry mode requires minimum investment of cash, time and gives opportunity to the company to quickly enter the new market.

2.1.5 Investment Entry Mode

An investment entry mode has been given several names by different researchers. Root (1994, 6) referred to it as sole venture; Foreign Direct Investment (FDI) by Chung & Enderwick (2001, 443); solely owned subsidiary by Agarwal & Ramaswami (1992, 3); and wholly owned subsidiary by Chung & Enderwick (2001, 444). Foreign Direct Investment (FDI) as an entry mode is a strategic approach according to Chung & Enderwick (2001, 444.) This type of entry mode
is considered by (Bradley 2005, 270) as a mode that requires high financial commitment in terms of the transfer of technology, skills, manufacturing, management, marketing and other production processes. The Organization for Economic Co-operation and Development (OECD) defined foreign direct investment (FDI) as a “category of establishing a lasting interest by a resident enterprise in one economy (direct investor) in an enterprise (direct investment enterprise) that is resident in an economy other than that of the direct investor” (OECD, 7).

2.1.6 International Joint Venture

Ning (2008, 771; Shenkar & Zeira (1987, 546) pointed out in their contributions that both smaller and multinational firms or companies have utilized joint venture and other forms of strategic alliances when entering a foreign market.

Young & Bradford (1977, 11) described international joint venture as “an enterprise, corporation or partnership, formed by two or more companies, individuals, or organizations, at least one of which is an operating entity. The ownership is mostly shared by the participants with more or less equal equity distribution and without absolute dominance by one party”. The operating entities motive is also to conduct a new profit business of permanent duration in that respective market.

Bradley (2005, 248) also reiterated the fact that international joint venture is often motivated by the desire of at least one partner wanting to expand its horizons into a new foreign market considered as been difficult.
There has been several ways of entering into joint venture some of which are the spider’s web and the split strategy. The figure below shows some of the benefits derived by companies as they enter into joint venture with other partners.

![Diagram of benefits of international joint venture](image)

**FIGURE 4.** Benefits of International Joint Venture (adapted from Bradley 2005, 249).

### 2.1.7 Sales Agents

The use of sales agents is another mode of entering into a foreign market. Hollensen (2007, 319) pointed out that an agent is an “independent company that sells to customers on behalf of the manufacturer (exporter). The sale’s agents profits are derived from a commission (typically 5-10%) paid by the manufacturer on a pre-agreed basis.”

There are three types of agents namely exclusive, semi-exclusive, and non-exclusive agents. The most common form of entering foreign new markets is through the use of exclusive agents. This type of agent possesses exclusive rights to a defined sales area. A non-exclusive agent handles various products, of which can be direct competitors of the exporters products. (Hollensen 2007, 318.)
Commissions granted to the agents are based on the sales generated and may vary significantly depending on the service performed, market size and importance, and competition on the market (both exporters as well as agents’ competitors). Manufacturers or exporters in general can profit from certain advantages when choosing an agent. Some of these advantages include the familiarity with the local market and cultural features, and mostly pre-existing business networks of an agent. (Hollensen 2007, 318-319.)

2.2 Distribution Channels

Distribution channel considered from the perspectives of operational activities is basically the path a manufacturer finds in delivering its products or services to the end customers. Access to international markets is a key area most companies are facing today after choosing the type of entry mode to be adopted in such a foreign market. It is pointed out by Hollensen (2011, 551) that distribution channels typically account for 15-40 percent of the retail price of goods and services in an industry. The use of data networks in recent times are increasingly enabling end-users to bypass traditional channels and deal directly with manufacturers and service providers. The case company’s intention is to get its products to the final consumers in the foreign market understudy hence the need to discuss the theories surrounding distribution and its channels.

The basic distribution channel used widely after the Second World War II is a direct straight path between the manufacturer and the consumer.
Rolnicki (1998, 1) pointed out that to a manufacturer, the only decision they have to make with regards to distribution is to use direct or indirect channel of distribution. This is shown in the figure below according to Rolnicki (1998, 2.)

![Diagram of basic channel structures](image.png)

**FIGURE 5. Basic channel structures (adapted from Rolnicki 1998, 2).**

The use of direct distribution channels in the olden days concerns a manufacturer finding a shop and selling its products on the shelf to the respective customers. Technological advancement and the concept of time have really changed the face of this type of channel due to the evolution of e-business and internet where customers do order and buy their products online. This new form of channel has also called for a possible co-operation with third party logistics companies in delivering the products to the end customers. The indirect channel on the other hand uses a path between a manufacturer and the end user. It is concerned “with the manufacturer at the ‘hub’ connected to the end user at the ‘tire’ by dozens of direct and indirect channel spokes”. (Rolnicki 1998, 1.)

Hollensen (2011, 551) also described distribution channels as links between producers and the final consumers. In general terms, an international marketer distributes either directly or indirectly. Hollensen (2011,551) again re-iterated the fact that direct distribution amounts to dealing with a foreign firm while the indirect method means dealing with another home country firm that serves as an intermediary. Saraf 2009 pointed out that reaching a target market is the most critical decision a firm should consider. This means that a decision must be made in determining the level of distribution coverage needed to effectively meet customer needs. Lamb et al. (2008, 262) referred to distribution channels as marketing channels. These channels are described as a “large pipeline trough which products, their ownership, communication, financing, payment and accompanying risks flow to the consumer”. It is also a business structure of
independent but interdependent firms thereby enabling products to reach the final consumers. Pride & Ferrell (2010, 320) mentioned the three levels of distribution coverage as been intensive distribution, selective distribution and exclusive distribution. The intensive level of distribution is also called mass distribution and mostly appropriately used for convenience products.

2.2.1 Distribution Channel Selection

There are various forms of distribution channels that a firm entering a foreign market can choose from depending on the type of products and how the end user can be located. Rolnicki (1998, 2) stated that every channel is influenced by different macro or internal environmental forces that serves as a guide in deciding which channel to be used. The entire distribution channel process selection is complex hence the need for the case company to analyze the variables involved beforehand thereby accomplishing the channel selection sequences. This will also aid in making the best decision on the choice of distribution channel to be adopted and its intensity.

Dibb et al. (2001, 28) indicated that variables such as end user buying behavior, company resources, product attributes and environmental factors should critically be evaluated in the entire channel selection process.
Schoell and Guiltinan (1995, 78) categorized these variables as five factors namely environmental factors, market factors, product factors, manufacturers and intermediaries.

These factors are depicted in the figure below.

FIGURE 6. Factors determining the selection of distribution channels (adapted from Schoell and Guiltinan 1995, 79).

2.2.2 Analysis of Existing Distribution Channel in Ghana

The issue of distribution channel is another important factor that a firm must consider after a successful decision is made on the type of market entry to be adopted in reaching the consumers. The renewable energy market is considered as a large emerging market with lots of opportunities and quite a number of existing competitors. The market currently has sixty two (62) players dealing in different products hence the need for the case company to identify the various means by which consumers can be reached. The amount of market coverage to be provided in a distribution channel is extremely important as it shows the kind of distribution networks to be adopted.

Market coverage basically refers to the “geographical areas of a country (such as cities and major towns) or the number of retail outlets as a percentage of all retail outlets” (Hollensen 2011, 554.)
Hollensen 2011, 554 described three different approaches in reaching the final consumers as intensive, selective and extensive coverage.

Intensive Coverage: This type of market coverage ‘‘calls for distributing the product through the largest number of different types of intermediary and the largest number of individual intermediaries of each type’’.

Selective Coverage: This is a type of market coverage that concentrates on selecting a number of intermediaries for each area to be penetrated.

Exclusive Coverage: The exclusive market coverage type concentrates on choosing only one intermediary in a market.

In analyzing the Ghanaian renewable energy market with main emphasis on solar energy market, key players in this market currently were contacted by the author of this research in a telephone interview. This will enable the author to have first hand information on the practical things happening with regards to distribution channels and its coverage.

According to the CEO of Solar Light Company Limited, the solar energy market and its associated businesses currently in Ghana are an import based. The importer which happens to be the solar company in Ghana travels to Dubai, China or Malaysia to buy the products from the manufacturing companies. These products range from business-to-consumer and business-to-business products in bulk quantities. The products upon arrival and clearance from the port either at Tema Harbor or Takoradi Port is then transported to the company’s main warehouse in Kokomlemle, a suburb of Accra. (Tse 2013.)

‘‘The market is also segmented into four different zones each with different number of regions in it. This system has really worked for us all these years since the company has a number of distributors who are located all over the four zones’’(Tse 2013). As the market is divided into four (4) different zones, zonal distributors are located in these regions and these people work with their respective retailers who act as the retailers of the products. These agents are always on the field by travelling to all localities or villages in selling the products...
to the targeted customers. There are also small warehouses located in these regions where products are kept for onward distribution to the agents.

The structure of a company should follow the needed strategy. This means that as soon as the company’s products are accepted by the customers in all parts of the country, then the overall strategy in reaching these customers must also change. In this regard, strategy should never remain static.

The following figures show the schematic representation of the distribution channels existing currently in the solar energy market in Ghana.

Zone 1. Volta Region, Greater Accra, Eastern Region.

Accra as Regional Capital.

Zone 2. Ashanti Region, Central Region.

Kumasi as Regional Capital.

Zone 3. Brong Ahafo Region, Western Region.

Sunyani as Regional Capital.

Zone 4. Northern, Upper East, Upper West

Tamale as Regional Capital.

Figure 7a. Segmentation of regions into zones

The CEO of Karla Solar Solutions (Titso 2013) pointed out that Karla Solar believes strongly in alliances and partnerships with renewable energy companies all over the world. “We have agents working for us in all areas in the country and we also nurture emerging renewable energy companies to reach out to the customers with the right solution” (Titso 2013). Karla Solar currently have partners in Australia, China, Germany, India, London, South Africa and United States. Karla Solar implements direct agent selling with regards to the company’s business-to-consumer products and personal selling to its business-to-business products.
The figure below gives more explanation on how the targeted customers are reached in the various localities.

![Diagram of market segmentation and distribution channels](image)

FIGURE 7b. Market segmented into zones and existing channels of distribution in reaching the customers.

The company’s mandate is to reach out to individuals, institutions, governmental organizations and nongovernmental organizations through the above distribution channels. (Titso 2013.)
3 RENEWABLE ENERGY AND ITS POTENTIAL IN GHANA

This section of the thesis research seeks to describe briefly the various types of renewable energy existing in the world today and narrowing the discussion on renewable energy business down to the Sub Saharan African country Ghana. The overall renewable energy potential shall be presented in this chapter with more emphasis on solar energy thereby helping in understanding the subject matter of this thesis. This presentation will also serve as a guide to the case company in analyzing the entire energy market in Ghana.

Renewable energy has become a key concept in the 21st century due to the fact that it is a type of energy emanating from resources that are continually replenished or in constant replenishment. According to Tester et al. (2005, 2), energy has become a basic necessity and an essential need for a functioning society. The scale of its use is nevertheless associated with its capabilities and the quality of life experienced by the inhabitants in any society. The types of renewable energy in the world today are described below with more emphasis on the current situation in the sub Saharan African country Ghana.

3.1 Geothermal Energy

The International Energy Agency (IEA 2003) described geothermal energy as the type of energy that has been extracted from the heat stored under the surface of the earth. This type of energy naturally originates from the formation of the planet, from radioactive decay of minerals and also from solar energy which is been absorbed on the earth’s surface. The International Energy Agency (IEA) Geothermal Roadmap launched in 2011 indicates that there is a possibility to achieve at least twentyfold increase in the production of electricity and heat globally from geothermal sources starting from now until the year 2050 (IEA, 2012). Ghana is yet to conduct research into the use of geothermal renewable energy resource.
3.2 Hydropower Energy

Hydropower is described as a type of electricity normally derived from the energy of running or flowing water by converting mechanical energy into potential energy. This type of energy is considered as environmentally friendly due to the fact that it originates from a renewable source. This is because it uses the kinetic energy of the moving water or the water in motion to generate other forms of energy which is electricity (Opam & Turkson, 2000).

Ghana although blessed with different renewable sources of energy has been relying heavily on the use of hydropower since its construction in the year 1966. The concept of renewable energy has become very important in the energy sector today because the effect of global warming is always been encountered on the level of water at the Akosombo hydro plant annually. This water level is now always below its maximum level. The IEA’s Energy Technology Perspectives in the year 2010 clearly sets out a goal of halving the global energy related CO2 emissions by the year 2050. In comparing the current level of hydropower plants, a projection is made that hydropower could produce 6000 terawatt-hours in 2050. This is twice much more than today. (IEA 2010.)

3.3 Biogas Energy

This type of energy is a mixture of two gases namely methane and carbon dioxide. These two gases are the main elements although hydrogen, hydrogen sulphide and ammonium gases are also found but in smaller quantities. Wood gas has been realized to be a type of biogas formed by gasification of wood or other biomass. Gasification of wood has carbon monoxide, nitrogen and hydrogen as its elements. (Nordex Project 2009.)

In Ghana, the raw materials needed for producing biogas are greatly available in vast quantities. Some of these materials include cow dung, cow manure, poultry droppings, grass, faecal matter, algae and kitchen waste. In northern Ghana for instance, households do use cow dung as fuel for cooking for many years. This was a good innovative step which requires further study and improvement for it to be used in all parts of Ghana. However biogas as a source of renewable energy
was not given much consideration as a potential source of energy until the 1980s when the first biogas plant was constructed by the Ministry of energy. The table below gives an overview of the biogas service providers.


<table>
<thead>
<tr>
<th>Company</th>
<th>Date established</th>
<th>Workforce (full time)</th>
<th>Type of biodigester installed</th>
<th>Number of digesters installed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biogas Engineering Ltd</td>
<td>2002</td>
<td>6</td>
<td>CAMARTEC fixed dome type, and effluent treatment plants</td>
<td>10</td>
</tr>
<tr>
<td>Biogas Technologies West Africa Limited (RTWAL)</td>
<td>1994</td>
<td>148</td>
<td>Fixed dome and effluent treatment plants</td>
<td>25</td>
</tr>
<tr>
<td>RESDEM</td>
<td>1996</td>
<td></td>
<td>Mostly bio-latrine digesters</td>
<td>25</td>
</tr>
<tr>
<td>UNIRECO</td>
<td>2001</td>
<td>5</td>
<td>Mostly bio-latrine digesters</td>
<td></td>
</tr>
<tr>
<td>Beta Construction Engineers Ltd.</td>
<td>1975</td>
<td>25</td>
<td>Peutin biogas digesters</td>
<td>12</td>
</tr>
</tbody>
</table>

*1 Although Beta Construction Engineers Ltd appears to be the oldest among the lot, it should be noted that the company only ventured into biogas construction in 2005.

The pie chart below clearly shows how fuel has been relied upon mainly for cooking and other heat usage applications.

FIGURE 8. Energy supplies in Ghana in percentages (Arthur et al., 2010).

The 72% recorded is far higher than the other energy sources hence biogas as an alternative energy source would be justifiable. The over reliance on wood fuels in the country as a whole have led to deforestation issues and the removal of the entire vegetative cover of the country’s forest reserves.
Arthur et al., 2010 also hinted that agriculture contributes significantly to the economy of Ghana and the effluent from the biogas digesters can be used as a fertilizer to improve the yields of farmers thereby enhancing economic growth.

Appiah 2011 reiterated the fact that science and development network has considered Ghana as having abundant resources for producing about 280000 biogas plants. However, this would be feasible if the policy makers give it the needed attention and other necessary support.

3.4 Biomass

The word biomass is usually used to describe organic materials from plants and animals that have become residues. This type of energy has been grouped under two categories namely primary and secondary products. Kaltschmitt, Streicher and Wiese (2007, 27) pointed out that the primary products emanate from direct photosynthetic exploitation of solar energy. These include forestry and agricultural products such as energy grass, vegetable residues, and agricultural waste such as straw and residual wood. The secondary biomass products are formed by the decomposition of organic matter such as manure, garbage and waste from the kitchen. IEA 2010 report also pointed out that biomass-based energy accounted for roughly 10% of the World’s total energy supply in the year 2009. It is also projected that achieving a significant emission reduction in the energy sector will revolve around sustainably produced bioenergy with an increase tripling in demand by the year 2050.

Biomass energy can also be described as waste-to-energy renewable resource. The level of biomass projects in Ghana is predominantly very low due to technological and other challenges. However, there are significant amounts of waste made daily in Ghana, especially in the municipal areas which could be put to productive use. For example, the waste collected daily in the Greater Accra region alone ranges from 1600 tons to 1800 tons out of the total estimated 2000 tons of wastes made daily. (Ghana News Agency 2012.)

As the economy of Ghana grows, so does the need for proper management of the waste increase because the purchasing power of the people also increases (Wikner
The Government of the Republic of Ghana has the sole responsibility of managing waste in all parts of Ghana. However, this has not been well achieved due to population increase especially in the urban areas and rural-urban migration issues in the capital cities. Until recently, the government of Ghana realizing that the issue of waste management cannot be handled by one entity engaged the services of private partnerships in handling waste in all districts and municipalities. The government has also increased its public awareness about the harmful effects of improper waste disposal system. All these activities have given birth to Zoomlion Ghana Limited and Waste Enterprisers as partners in handling domestic waste in all parts of the country. Some municipal and metropolitan assembly’s contracts private waste collection companies to collect the waste to be disposed in a designated landfill site. This site has an estimated lifespan of 15 years, depending on the daily wastes collected and the size of the designated site. (Wikner E. 2009, 14.)

3.5 Wind Energy

This type of energy involves the exploitation of kinetic energy of wind into electricity by the use of wind turbines. According to IEA 2011 report, wind power has experienced quite a lot of growth in the 21st century. Globally, the installed capacity at the end of 2011 was around 238GW which is much higher comparing with 185GW recorded in the year 2000. Wind energy is a renewable source with lots of environmentally friendliness despite the tallness and its associated noise when turning the wind mills.

Ghana is endowed with good to moderate potential of wind resources along the eastern coastal belt of the country. The country’s wind energy potential is estimated to be 10,406MW at a wind speed of over 6m/s estimated at 50m (Energy Commission 2013). The areas around Ghana-Togo border have enormous potential wind resource of 9.0-9.9 meters per second wind speed. The wind potential of this designated area is around 300MW. Also some areas along the coast (Volta region areas) have additional wind of 6.2-7.1 meters per second at the height of 50 m which is suitable for grid and off-grid connections. (Energy profile Ghana 2012.) The above wind potential in Ghana can be excellently exploited to
cater for schools, households, hospitals and other communities who are totally cut off from the national energy grid connections. The figure below shows the wind energy resource map of Ghana.

![Wind Resource Potential Map in Ghana (Ghana 2013)](image-url)

**FIGURE 9.** Wind Resource Potential Map in Ghana (Ghana 2013).

3.6 Solar Energy

Solar energy is a type of renewable energy emanating from direct sunshine. It is produced by converting the sunshine into thermal or electrical energy. Two types of solar energy exist today namely thermal and photovoltaic. The thermal type uses energy from the sun to generate heat and solar panels which are used to store the heat and then it is released to buildings for domestic purposes. (Solar Energy History, 2010.)

The photovoltaic type of solar uses the process of turning energy from the sun into electrical power by using cells. A report on solar energy regarding its history pointed out that the photovoltaic cells will change the solar energy into a ‘‘direct
current (DC) voltage which is usually stored in batteries and then converted into an alternating current (AC) Voltage. The alternating current is the type of voltage that is used to supply the energy into the consumers’ homes” (Go-solar 2010). As soon as the solar cells turn light energy from the sun into electricity, it immediately gives power to the various home appliances and equipment making use of the power. These devices can range from communication devices, telephones, mobile devices, calculators, bulbs and radios.

According to IEA 2010, between the periods 2000 to 2011, solar PV was the fastest-growing renewable power technology worldwide. The cumulative installed capacity of solar PV reached roughly 65 gigawatts at the end of 2011. This number has increased immensely from only 1.5 GW in 2000. In the year 2011, Germany and Italy accounted for over half the global cumulative capacity, followed by Japan, Spain, the United States and China.

Solar energy is one of the abundant renewable energy resources in Ghana. Ghana has an annual sunshine duration of between 1800 hours to 3000 hours with an excellent high potential in grid and off-grid connections. Currently, Ghana can only boast of 3.2 Megawatt solar installations for off-grid applications. (Ghana Ministry of Energy, 2010.) The Meteorological Services Agency (MSA) in Ghana has its primary duty as the sole agency that collects data about the duration of sunshine and the sun’s radiation since Ghana’s independence in 1957. Research institutions such as the Council for Scientific and Industrial Research (CSIR) and other academic universities like KNUST and Legon have been collaborating with the MSA in the collection of data thereby improving upon the accuracy of the data collected by the agency.

The level of sunshine is not evenly distributed throughout Ghana. The northern regions for instance tailoring down to the northern parts of the Brong Ahafo Region and Volta region have higher sunshine than the southern parts of Ghana. In totality, an average monthly solar radiation ranges between 4.4 and 5.6 kWh/m²/day (16-20 MJ/m²/day). Other regions namely Ashanti, Eastern, Western, Volta and some parts of the Central regions have a monthly average radiation of 3.1 - 5.8 kWh/m²/day. The coastal regions and Greater Accra for
instance have a mean solar radiation of 4.0 – 6.0 kWh/m2-day. (Renewable Energy Policy Framework for Climate Change Mitigation in Ghana 2009, 1.)

Ghana currently has an energy policy with the core objective of increasing renewable energy components in the national energy mix. The strategy to be adopted in achieving this is to increase the country’s collaborations with stakeholders all over the world in investing in the renewable energy industry and its projects in Ghana. The recent collaboration in this respect is a power purchase agreement between a Canadian company (Siginik Energy Limited) and the Electricity Company of Ghana to build perhaps the largest West African solar installation panel in Ghana. (Ministry of energy 2010.)

Despite the fact that the whole country has a fairly good solar energy potential, the northern region of Ghana has more potential in solar radiation due to the high rate of sunshine. Ironically, the levels of electricity coverage for the three northern regions are rather extensively low, hence the need to make more provisions for them in terms of renewable energy.
This figure below shows the global annual solar radiation map of Ghana.

![Global Annual Solar Radiation Map of Ghana](image)

**FIGURE 10.** Annual Global Solar Radiation map of Ghana [Solar and Wind Energy Resource Assessment (SWERA), 2009].

Appiah and Donkor (2011) pointed out that the key useful applications of solar energy in all the ten regions of Ghana currently includes solar home systems, water pumping, vaccine refrigeration, telecommunication through repeater stations, rural telephony systems, battery charging stations, solar street lights, schools systems, and also grid connections.

### 3.7 Renewable Energy Business in Ghana

Ghana as a sub Saharan African country provides a high potential for renewable energy investment due to the availability of high renewable energy sources, low level of renewable energy usage and government commitment of increasing renewable energy component in the national energy mix. Ghana has seen quite a number of investments in some of the renewable energy sources such as solar, wind, biogas, and biomass in recent times with most of them been supported by donor agencies. For instance, there are over four thousand off-grid solar
Photovoltaic systems installed in Ghana as at 2001 with a total capacity of 1 Mega Watt (Ghana energy foundation 2002).

However, in 2011 the total installed renewable energy capacity is 1,280 Mega Watt of which almost all are hydro (Ghana renewable energy profile 2011).

3.7.1 Renewable Energy, Targets and Policies in Ghana

Ghana is endowed with lots of renewable energy sources like solar, wind and waste to energy but the current trend in the usage of renewable energy is centered on hydropower and biomass. Biomass and hydropower are accounting for about 80 % of renewable usage in Ghana.

Seth and Obed 2011, in their energy sector presentation indicated that electricity generation in Ghana is concentrated on hydropower with over 60% contribution whilst the rest emanated from thermal and other sources of renewable energy. The Government of the Republic of Ghana in achieving its goal on universal access to electricity in all areas in Ghana by the year 2020 has instituted certain policies with the mandate of increasing the usage of renewable energy in the country’s energy mix.

Appiah and Donkor 2011 were also of the view that the government of Ghana has a national policy with its aim of providing affordable access to electricity in all communities by the year 2020 and thereby becoming a net exporter of electricity by 2015. This target will be achieved by increasing the capacity of electricity generation from 2000MW to 5000MW by the year 2015 as well as updating the needed transmission and its distribution within the power sub-sector in Ghana.

The national renewable energy policy of Ghana is to increase the renewable energy components to 10% in the national energy mix by the year 2020. The renewable energy policy would be focused on three areas, namely solar and wind, alternative fuel for transportation and biomass pricing. The Government of Ghana would institute measures to overcome the challenges in technology, market constraints and other institutional barriers inherent in investments in solar and wind. A further step will include the government of Ghana creating a favorable regulatory and fiscal regimes as well as attractive pricing systems to enhance
investment in the sector (Renewable energy policy framework for climate change mitigation in Ghana 2009, 17).

The pie chart below gives the general overview of the country’s energy usage in the year 2010. Ghana is considered as a predominantly wood fuel based-energy economy with 66% of energy been consumed from wood fuel sources. The chart also show that other petroleum products accounts for 25% with electricity and Liquefied Petroleum Gas (LPG) signifying the least consumption source of 1%. The above interpretation of the energy situation means that there is more work that need to be done in reaching the country’s energy target by increasing access to electricity in all parts of the country by the year 2020. With the increase in the awareness of environmental impacts associated with wood fuel usage and its effect on the inhabitants in the entire world today, there is therefore the need to reduce excessive use of wood fuel thereby increasing the use of Liquefied Petroleum Gas (LPG).

FIGURE 11. Energy consumption by type in 2010 (adapted from Seth & Obed 2011, Energy sector presentation).

The pie chart above shows a projected consumption of energy by type in the year 2020. The energy sector in Ghana and Ghana Energy Commission with its mandate of formulating policies and regulations in meeting this projection seeks to reduce wood fuel consumption from 66% to 30% by the year 2020. The pie
chart also shows that the use of Liquefied Petroleum Gas (LPG) in the national energy mix would also be increased by the year 2020.

Seth & Obed 2011 in their country energy report presentation indicated that the ministry of Energy in their action plan outlined strategies in achieving 10% contribution of modern renewable energy in the electricity mix by 2020. The strategies include supporting the development of renewable energy regulatory and pricing frameworks for grid connected renewable energy systems. A further action of this strategy is to support real estate developers in integrating renewable energy in real estate buildings. In achieving the 10% renewable energy in the electricity generation mix by 2020, the ministry in collaboration with energy foundation and other energy stakeholders has initiated plans to support resource assessment and feasibility studies for grid-connected renewable energy systems based on wind, biomass, solar and small hydro.

![Energy Consumption by Type by 2020](image)

FIGURE 12. Projected energy consumption by type in the year 2020 (adapted from Seth & Obed, 2011).

This action will involve decentralizing mini-grid and off-grid renewable energy systems for usage by remote communities and Islands that cannot be connected to grid electricity.
4 GHANA AS A TARGET MARKET

The prior motive of this chapter is to give an overview of the country Ghana. The chapter commences with a holistic view of the history of Ghana beginning from colonial rule until independence in the year 1957. The chapter also focuses on the use of PESTEL analysis in presenting this country with emphasis on its micro and macro environment to the intending case company.

4.1 Brief History of Ghana

Ghana is a country on the West Coast of Africa and considered as one of the most thriving democracies on the continent. It has often been referred to as an “island of peace” in one of the most chaotic regions on earth. Ghana, a Sub-Saharan African country shares boundaries with three French speaking countries namely Togo to the east, La Cote d'Ivoire to the west and Burkina Faso to the north. A recent discovery of oil in the Gulf of Guinea has the tendency of making Ghana as an important oil producer and exporter in the next few years. (Ghanaweb, 2013.)

Agriculture is considered as the backbone of the economy of Ghana and employs about 40 percent of the working population. Ghana is one of the leading exporters of cocoa in the world. It is also a significant exporter of commodities such as gold and lumber. A country covering an area of 238,500 square kilometers, Ghana has an estimated population of 25,241,998 with a population growth rate of 1.787 per cent per annum drawn from more than one hundred ethnic groups, each with its own unique language. English however, is the official language, a legacy of British colonial rule.

The age groups are normally divided into 0-14 years, 15-64, 65 and above. The 0-14 age group in 2012 was 36.5 % (male 4,568,273/female 4,468,939); 15-64 was 60% (male7, 435,449/female 7,436,204) and the elderly was 3.6% (male 399,737/female 482,471) of the whole population of Ghana. Christianity remains the dominant religion in Ghana having almost 70% (68.8%) of the population, followed by Islamic religion with about 16 %, traditional religion 8.5%, none 6.1% and other minor religions with 0.7 per cent. According to the 2012 estimate by the statistical service of Ghana, the rate of birth is 26.99 births/1,000 population and
death rate of 8.57 deaths/1,000 populations. (Ghanaweb, 2013.)

In 1957, Ghana (formerly known as the Gold Coast) became the first country in sub-Saharan Africa to gain independence. The name of Ghana was previously Gold Coast due to the fact that there are several mineral deposits especially Gold in most parts of the country hence the name given to the country by the former colonial masters. The name Gold Coast was changed to Ghana after independence. After leading the country for nine years, the nation's founding president, Kwame Nkrumah was overthrown in a coup d’état in 1966. After Kwame Nkrumah, Ghana was ruled by a series of military despots with intermittent experiments with democratic rule, most of which were curtailed by military takeovers.

The latest and most enduring democratic experiment started in 1992 and it is what has gained recognition for Ghana as a leading democratic country in Africa. Ghana as a country has several tourist attractions in recent times and has been named as the number one tourist destination in the Sub-Saharan region. Some of the tourist sites include Mole national park, Wli waterfall, Paga Crocodile Pond, Kakum National Park, Cape Coast Castle and others. Most of the major international airlines fly into and from the Kotoka international airport in Accra. Domestic air travel is thriving and the country has a vibrant telecommunications sector, with five cellular phone operators and several internet service providers. (Ghanaweb, 2013.)
The picture below depicts the map of Ghana showing all the regions and the regional capital cities.

![Map of Ghana](image)


4.2 PESTEL Analysis of Ghana

The PESTEL analysis is a useful management tool for making analysis of market development of a business, organization and a country. The PESTEL analysis provides a strong framework used by global and multinational corporations in developing different kinds of tactics in the mitigation of risks involved in unfamiliar business environments. (PESTEL Analysis 2013.) PESTEL is an acronym that stands for Political, Economical, Social, Technological, Environmental and Legal factors. It is a management tool used by majority of international consultancies in the description of an analysis that is used for determining the risks and opportunities existing in that environment.

The PESTEL analysis model described above would be used in this research in analyzing the business operating environment of Ghana thereby enhancing the
decision making process of the case company in entering the renewable energy market in Ghana. The figure below shows a picture of the PESTEL framework.

![PESTEL Framework](image)

**FIGURE 14. PESTEL Framework**

4.2.1 Political Factors

Kaufmann (2010, 3) defined political stability of a country as ‘‘the possibility that the government of a country could be overthrown or destabilize by unconstitutional or violent means including domestic violence and terrorism’’. Arthur Kwame (2008, 10) in his contribution pointed out that the West African sub-region in the year 1960 to 1989 was characterized with lots of political instability as a result of different forms of Coup d’états. These occurrences have resulted in the loss of human lives, peace and infrastructure in the affected countries. In Ghana, the most important era of democracy started in late 1970s and early 1980s when Flt. Lieutenant Jerry John Rawlings overthrew General Akuffo Addo’s military rule on the 4th of June, 1979. Democracy started with the Electoral Commission holding a general election which was won by Dr Hilla Limann of the People’s National Party. Democracy at this stage was considered by analysts as been in its ‘‘nurturing stage’’ and was characterized by allegations of abuse of power and unfair treatment of members in the opposition parties.
Ghana in the West African sub-region enjoys lots of admiration from all over the world due to the country’s adherence to democratic principles and the rule of law in recent times. Although (Arthur 2008, 10) hinted that democracy does not necessarily guarantee political stability, it rather presents a firm basis for stability to exist. This has prevailed in Ghana in recent times due to the respect the country has for human rights and the current constitutional rule been enjoyed by the country. In an article about Ghana visits, Nossiter 2009 pointed out that the President of the United States of America; Barack Obama said his visit to Ghana was as a result of the effective governance existing in Ghana. This is not to mean that Ghana’s democracy is free of fault but the country’s adherence to democratic rules and principles is an essential tool for building political stability. It can also be argued that the most significant test for political instability is that country’s preparedness to transfer power peacefully from one party to another. This in my own opinion, Ghana has been able to accomplish for the past two decades.

Yi Feng (2001, 271-294) study about political freedom indicates that “political freedom promotes private investment but political instability and policy uncertainty impacts have negative impact on private investment”. The global competitiveness report for the year (2011-2012, 186) also affirm the fact that government instability was among the least problematic issues in Ghana. This confirmation is not to mean that Ghana is a “heaven” in terms of conflicts due to the fact that there has been reported cases of ethnic clashes and chieftaincy disputes in some regions of Ghana.

Political Structure in Ghana

Ghana as a democratic republican country has a multi-party system where each party has a political representative. This type of arrangement takes place in a form where the President is regarded as the head of state in addition to the members of parliament representing various constituencies. The three arms that make up the government in Ghana are the Executive, the Legislative and the Judiciary. The Executive power of control is normally vested in the government. The Legislative arm on the other hand includes both the government and the parliament as a whole. The Judiciary arm is an autonomous body and operates in its duties independent of the executive and the legislative. The political power of any ruling
party in Ghana is normally shared among the presidency, the council of state, the independent judiciary and the multi-party members of parliament. (Politics of Ghana, 2008.)

The Electoral Commission of Ghana in the year 2008 also pointed out that the current ruling party; the National Democratic Congress (NDC) and the New Patriotic Party (NPP) are the two major parties in Ghana despite the fact that there are other smaller political parties. Throup (2011) was of the view that the power sharing in Ghana is not absolute because political power is a bit centralized due to the fact that the government makes major decisions and the executive arm of government including the presidency penetrates all levels of administration.

Corruption Level in Ghana.

The word corruption has been used in recent times in the description of the act of public officials in government organizations and other public institutions. It can be argued that this phenomenon is common with almost all countries whether developed or developing. It is more prevailing in the developing countries especially the Sub-Saharan African continent. For instance, corruption in Ghana started since independence in the year 1957 where there were alleged cases of corrupt practices by some traditional rulers namely the Chiefs and their elders, government officials, departmental heads and ministers of states. According to Victor T. Le Vine (1975) in his book on political corruption, “the cause of bribery, theft and embezzlement in Ghana was attributable to the country’s political administrations reversion to the traditional “winner-takes-it-all” attitude.” Furthermore, the localization of the administrative system and the enlarged economic role acquired by the state are also key issues. All these ensured the development of corruption in different forms such as bribery, nepotism, graft, favoritism and ethnocentrism.

The Transparency International in its analysis rated Ghana as having a corruption index of 69 (37.7%) out of 183 countries and ranked eighth in Africa (Business Development profile, Ghana 2012, 9). This rating shows that corruption in Ghana is quite high. The government of the republic of Ghana in its effort to reduce corruption drastically in Ghana managed to establish certain key agencies and
commissions in fighting this menace. Some of these measures been put across by the government are the creation of anti-corruption agencies such as the Commission on Human rights and Administrative Justice (CHRAJ), the Audit service, Economic and Organize Crime Office (EOCO), Serious Fraud Office (SFO), Bureau of National Investigation(BNI) and others.

In addition to the state institutions in the fight against corruption, there are also non-governmental organizations and other pressure groups that carry on different functions to help reduce corruption from almost all sectors possible. Some of these organizations are the Ghana Anti-Corruption Coalition (GACC) and Private Civil service Organizations under which the Center for Democratic Development (CDD) Ghana, Ghana Journalist Association (GJA) and the Ghana Integrity Initiative (GII) all operate. (Ghana Anti-corruption Profile 2012.)

Trade and Business Regulations in Ghana

The government of Ghana has lots of regulatory authorities that ensure that companies or businesses act legally. These regulatory bodies make sure that investors arriving in Ghana are given quality pieces of advice on what to do in order to get return on their investments. The advice will also depend on the type of industry an investor want to venture into since there are lots of authorities dealing in different industries or businesses. The Ministry of trade and industry is the highest Authority in terms of trade, industry and Private sector investment issues in Ghana. This ministry is also responsible for advising the government on policies concerning the growth of the economy, development and participation of private sector in certain areas of the economy. (Ministry of Trade and Industry 2010.)

The ministry of trade and industry is divided into 12 sections, namely: Domestic trade and distribution, SME and technology, standards, trade facilitation, research information and statistics, policy planning monitoring and evaluation, export Trade support services, multilateral bilateral and regional trade, import and export, legal, finance, human resource management and administration, communication & public affairs. Each of these sections of the Ministry of trade and industry performs specific functions to help it achieve its vision of establishing Ghana as a
major manufacturing, value-added, financial and commercial hub in West Africa by 2015. (Ministry of Trade and industry 2010.) Ghana export promotion council, Ghana investment centre and Ghana national chamber of commerce are also key authorities that perform various specific functions with matters pertaining to investment in Ghana.

International Relationships

Ghana as a result of the existence of peace and tranquility in all parts of the country has excellent relations with countries in Africa and the rest of the world through different arrangements, be it economic, political, developmental, business partnerships, and other relationships. However, Ghana’s international relations is guided by the foreign policy which is further guided by the “Pan-Africanism” and the “nonalignment policy” advocated by Dr. Kwame Nkrumah, the first president in the 1960s. The former policy guideline was an African policy that was meant to kick-start the liberation of the African continent from the colonialism which may lead to political and economic unity. The latter, however, was in regard to absolute independence in terms of policy and alliances from both “East” and “West”. (Berry V.L 1994, 52.)

In the West Africa sub region, Ghana is a member of the Economic Community of West African States (ECOWAS) and African Union (AU) in the wider African continent. Additionally, Ghana is a prominent member strongly advocating for partnership in achieving the set objectives of the New Partnership for African Development (NEPAD) programme put forward by the African Union (AU). (Ghana Foreign and Commonwealth Office 2010.)

The membership of Ghana in organizations is not limited to Africa, but other renowned international organizations such as the Commonwealth of Nations, International Bank for Reconstruction and development (IBRD), International Chamber of commerce, International Criminal court (ICC), International Criminal Police Organization (Interpol), United Nations (UN), United Nations Conference on Trade and Development (UNCTAD), and World Trade Organization (WTO). (Outline of Ghana 2012.)
Organizations such as the United Nations (UN), the World Bank and Organization for Economic cooperation and development (OECD) all have regulations on foreign investment. These organizations also have laws on foreign investments in order to ensure that their members are fully protected against expropriation, unfair treatment and discrimination. The International Centre for Settlement of Investment disputes (ICSID) of which Ghana is a member since 1966 gives a form of “indirect guarantee” thereby boosting investor confidence in Ghana. (International Centre for Settlement of Investment Disputes 2011.)

The Ministry of Foreign Affairs and Regional integration plays a very significant role thereby assisting to create an enabling environment for foreign investors in Ghana. Not only is it responsible for creating a cordial relationship between Ghana and other countries, but also coordinates the relationship between Ghana and foreign governments. (Ministry of foreign affairs and regional integration 2013.) Ghana Investment Promotion Centre (GIPC) as another regulating body also provides useful information and guidance to potential investors regarding the existence of investment opportunities in the country. (Ghana Investment Promotion Centre 2012.) Investment in the energy sector preferably renewable energy is considered in recent times as one of the salient investment areas in Ghana due to the power outage problems the nation is experiencing in recent times.

Ghana-Finland Bilateral Relationship

The republic of Finland is a Nordic country located in northern Europe having a land border with three countries and one across the gulf. Finland shares borders with Sweden in the west, Russia in the east and Norway in the north with Estonia in the south across the Gulf of Finland. (CIA Finland 2013.) The history of Finland’s giant economic growth has been rated as one of the great successes recorded by a country that once had a middle level economy. Foxley & Sossdorf (2011, 8) in their comment about Finland’s transition stated that “the exceptional thing about Finland was the way that the crisis in the 1990s were handled and the government managed to forge a broad-based political and social consensus that allowed significant macro-economic adjustments to be made, along with re-orienting the country’s production and exports toward high-technology sectors”.
The two countries have had a long history of recognition of each other’s country status. For example, Finland recognized Ghana as a country on 8th March 1957, and diplomatic relations were established in 1977. (Ministry for Foreign Affairs of Finland 2006.)

There have recently been attempts to create business relationship between Ghana and Finland for the mutual benefit of the two countries. As a result, the Ministry of foreign affairs of Ghana and the embassy of Finland, in Abuja-Nigeria have contributed to this effect by sharing useful information to potential investors on opportunities for investment available in Ghana. Furthermore, the Finland-Ghana Chamber of commerce enhances the creation of business partnerships, trade and other investments relationships between Finland and Ghana by providing useful information to Finnish businesses and investors who intend to do business or invest in Ghana or vice versa. (The Finland-Ghana Chamber of commerce 2013.)

The data derived from Finpro’s website also indicates that reliable business and trading relationship existed between Finland and Ghana since 2007. The trading was mainly machinery from some specialized industries, paper and paper board articles, electric machinery, telecommunication and sound recording equipment, plastics, as well as medicine and pharmaceutical services (Finpro 2013).

The initiative of Finland investors and the business community to invest and to establish business and other commercial relationships in Ghana has been appreciated by Ghana through the Ministry of foreign affairs and regional integration and other diplomatic representatives. This has however been considered in Ghana as been timely considering the Government of Ghana’s initiative to “open up” the private sector participation for investment opportunities in the country. There are lots of investment opportunities in the country ranging from various sectors such as agriculture and agro-processing, energy, financial services, information and communication technology, petroleum and gas exploration, as well as textiles and garments industry. (Ghana investment promotion centre 2013.)

The creation of business relationship between individuals or countries is very essential in ensuring the smooth operation of such a venture and its entry into the market. The result of the statement above in my opinion led to the visit made by
the trade delegation from Finland led by the Under-Secretary of State of Finland Mr. Esko Hamilo to Ghana in February 2012 as part of the “formalization process” of showing interest of investing in Ghana. This was also a way of reciprocating the visit made by the delegation from Ghana that visited Finland in the year 2011. (The Ghanaian Deputy Minister of Trade and business delegation trade visit to Finland 2011.)

As a result of this visit, the Director of the Finnish Business council West Africa (Ms Tuula Saarela) mentioned some strength of Ghana’s business environment and other factors that makes Ghana an ideal place to make investments. The delegation with its “package of investment” from Finland was holistic as the investment was to be in many sectors such as agriculture, energy, forestry, housing, construction, service industry, oil and energy, as well as other entities. (Finland trade delegation lauds Ghana’s business environment 2012.)

The table below shows the trade that existed between Ghana and Finland from 2007 to 2011. It can be seen from the table below that the Finnish exports of products from the year 2007 up to 2011 are much higher than imports from Ghana. All these figures are clear indications that Finland all these years have a favorable trade balance as her exports outweighs her imports in comparism with Ghana.

TABLE 2. Finnish customs (adapted from Finpro 2013).

<table>
<thead>
<tr>
<th>Million EUR</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
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<tbody>
<tr>
<td>Finnish Exports</td>
<td>13.3</td>
<td>15.9</td>
<td>41.7</td>
<td>18.5</td>
<td>26.7</td>
</tr>
<tr>
<td>Finnish Imports</td>
<td>0.8</td>
<td>1.5</td>
<td>1.2</td>
<td>2.2</td>
<td>0.9</td>
</tr>
<tr>
<td>Trade Balance</td>
<td>12.5</td>
<td>14.4</td>
<td>40.5</td>
<td>16.3</td>
<td>25.8</td>
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Taxation Policies in Ghana

The issue of taxation in Ghana is essentially paramount and significant in the revenue generation of the country Ghana. Taxes play very important roles in building the economy of Ghana. They are mostly used to finance building of infrastructures, public amenities and other services that are considered beneficial
to the entire country. Doing Business (2012, 16) in their article about taxation in Ghana reiterated the fact that it is sometimes more difficult and costly to pay taxes in Ghana and a large proportion of the revenues derived from taxation ends up in the informal sector. The Government of the Republic of Ghana has been able to put significant systems in place to foresee and monitor the effective collection and payment of taxes. There are currently direct and indirect taxes that are levied to be paid by the respective tax payers in Ghana. The direct taxes are divided into two namely the individual income tax and the corporate tax. The corporate taxes are usually paid by businesses and other institutions. Others in this category are property taxes, rents and rates, and capital gains. From the year 2001-2006, there has been a significant reduction of corporate tax ranging from 32.5% - 25% while the individual’s progressive tax has been significant with a highest rate of 25%.

Indirect taxes are normally in the form of Value Added Tax (VAT) and Excise duties. The introduction of the VAT was as a result of the pressure mounted by the International Monetary Fund to replace the sales tax with the prior motive of reviving the economy of Ghana after the 1992 general elections.

Prichard 2009,10-12 in his presentation about taxation in Ghana pointed out that the administration of taxes in Ghana are carried out by three institutions namely the Internal Revenue Service (IRS), the Value Added Tax (VAT) and the Customs, Excise and Preventive Services (CEPS). These three agencies have been granted some form of autonomy from the Ministry of Finance on issues that concern human resource management policies and the ability of retaining three percent of the total taxes collected thereby exercising overall freedom.

4.2.2 Economic Factors

Business Dictionary (2013) defined economic stability of a country as the financial system of the nation characterized by different forms of little fluctuations in the macro economy (output growth) and fairly consistent low inflation.

The economic stability of Ghana can be attributed to many factors with the rebasing of the year and effective macroeconomic policies been the most prominent factors. These contributory factors have enhanced the economic growth
of Ghana that saw a significant growth of almost six per cent in 2010 from that of the previous year’s 5 per cent growth. The economy of Ghana has a high tendency of achieving a sustainable growth, at least for some time partly due to the discovery and commercial production of oil. Furthermore, investor confidence has been increased due to the government’s prudent fiscal and monetary measures which resulted in decrease in interest rate with a corresponding increase in the banks’ lending rate. (African economic outlook on Ghana 2011.)

However, the above statement is not to say that the economy of Ghana is “immune” from the challenges that come with economic growth and other external influences that might have an impact on the level of economic growth. Challenges such as domestic payment arrears and proportionally high budgetary allocation to finance some of the governmental policies could possibly have a negative effect on some of the economic growth potentials of Ghana.

This notwithstanding, Ghana’s economy has a high likelihood of growing steadily due to some measures undertaken by the government. The government of Ghana instituted measures such as the poverty reduction and growth facility in the year 2009 and the Millennium Challenge Corporation compact in the year 2006. The former was aimed at ensuring macroeconomic stability by facilitating the competitiveness of the private sector, good governance and development of the human resource base of the economy. The latter however, was aimed at ensuring the transformation of the agricultural sector of Ghana as well as empowering the Ghanaian farmers to increase their capacity. (Ghana economy 2013.)

Ghana’s economic freedom score is 61.3, making its economy the 77th freest in the 2013 index. Ghana’s overall score is 0.6 point better than the previous year’s due to improvements in investment freedom, the control of government spending, and fiscal freedom. Ghana is ranked 7th out of 46 countries in the Sub-Sahara African region, and its overall score has risen above the world average. A notable economic growth rate of 8 percent over the past five years has been supported by strong improvements in economic freedom, with reforms focused on spurring private sector-led development. Institutions in Ghana that enhance economic growth are becoming more efficient and effective, supported by stable macroeconomic policies and ongoing reforms. (Economic Freedom Index 2013.)
The level and trend of Gross Domestic Product (GDP) in Ghana can be said to be promising as the country has had significant improvement and growth in the economy. Gross Domestic Product (GDP) as defined by Glenn & O’Brien (2009, 349) is “the market value of all final goods and services produced in a country during a period of time, typically one year”. In Ghana for instance, the Statistical Service of Ghana is mandated to compile all the necessary data needed in the calculation of the GDP. The statistical service also issues quarterly reports on the GDP. The issue of GDP became an important concept after the Second World War and the great economic depression as it was used to determine how well people in a given country or economy are living. Justifiably, it was a measure used to check if the economy of America could sustain spending on the Second World War while providing essential goods and services. In addition to the above statement, the Breton Woods Conference in 1944 which was aimed at “speeding economic progress everywhere, aiding political stability, and fostering peace” was monitored in these countries by using the Gross Domestic Product. It has since been used as a “default measure” of economic wellbeing all over the world today. GDP could normally give an idea of how well an economy is growing, but not how well people in that economy are doing.

For instance the GDP measures only monetary transactions related to the production of goods and services. For this reason, Constanza Hart, Posner & Talberg (2009, 1-14) suggested certain indexes which have the capability of providing better measures than the GDP itself although these indexes also have certain limitations. Some of the indexes discussed by the above authors are index of sustainable economic welfare, Genuine Progress Indicator (GPI), Human Development Index (HDI), subjective well-being, and Gross National happiness (GNH). For the purpose of this thesis and the economic analysis of Ghana, GDP would be assumed as a measure of economic well being in the absence of a proven and acceptable index. This could be nominal or real. The former is the GDP that includes inflation and the latter shows GDP adjusted for inflation (without inflation) which further shows purchasing power.

According to the Central Intelligence Agency (CIA 2012), Ghana recorded an estimated GDP, Purchasing power parity (PPP) of US $83.18 billion (2012 estimate). This figure represents an increase over the previous year (2011 estimate).
of US $76.89 billion and that of two previous years (2010 estimate) of US $67.22 billion. The real growth rate of GDP as at 2012 was 8.2 % and the country comparison to the world was fifteen. Similar figures for the two previous years 2010 and 2009 were 8.0% and 4.0% respectively. The per capita GDP (PPP) for 2012 was US $ 3100 and that of the year 2011 was US $ 3200 and the year 2010 was US $ 2800. The GDP by sector according to 2012 estimate were agriculture 24.6%, industry 27.4 % and Services sector 47.9%. The above figures are clear indications that the economy of Ghana has been improving and growing over the years (at least taking a look at the past 5-10 years) in terms of her GDP (PPP) and per capita GDP.


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<tbody>
<tr>
<td>Ghana</td>
<td>4.3</td>
<td>3</td>
<td>3</td>
<td>5.8</td>
<td>4.7</td>
<td>5.4</td>
<td>5.9</td>
<td>6</td>
<td>5.5</td>
<td>7.3</td>
<td>4.1</td>
<td>5.7</td>
<td>13.6</td>
</tr>
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</table>

As can be seen from table 6 above, the real GDP of Ghana fell from 1999 to 2000 and maintained a constant growth between 2000 and 2001. It increased significantly from 2001 to 2002 and decreased a year later after which a moderate increment occurred from 2003 to 2007. However, a further increase occurred in 2008 and slipped a year after before increasing in 2010. The figure does not depict the real GDP growth for 2011, which was 13.6 %. (Global Finance, 2012.)
Current Account Structure in Ghana

The term current account structure of a particular country refers to a record of all imports of goods, services and net returns of investments abroad less the exports of all goods and services expressed in the domestic currency in a defined period of time.

TABLE 4: Current account balance of Ghana 2012.

From the table above, it could be seen that the capital Account of Ghana has been changing between positive and negative values from 2004 to 2010. According to the CIA (2012) report on Ghana, the current account balance of Ghana for 2011 was at -$3.675 billion while the estimated figure for 2012 was given as $-4559 billion. All these negative figures are clear indications that Ghana imported more than it exported in the year 2011 and 2012.

Poverty Level and Labor Force

Labor Force in the author’s opinion refers to all the inhabitants of a given country who have attained the legal working age of that country. This group of people can either be working or seeking employment. It is also important to note that students, retired people, imprisoned people and parents staying at home always are not included in these groups of people. CIA 2013 projected Ghana’s
population of the labor force at 10.77 million. Agriculture remains a mainstay of
the economy accounting for more than one-third of the country’s gross domestic
product. This sector employs about sixty percent of the working population. The
industry sector employs approximately fifteen percent of the labor force while the
services sector employs thirty percent of the labor force. The World Bank in
ranking countries about unemployment status provides data for Ghana from 1992
to 2006. The average value for Ghana during that period was 7.2 percent with a
minimum of 3.6 percent in 2006 and a maximum of 10.4 percent in 2000. It is also
estimated that about thirty percent of the population in Ghana is below the poverty
line. The World Bank, 2011 defined poverty level of a country as the use of
monetary or non-monetary criteria in distinguishing poor people from non-poors
ones. The level of poverty can further be divided into relative poverty and
absolute poverty. The former is defined in the context of the overall income or
consumption in a given country while the latter is defined in the context of what
households need such as minimum amount of money in order to survive daily.

In the year 2008, the World Bank revised the minimum amount required a day to
be able to survive. This revision was 1US Dollar a day as minimum wage to
1.25US Dollar a day. The poverty level and threshold differs from one country to
another hence the need to consider the respective countries when making this
analysis. This is because the figure might not be the same for all countries.


![Population below poverty line (%)](image)

It can clearly be seen from the table above that about thirty one percent of the
labor force of Ghana are below the poverty line from the year 1992 and this has
been reducing throughout the years to 2007. The government of the republic of Ghana has initiated lots of projects geared towards the reduction of poverty in the country and the author of this thesis believes that the population below the poverty line will drastically drop in the near future.

The Trend of Inflation and Exchange Rate in Ghana

The term inflation can be described as the rise in general level of prices of goods and services in an economy in a given period of time thereby resulting in the decline of the value of a country’s currency or money. (Investopedia, 2013.) Inflation rate in terms of consumer prices describes the annual percentage change in consumer prices as compared with the previous year’s consumer prices. The rate of inflation as at 2012 according to CIA report in the year 2013 was 9.1% whilst the year 2011 was given as 8.7%.


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<td>25</td>
<td>14.5</td>
<td>26.7</td>
<td>13</td>
<td>15.1</td>
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<td>16.5</td>
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The table above shows that inflation in Ghana increased significantly from 1999 with a figure of 12.8% to almost double in the year 2000 of 22.8%. The table also shows that the inflation of Ghana attained its peak in the year 2003 before
reducing sharply in the year 2004. The trend can also be observed with reductions in the subsequent years until it reaches a record figure of 8.7% in the year 2011. The government of Ghana has also put stringent measures in place to always attain single digit inflation from now onwards.

The term Exchange Rate concerns the standard value at which the currency of a given country can be exchanged for that of another country. For instance, Ghana’s currency is the Ghanaian Cedi (GHC) and in exchange terms, refers to the value of the cedi that will be equal to the dollar, pounds sterling or the European Union (Euro) or other currencies. This shows that the amount of the cedi that is equal to the exchanged currency will be the exchange rate. The fluctuations in the exchange rate of most of the trading currencies greatly affect the economy of a country. The Ghanaian Cedi (GHC) for instance has been characterized with frequent fluctuations especially with the US dollar, pound sterling, European Euro and other currencies. These fluctuations can be on daily basis, weekly, quarterly or yearly depending on the exchange rate conditions of the market and the partners involved.

4.2.3 Socio-Cultural Factors

Socio-Cultural Factors refers to all the elements pertaining to the combinations or interactions of cultural or social habits. It also concerns the behavioral, cultural and social habits of the population of a specific region or country. For the purpose of this piece of work, the cultural factors of the two countries involved will be analyzed using Hofstede’s five cultural dimensions. This will enable the case company to understand the Ghanaian culture more and to know how businesses are handled.

The social structure existing in Ghana comprises of individuals been divided on the basis of certain key elements like political power, established rulerships such as Kings, Chiefs and other traditional authorities. The family structure in Ghana is about the same when comparing with other African countries as it focuses mainly on the extended family ties/systems. It is also worth noting that the nuclear system of family type is also seen existing in some families in recent times. Religion and
ethnic group classification remains significant elements of the socio-economic classifications.

Geert Hofstede’s 5-D Model of Business Culture Comparism between Ghana and Finland.

In exploring the Ghanaian culture, an analysis is made with reference to Geert Hofstede through the use of the lens of a 5-D Model. The figure below shows Hofstede’s comparism of the Ghanaian culture to that of the Finnish culture with main emphasis on doing international business.

**FIGURE 15.** Geert Hofstede’s cultural comparism between Ghana and Finland using the 5-D model (Geert Hofstede, 2013).

Power Distance

Geert Hofstede 2013 defined this dimension as “the extent to which the less powerful members of institutions and organizations within a country a country expect and accept that power is distributed unequally”. This dimension reiterates the fact that individuals within a particular society are never equal and goes on to express the attitude of the existing culture towards such inequalities. Considering the figure above, Ghana recorded a high score of 80 which signifies the unequal distribution of power and the high degree to which hierarchy in organizations, families and the entire society is regarded in the country. Finland on the other
hand has a score of 33 which Hofstede explained as having low consideration for hierarchy in the country. There is also a decentralization of power and hierarchy is only for the sake of convenience. Additionally, the channel of communication is direct and participative. (Geert Hofstede 2013.)

Individualism

This dimension as described by Geert Hofstede 2013 is the “degree of interdependence a society maintains among its members”. It normally has to do with whether people’s self-image is defined in terms of “I” or “we”. Ghana as seen in Hofstede’s chart recorded a score of 15 which is low. This also means that the country is a collectivist society rather than the individualistic one. This further shows that individuals in a collectivists’ society have a “we” feeling instead of “I” because they have a sense of belonging to a group or are committed to that group where they find themselves. This group could be family (both extended and nuclear), culture, tribe or other similar groups. Each member belonging to the group is responsible for the whole group, and the attitudes, opinions and values of members represent that of the group. This means that the disgrace of a member of a group in a “We” society will lead to a loss of “face” and working relationships are considered in moral terms. (Geert Hofstede 2013.) The score of Finland on the chart is high with 63 meaning that Finland is a highly individualistic country. This means that individuals here are extremely very independent, there is equality of individual rights, hierarchy is only for the sake of convenience and leaders are for empowerment and facilitation. The leadership form of controlling is not admired in individualistic countries and relationship between leaders and followers or employees is rather informal. (Geert Hofstede 2013.)

Masculinity/Feminity

Geert Hofstede 2013 describe a society with this dimension as “what motivates people, wanting to be the best (masculine) or liking what they do in a society (feminine)”. This dimension also concerns the definition of a person’s role in a society with emphasis on his or her gender. Hofstede 2013 again pointed out that a high score which is considered masculine on this dimension indicates that the
society will be driven by competition, achievement and success, with success being defined by the winner or best in field. In a Masculine society for instance, males are expected to be assertive, tough, focused on material success for the family and the society whereas women here are expected to be tender, modest and usually concentrates on roles defined by the society as feministic like keeping the home and the care for children. On the other hand, a feminist society representing a low score on the dimension means that the dominant and significant values in the society are the care for others and the quality of life. It is also a society where the quality of life is the sign of success and standing out from the crowd may not be admirable. (Geert Hofstede 2013.)

The comparism chart of Hofstede clearly shows that Ghana recorded a score of 40 on this dimension and is thus considered a relatively feminine society. This shows that the focus in this type of society is on “working in order to live”, managers strive for consensus, people value equality, solidarity and quality in their working lives. Conflicts in these societies are normally resolved by negotiation and compromise and incentives such as free time and flexibility are favored. Finland from the chart has a score of 26 which means that this country is considered a feminine society. This also shows that Finland shares some characteristics with Ghana hence businesses between these two countries can be well natured.

Uncertainty Avoidance

A country’s uncertainty avoidance according to Geert Hofstede 2013 is “the extent to which the members of a culture feel threatened by ambiguous or unknown situations and have created beliefs and institutions that try to avoid these”. This dimension is also concerned with the way a society deals with its future aspirations whether there is the need to try in controlling the future or only allows the future to follow its own way. Ghana recorded a high score of 65 on this dimension which signifies that the country has a high preference for avoiding uncertainty. Geert Hofstede pointed out that countries exhibiting high uncertainty avoidance maintain rigid codes of belief and behavior and are usually intolerant of unorthodox ideas and behaviors. Additionally, paramount among these cultures is the individuals emotional desire and need for the rules guiding them, an inner urge to be busy, working hard, precision and punctuality are the norm and immense
reliance on security as an important element in an individual’s motivation. (Geert Hofstede 2013.) Finland on the other hand scored 59 on this index which signifies an average score. This can mean that the Finnish society can maintain very rigid belief codes. This is also evident in their working environments since security and punctuality are important existing parameters.

Long-Term Orientation

This dimension describes “the extent to which a society shows a pragmatic future-oriented perspective rather than a conventional historical short-term point of view”. (Geert Hofstede 2013). Long term orientation classifies societies with regards to whether they are future-oriented or short-term oriented. Finland has a score of 41 on this index while Ghana does not have any score for this dimension according to Hofstede. This means that the society of Finland has a short-term orientation culture. Societies exhibiting short-term orientation cultures are concerned with great respect for traditions, a relatively small propensity to save and a strong concern with establishing the truth.

4.2.4 Technological Factors

The United Nations Education, Social and Cultural Organization (UNESCO 1985) defined the term technology as “the knowhow and creative processes that may assist people to utilize tools, resources and systems to solve problems and to enhance control over the natural and man-made environments in an endeavor to improve the human condition”. The government of Ghana in its desire to make Ghana a middle-income economy has introduced the national science, technology and innovation policy which is aimed at improving the human resource capacity base of Ghanaians. This policy will enable Ghana to become an emerging market economy by the year 2020. (National science, technology and innovation policy 2010, 13.)

Ghana in recent times has developed lots of policies in exploiting and enhancing renewable energy resources for use by the inhabitants. Renewable energy technology concerns the sustainable and judicious way of exploiting renewable energy sources and how such exploited energies are utilized. This type of energy
has become an excellent alternative source of energy to the country of Ghana as a result of the power outages and excessive shortages which started in the year 1997. Tse 2000, in his article about renewable energy opportunities and challenges reiterated the fact that renewable energy technologies in use currently includes solar photovoltaic (PV), solar water heaters (SWH), wind/electric turbines, biogas generators and biomass fuel sources. Mokyr (2005, 4) explained that “people are inherently innovative and if the environment is conducive, technological progress is almost guaranteed”. It can be deduced from the above statement that technological progress can be higher in Ghana if the government and other stakeholders’ efforts toward improving the technological advancements are equally high. A summit organized by African Heads of State of the Organization of African Unity (OAU) in 1980 in their communiqué indicated that resource allocation to a country’s science and technology advancement should be at least one percent of that country’s Gross Domestic Product (GDP).

However, national science, technology and innovation policy (2009, 8) mentioned Ghana’s resource allocation for science and technology to be between 0.3 to 0.5 percent of its GDP. The Government of Ghana in its effort to increase renewable energy usage in Ghana normally gives support to the research institutions in the form of financial support and other research related projects. Renewable energy research institutions which are notable in Ghana includes Council of Scientific and Industrial Research (CSIR), Kumasi Institute of technology and environment(KITE), Africa energy institute, NEK Ghana limited as well as other reputable private research institutions.

4.2.5 Environmental Factors

Article 36(9) of the constitution of the Republic of Ghana discusses the principle of state policy which is concerned with the environment. The article states that “‘the state shall take appropriate measures needed to protect and safeguard the national environment for posterity; and shall seek co-operation with other states and bodies with the main purpose of protecting the wider international environment for mankind’”. This clause of the constitution hence serves as the fundamental basis for environmental regulations which is focused on the purpose
of protecting the environment. Roosbroeck Van (2006, 33) hinted that Environmental Action Plan (EAP) was adopted by the government of Ghana in 1988 while the national environmental policy was adopted in 1991 all with the main emphasis of managing the environment and reducing unsustainable exploitation. This is a further explanation of Ghana’s commitment to improving the environment as there were environmental laws and regulations before the 1992 constitution was enacted.

Climate and Temperature in Ghana

According to UNDP climate change profile of Ghana 2013, Ghana has a tropical climate as a result of the strong west wind with the highest seasonal variations happening in the northern part of Ghana. There are two seasons notably in Ghana namely the rainy and the dry season. Rainy seasons occur from April to July and again from September to November. The dry seasons on the other hand begin from December to March. The southwestern part of Ghana usually records an average maximum temperature of 2000mm/annum during the rainy season whilst the minimum rainfall amounts to 900mm/annum at the southeastern part of Ghana. (Ghanaweb 2013.)

Natural resources: Natural resources are all resources that are freely given to individuals in a society by nature. They are never man-made and people use these resources to support their lives and to provide their basic needs of life. There are two types of natural resources namely renewable and non-renewable resources. The renewable natural resources replenish itself after use. Examples include trees, water, and sunlight. The non-renewable on the other hand do not replenish itself after use. Coal, petroleum and natural gas are notable examples. CIA (Ghana 2013) described Ghana in their annual country report as a country endowed with lots of natural resources. Examples of the resources are gold, timber, industrial diamonds, rubber, fish, bauxite, manganese, silver, petroleum, salt, limestone and oil.

Environmental Issues and its Effects

Deforestation, overgrazing by animals, soil erosion, poaching and bush fires are various forms of agricultural practices that impact negatively on the environment
in Ghana. All these activities lead to the washing away of the topsoil and removal of the natural vegetative cover of the environment. There are also different kinds of animal and plant species that are destroyed by these activities. Other notable environmental issues involve the improper disposal of electronic waste, water pollution and gradual loss of biodiversity. The forest of Ghana’s agricultural land has been tremendously overexploited by all these activities mentioned above. For example, about 90% of Ghana’s primary rain forest has been lost in less than 50 years and an approximate loss of 26% of its vegetative forest cover. The improper disposal of electronic waste such as computers, television sets, stereos and other burnt electronic gadgets have contributed to some extent health related risks to the inhabitants living in the environment. Mongabay (2006), reiterated the fact that Africa may be able to cater for only a quarter of its population if the rate of deforestation continues in this current trend thereby creating “environmental refugees” by the year 2025. As a result of this, the government of Ghana in achieving its carbon-trading initiative proposed by the coalition of developing countries has mandated the Environmental Protection Agency (EPA) in Ghana as the sole authority in dealing with issues pertaining to the environment. It is therefore worth noting that potential investors should make it a great concern provided their activities or businesses are environmentally linked. The case company of this research is well known for its environmentally friendly products hence “ethical policies” with reference to the environment can be used as a brand image which could help in inducing more customers to Suntrica products.

4.2.6 Legal Factors

As a result of Ghana being a British colony, its legal system is based on the English common law and the customary law. It has also undergone a reform in 1968 when the Ghana Law reform commission was formed with emphasis on the immediate reform of the inheritance and marriage law among others. Article 11 of the constitution of Ghana which was adopted in 1992 lists the sources of law as constitution, legislation (existing law and common law). (Ghanaweb 2013.) The hierarchy of the judicial system in Ghana includes the Supreme Court, court of appeal, high court and ten regional tribunals. The former is the highest and the latter, the lowest in that category. However there are also circuit courts and
traditional courts which also settle cases in Ghana, and appropriate court would be used depending on a particular case. (Emory, 2012.) Interpol Ghana 2012 in its annual report pointed out that the law enforcement generally in Ghana is carried out by the agencies of the ministry of interior. These include Ghana police service (GPS), Ghana prison service, Ghana national fire service, Ghana immigration service; narcotics control board, national disaster management organization, and the refugee board. The Ghana police service is divided into regional and divisional commands, making all these units to report to the national headquarters in Accra.

With reference to the case company of this thesis, the considerable legislative systems will be within the framework of the ministry of energy in Ghana.

The term globalization can be described by the linkage of various countries either by trade, business or other activities that will bring an increase in their economic stability. Despite the fact that globalization has merits to the national and the world economy, it has also created international fraud and other criminal activities. Notable disadvantages globalization has brought are illegal narcotic trade, cyber-crime, money laundering, terrorism and other related criminal activities. The republic of Ghana is a member state of many international and regional organizations, such as the United Nations (UN), World trade organization (WTO), Economic community of West African states (ECOWAS), Interpol and others. Ghana for instance has enforced international laws and regulations concerning corruption, money laundering, terrorism, cyber-crime, organized crime, and other criminal laws. (Quaye Robert 2011, 50-51.)

Ghana web 2010, mentioned that the ministry of environment, science and technology have proposed and created Ghana Environmental Convention Coordinating Authority (GECCA) in the year 2010 with its main objective of ensuring the implementation of international environmental rules.

Starting a company in Ghana and its legislations

Ghana been a democratic country with its governance based on the rule of law, there are certain key legislations that need to be followed should an investor decide to invest or establish a company in Ghana. World Bank in its 2010 country profile estimated that the gross national income per capita of Ghana (GNI) is
1250USD which means that the minimum amount required in establishing a company is 12500USD. This is because an investment project should be able to give employment to at least ten people. Doing business in Ghana 2013 (21-23) listed and explained the following seven steps in establishing business in Ghana. All these seven steps are general guides to establishing a business in Ghana depending on the type of industry, there might be some steps which may be linked together.

Step 1: Registration of the name of the business: This will be preceded by checking for the availability of the company name. The documents needed for this application for registration are company regulations, statement of shareholding structure, stated capital, and tax identification number form. (Doing business 2013, 21.)

Step 2: The documents should therefore be authenticated by the commissioner of oaths in the Registrar general’s department. (Doing business 2013, 21.)

Step 3: The certificate to start business will be issued in step 2 (usually the same day). The investor or the owner of the business should complete some specified forms within a specified time (28 days). (Doing business 2013, 21.)

Step 4: The paid-in-capital should be deposited in an account. The documents required for the account opening are the company regulations, certificate of incorporation, certificate to commence business (which will all be issued in earlier steps), and signatures of the authorized company’s representatives. (Doing business 2013, 22.)

Step 5: Application for Business license at the metropolitan authority where the business would be domiciled. The license would depend on the type of business and the category in which it falls under the business classification in Ghana. (Doing business 2013, 22.)

Step 6: Inspection of the work premises by the Metropolitan Authority. A report about the inspection is compiled; and a further advice is given if necessary. (Doing business 2013, 23.)
Step 7: Apply for a social security. The documents needed for this process are list of employees with their social security numbers, their salaries, company’s certificate of incorporation and certificate to commence business. (Doing business 2013, 23.) Renewable Energy sector falls under the ministry of energy. Although renewable energy falls under this ministry, the regulations concerning this sector are the responsibility of the Ghana investment promotion centre. A renewable energy bill has been approved by parliament, but is yet to be passed into a law. The Renewable energy bill involves considerations about the ‘‘feed-in-tariff’’, ‘‘obligatory purchase’’, and ‘‘renewable fund’’. (Ministry of energy 2010.) The Ghana energy commission in the year 2011 also stated that there are no clear cut laws with regards to renewable energy in Ghana.

Employment and Environmental Legislation

The National Labor Commission (NLC) which was established by an Act of parliament (Act 651) in the year 2003 is the main authority mandated to handle labor issues in Ghana. The mission of this commission is “to develop and sustain a peaceful and harmonious industrial environment through the use of effective dispute resolution practices, promotion of co-operation among the labor market stakeholders and mutual respect for their rights and responsibilities.” (National Labor Commission 2012.)

However, the labor Act (651) 2003, is the principal document that contains all the labor laws, rules and regulations regarding employment in Ghana. The Act 651 does not include regulation of employment in the police service, the armed forces, the prison service, security and intelligence Agencies that are specified under Security and Intelligence Act 1996 (Act 526). (Labor Act 2003, 7.) Ghana has been involved in enacting laws to protect the environment far back before independence in the year 1957. The Stockholm convention in 1972 for instance was aimed at devising ways of protecting the environment, in which Ghana was a signatory. This lead to the formation of the Environmental Protection Council (EPC) after two years of the Stockholm convention with main aim of instituting policies to protect the environment. The EPC was later named as the Environmental Protection Agency (EPA) through the Environmental Protection Agency Act, Act 490. Environmental Protection Agency still remains the highest
authority on environmental issues in Ghana until today. However, there is also the environmental assessment regulation and the Pesticide Control and Management Act 1996, (Act 528). The former is mandated to register and issue permits to clients and other stakeholders, whilst the latter’s main task is concerned with the issuance of importation licenses and other permit issues. (Environmental protection Agency 2013.)

The energy industry in Ghana is regulated by the Ghana Energy Commission. The various sectors of the energy industry which are normally opened to private investment and those areas that have been monopolized are usually indicated in the energy policy document of Ghana energy commission. The government of Ghana is putting measures to serve as incentive package for private or independent power producers (IPPs) to invest in renewable energy sector in Ghana. The regulation of the renewable energy sector would be enforced when the renewable energy bill is passed into law by parliament. (Ministry of energy 2010.)
5 CASE COMPANY ANALYSIS

This chapter of the research seeks to give an overall presentation of the case company Suntrica. The use of the 4P’s of marketing or the marketing mix shall be elaborated upon in the case company analysis.

5.1 Brief History of Suntrica Limited

Suntrica Limited from Finland is the forerunner in research and the production of energy efficient solar harvesting systems and components. Suntrica designs, contract manufactures and markets its easy-to-use flexible personal solar chargers for use with exceptional portable battery powered devices. Suntrica is committed to decreasing the carbon footprint in its activities thereby reducing the effects of the climate change. The company has been rated as the number one in class solar harvesting control electronics and the only company deploying thin-film photovoltaic in palm size consumer products. Suntrica was established in the year 2006 by Jouko Häyrynen with its headquarters currently in Salo, Finland. The company operates from Salo with main emphasis on research and development, sales and marketing of its products. The manufacturing of Suntrica products normally takes place in Estonia and China with adherence to international certifications such as European Conformity (CE), FCC, and EADS Tetra. Suntrica currently exists in 40 global markets worldwide including the sub-Saharan African countries such as South Africa, Kenya, Nigeria and Tanzania. (Suntrica 2013.)

5.2 The Marketing Mix

Kotler and Armstrong (2012, 75) defined marketing mix as a ‘‘set of tactical marketing tools namely product, price, place, and promotion that a firm blends to produce the response it wants in the target market’’. In recent times, the 4P’s of marketing has been said to only take the seller’s view of the market hence a further description of the model as the 4C’s of marketing. The 4C’s stand for customer solution, customer cost, convenience and communication (Kotler & Armstrong 2012, 77).
The figure below gives a better understanding of the 4P’s/4C’s of the marketing mix.

**FIGURE 16.** The four P’s of the marketing mix (adapted from Kotler & Armstrong 2012, 76).

**Products**

The term product means the goods or services that a particular firm or company offers to its customers. The customers here represent the target market that must be reached with such goods/services. Suntrica’s solar products are in different shapes and sizes depending on the purpose of its make. The product ranges from business-to-customer and business-to-business off-grid solutions. The business-to-customer products include solar straps, solar plate and other portable solar devices whilst the off-grid solution entails photovoltaic (PV) panels and solar energy harvesting unit (SEHU) products.

Business-to-customer products and business-to-business off-grid solutions are described briefly below. Suntrica’s passion is to enter into the Ghanaian
renewable energy market with these two key products hence the need to give a brief description of these products to enable readers to understand what the main features of these products are and with what materials they are made from. The description shall commence with business-to-customer products namely solar straps, solar plate and battery pack.

Solar Straps: Suntrica solar straps are of different types namely “SS-W100, SS-W103, SS-W204 and SS-W205”. These straps are affordable and portable solar chargers made with semi-flexible and crystalline silicon solar panel laminated on a glass fiber support. It is designed as a waterproof and weatherproof charger with optimized cost and performance for entry level phone users.

It is charged directly with the sun hence no need for any internal battery. These chargers are extremely compatible for any kind of phone including iPhones and the entire apple products. (Suntrica 2013.)

FIGURE 17. Suntrica Solar Strap SS-W100 (Suntrica 2013).

The above picture shows one type of Suntrica solar straps existing in the market today.
Suntrica Solar strap (SS-W204U) is universally made as a consumer product that provide instant, reliable and renewable power to mobile phones, MP3/4 players, GPS receivers and digital cameras just like the basic solar strap.


The picture above depicts the universal type and its features.

Solar Plate: The solar plate is another charger designed by Suntrica and described as a high power wearable charger. It is flexible, durable and light–weight ‘‘Copper Indium Gallium Selenide’’ (CIGS) solar panel. The outdoor usage of this product has made it possible to even attach it to clothes, bags and dresses. It has a weight of 50grams and total output voltage of 5.4Volts. (Suntrica 2013.)


Battery Pack: Suntrica Battery Pack is a reliable power pack with rechargeable 1500mAh, 5.5Wh lithium power battery with a weight of 50grams and compatible with smart phones, iPods and iPhones. These products come with three most
common phone adapters and other accessories for providing compatibility with a variety of devices.


The figure above shows the different kinds of adapters namely micro USB, mini USB, charging cable and USB adapter for recharging from a laptop.

Suntrica’s Business- to-business products (SEHU)

Suntrica’s main business-to-business off-grid solution is what the company termed as SEHU. The mandate of this unit is to design an improved solar harvesting mechanism to be used for purposes such as off-grid lightening, community power distributions, portable computing, portable telemetry, MESH, Wifi, WiMAX, satellite phones and professional mobile radio. This unit has several products with names such as SEHU CC-100, SEHU CK-100, SEHU RC-100, and VP-1300. The company also provides excellent solar charging solutions for professional usage.
The following pictures show the different kinds of Suntrica’s business-to-business products which are intended for the Ghanaian energy market.

FIGURE 21. Suntrica’s SEHU CC-100 (Suntrica 2013).

The figure below shows Suntrica’s business-to-business product by name SEHU CK-100 which is a computer field charging kit.

FIGURE 22. Suntrica’s SEHU CK-100 (Suntrica 2013).

SEHU RC-100 is another type of the off-grid solutions which is normally deployed in setting up radio stations. It is a complete power control solution for empowering a low power radio base station with a solar panel.
SEHU RC-100 enables the utilization of commercial off-the-shelf solar panels as a reliable power source by combining advanced maximum power point tracking technology with high-efficiency voltage converters and a backup battery. (Suntrica 2013.)

![Diagram of SEHU RC-100 system](image)

FIGURE 23. Suntrica’s SEHU RC-100 (Suntrica 2013).

SEHU RC-100 supports solar panels having open circuit voltage between 15-40V and power up to 100W.

Suntrica Limited and Valopaa Limited have jointly developed an easy to install, high efficient and reliable off-grid street light series by name VP-1300 Solar. There are two versions available namely VP-1301K for housing, kiosks and VP-1301S for street lighting in cities, towns and communities. These two products are complete ready-to-install sets with solar panels; SEHU power control module, VP LED lightning system and battery pack thereby providing long operating time. (Suntrica 2013.)
The picture below shows how the technology will look like when it is finally installed.

![Image](image1.jpg)

**FIGURE 24. Suntrica’s SEHU VP 1300 (Suntrica 2013).**

Price

The price of a product has become a key element of the marketing mix because it represents on a unit basis the actual gain received by the company as a result of the sale of its products or services. As a result of this, (Jobber 2010, 17) admonished marketers to be extremely clear about pricing objectives, methods and the factors that influence the setting of price and its strategies. Discounts, allowances, payment periods, credit terms and the level of list price are notable factors that influence the setting of price of products. Suntrica in selling its products has lots of distributors all over the world who determine the retail price of the products depending on the accessories that have been packed with the main unit.

**TABLE 7. Price list of Suntrica’s products**

<table>
<thead>
<tr>
<th>Product</th>
<th>Price(USD)</th>
<th>Price(Euro)</th>
<th>Price(GHC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS-W100</td>
<td>19-29</td>
<td>14.32-21.86</td>
<td>39.43-60.18</td>
</tr>
<tr>
<td>SS-W205</td>
<td>39-49</td>
<td>29.39-36.93</td>
<td>80.93-101.68</td>
</tr>
<tr>
<td>SS-W204</td>
<td>49</td>
<td>36.93</td>
<td>101.68</td>
</tr>
<tr>
<td>SS-W204U</td>
<td>49-59</td>
<td>36.93-44.47</td>
<td>101.68-122.43</td>
</tr>
</tbody>
</table>
The table above shows the price list of business-to-consumer products calculated in United States Dollars (USD), the European Euro (Euro) and the Ghanaian Cedi (GHC) using the exchange rate information provided by the Bank of Ghana on the 30th of July, 2013. The exchange rate figures (1$=0.7537€; 1€=2.75436GHC) are used in the calculation of Suntrica’s products which are depicted in the table above. The business-to-business products prices vary greatly depending on the locality, size and other parameters that are decided at the time of installation. Suntrica further explained that there has not been any price quotation for these products.

Promotion

Promotion decision according to Jobber (2010, 18) needs to be considered with respect to promotional mix such as personal selling, public relations, advertising, sales promotion, online promotion and direct marketing. When these “mixes” are effectively utilized, the target audience is informed about the existence of the company’s products or services. Suntrica in collaboration with its distributors uses all these promotional mix in creating awareness of the existence of the products.

Placement

The term placement concerns how the products or services will be made available to be purchased by the customers. In this regard, it involves all critical decisions that are made concerning the distribution channels to be used and their management, methods of transportation, inventory levels to be kept and location of the outlets. Jobber (2010, 18) indicated that the objectives of the placement decision are to ensure that products and services are readily available in the proper quantities, at the right time and at the exact place.

Bergström & Leppänen (2004, 147-148) hinted a fifth “P” termed as Personnel or People. Personnel in the opinion of Bergström et al are competitive factors in both product or service oriented companies. This is because people working in a company make products, manage the internal and external communications, adjust the prices and help in maintaining the customer relationships. The skills of the personnel’s involved in managing a company have lots of effect on the company’s success as every employee is involved in the marketing of the company.
5.3 Empirical Method for the Study

Burney (2008, 7) described inductive and deductive empirical methods as the two traditional ways of reasoning a research problem. Inductive research method categorized the first observation into broader theories whilst deductive methods re-define the general theories developed by inductive methods into more specific findings. The figure below gives the overall illustration of the processes involved in these two empirical methods.

Deductive verses Inductive Methods

As stated earlier in this piece of research, the intention of this work is to help the case company expand its tentacles into the Ghanaian solar energy market by developing a market entry plan for the company. Once this idea becomes specific, a deductive empirical research method is needed. Qualitative method also help in understanding the initial motive of the study and brings about lots of insight needed for further decision making process. Quantitative research on the other hand helps in the use of numerical data in coming up with the desired conclusive findings. Qualitative research method with emphasis on interviews is what is employed in this thesis in gaining more insight and finding out the available prospects of the intended market.
6 ENTRY PLAN FOR THE CASE COMPANY

The author of this thesis research work conducted five separate interviews with stakeholders involved in the renewable energy business in Ghana including the Chief Executive Officer (CEO) of Suntrica Limited in Finland. The interview questions were designed taking cognizance of the objective of this thesis and the research questions which need to be answered at the end of the thesis. A detailed research finding with reference to the questions answered by the experts will be presented in the subsequent chapter of this piece of work.

However, in order to make a suggestion that will be concrete and elaborate on the type of entry plans to be adopted by the case company, the interviewed answers need to be combined and compared. The answers to the questions in the interviews conducted by Skype calls, emails and VoIP calls were gotten from three experts in the renewable energy sector in Ghana, ministry of energy director and the chief executive officer of Suntrica Limited. The answer to the question ‘‘which entry mode do you think will be appropriate for foreign companies in entering the Ghanaian market ranging from 1-5 years?’’ seems to have various answers. The CEO of Karla Solar Solutions Mr Charles Akpalu Titso in his submission was of the view that foreign companies should enter into partnership by looking for local Ghanaian partners. They should also endeavor to build about 1500 Megawatts power across the country within 2-3 years of their existence in Ghana. A system of this nature will give a lot of credibility to the company thereby attracting more customers from all over the country. (Titso 2013.)

CEO of Solar Light Co. Limited Mr Mawuli Tse hinted that ‘‘the best market entry for a small and medium size company like Suntrica Limited is through the use of direct export at least in the first few months or years of its entry’’ (Tse 2013). The company needs to get in touch with local representatives or local companies who are already involved in this business to act as direct links between the Ghanaian customers and the company in Europe. This should also be presided by the recruiting of sales representatives in selling Suntrica’s products to the customers. With respect to reaching out to the higher institutions like ministries, departments, non-governmental organizations, there is the need to deploy the personal selling strategy in marketing the business-to-business products. As the
case company progresses with the direct export strategy in collaboration with its intermediaries or distributors, one or two cars can be branded with the company logo and products for easy identification in reaching out to the business-to-business customers. (Tse 2013.)

The interview with the CEO of Suntrica Limited Jouko Häyrynen seems to confirm Mawuli Tse’s contribution as Suntrica according to Jouko Häyrynen usually identifies sizeable distribution partners in the markets they intend to enter thereby exporting their products to the said distributors. In this case, they act as the sole representative of Suntrica in such markets. Additionally, the distributors identified need to have excellent communication coverage in consumer electronic distribution systems. Suntrica also considers distribution partners who are somehow connected to social media marketing. (Häyrynen 2013.)

The director in charge of renewable at the ministry of energy Ghana, Mr Wisdom Ahiataku-Togobo hinted that “foreign SME’s need to liaise with the government of Ghana in the form of Joint Venture in capturing the public institutions in the provision of solar panels and other off-grid solutions” (Ahiataku 2013). According to him, projects of this nature where the government is directly involved can be imputed into strategic plans of the institutions involved annually. The public institutions also engage in rural development projects with other non-governmental institutions hence more communities can be brought on board in the provision of these facilities. The government of Ghana is also in the process of passing the renewable energy bill in parliament into law which will encourage foreign investors to enter into the market since more taxes will be scrapped off from renewable energy products. Currently, companies investing in Ghana by means of big power projects only enjoy certain tax exemptions, custom clearances on their products. “I can assure you that this is greatly going to change when the bill is passed into law before the end of this year”. (Ahiataku 2013.)
The director again reiterated the fact that collaboration is the key to doing international business all over the world. The case company can decide to collaborate with the ministry of energy or other local partners within the targeted market. This will enable both parties to invest their capital and resources in the new agreed venture according to the laid down rules and regulations governing it. The joint venture according to the future plans of the case company will enable them invest their technology and the technical expertise into the local partners. The manufacturing unit can also be located within the new market equipped with the production of the products with strict adherence to the case company’s technical know-how. (Ahiataku 2013.)

The CEO of Sunrise Solar Solutions Limited Mr John Freelove Mensah in responding to the question “what kind of distribution channels do you use in reaching your end customers?” suggested that foreign investors need to rely on good distribution channels existing in the market to be able to get their consumers. This strategy can materialize if local partners are found in the market and these partners must be willing to distribute the case companies’ products to the customers in their respective localities. (Mensah 2013.) “With my rich experience in this vast market, direct export mode of entry should be deployed in the early stages of the company” (Mensah 2013). Sunrise solar solutions limited has actively been engaged in the use of radio and television advertising mechanisms, online marketing and individual contacts as distribution channels in the sale of our solar products. Sunrise solar has recorded great success because adequate contacts have been made with local distributors who help in selling the companies’ products. The main customers of our products include individual households, government, public and private institutions and corporate institutions hence the need for committed local partners in reaching these institutions. (Mensah 2013.)

It can be deduced from all the interviews conducted that solar energy market in Ghana has great prospect and the government is making stringent effort in promoting solar energy products since it is the only alternative source of power that will safeguard the current power crisis known as “Dumsor dumsor” in Ghana. As a result of the interviews conducted and the general analysis of the Ghanaian solar energy market, the author of this thesis thinks that Suntrica Limited need to enter the market with different entry strategies and modes. This
will help in achieving better results and serving as a competitive edge over its existing competitors.

The entry modes are strategically presented below with a 10 year projection on the key modes to be employed in the market.

6.1 Direct Export and Distribution Channel Design Strategy

Time Frame One [1month-2years].

Entry Mode: Direct Export and Distribution Channel Design Positioning.

During the interview with Suntrica CEO, Jouko Häyrynen, he pointed out that Suntrica’s current strategy is to move the manufacturing plant from China to Europe. When this is achieved before implementing the entry strategy one, the
products will then be exported from Suntrica’s warehouse with its headquarters in Europe to a Ghanaian importer. When the importer clears the products from the ports in Ghana, it will then be transferred to the identified distributors acting as wholesalers. Local kiosks attendants, agents, community leaders who act as retailers will then get the supply from the local distributors to be sold directly to the end users or customers as shown in figure 25 above. The business model used here becomes a direct export mode because Suntrica’s products from its warehouse in Europe will be exported to Ghana to be cleared at the harbor by a local Ghanaian importer.

6.2 Hypothetical Parallel Distribution Strategy

Time Frame Two [Between 2-4 years].

FIGURE 27. Parallel Distribution Strategy

The figure above shows a form of entry strategy known as hypothetical parallel distribution strategy. This strategy in the author’s opinion will help integrate the activities between the case company and its agents or distributors. The vertical integration of business activities is more explicit in dealing with business-to-business products and its markets in Ghana. This is also because it is good to
make partnership in B2B markets with agents or distributors than with competitors in the same business terrain or channel. As a result of this analysis, Suntrica Limited can adopt this strategy in its 2-4 years of existence in the Ghanaian market by building two parallel distribution channels as depicted in the figure above. The direct channel on the left side of the figure will use Suntrica’s sales force to contact the customers or end-users directly whilst the indirect channel mechanism will employ the use of agents or distributors in expanding the markets throughout Ghana as the years elapse.

6.3 Direct Export Mode with emphasis on corporate social responsibilities and government co-operation

Time Frame Three [Between 4-6 years].

The government of Ghana has lots of renewable energy projects going on all year round with donor agencies and certain non-governmental agencies. This means that Suntrica can export some of its products to the government of Ghana to be sold to its local citizens through subsidized project prices. As cited in the interview with the director at the ministry of Energy, collaboration is the key to international business. Suntrica in reaching out to the government of Ghana can engage in certain corporate social responsibilities such as painting of certain communities’ classroom blocks with Suntrica colors and logo thereby creating awareness and good reputation in the energy market in Ghana. Football games can also be organized by Suntrica with printed T-shirts given to the spectators and school children which will help the company to sell its products. Suntrica products can also be sold to the government of Ghana through international projects with organizations such as JICA (Japan International Co-operation Agency), World Bank GEDAP and the government of Spain energy projects which currently exist in Ghana.
6.4 Joint Venture Business Model

Time Frame Four [Between 5-10 years].

Suntrica CEO, Jouko Häyrynen stated categorically that “Suntrica in the near future will give license to certain companies in its existing and new markets in producing some of our products” (Häyrynen 2013). The CEO again added that Suntrica has the preparedness to establish new manufacturing plants in some of these countries. This statement confirms the author’s suggestion of a possible joint venture business after 5 years of profitable existence in the energy market in Ghana.
The figure below summarizes the entire joint venture business model to be adopted by Suntrica Limited in Ghana.

As discussed earlier in the interviews with the director at the ministry of energy, joint venture is regarded as one of the suitable entry modes for Suntrica because this model allows risk and cost sharing of investments made with local partners.

FIGURE 28. A proposed Joint Venture Business Model
Additionally, Suntrica will be able to also access the knowledge of the local partners involved and usage of its resources like human resources, raw materials and the entire distribution systems.
7 CONCLUSIONS AND SUGGESTIONS FOR FUTURE RESEARCH

The main motive of this chapter is to present a summary on the main findings of this research by providing answers to the different questions which were answered by the experts interviewed during this research. The author also intends to draw a conclusion and to make suggestions on the possible further research topics which can be carried out by case Suntrica in the near future.

7.1 Main Findings

The main findings of this research shall be presented in the form of a table which will clearly stipulate a summary of the various answers provided by the experts interviewed in answering the survey questions of this piece of work.

TABLE 8a. Survey questions and its findings

<table>
<thead>
<tr>
<th>Survey Questions</th>
<th>Findings</th>
</tr>
</thead>
</table>
| 1. What available payment terms are used by the customers of renewable energy solar products? | ➢ Cash with order  
➢ Hire purchase systems  
➢ Payment on delivery  
➢ Installments |
| 2. What kind of subsidies, tax exemptions, grants and custom clearance policies are available for renewable energy investors and their products? | ➢ The passage of renewable energy bill into law is making provisions for free customs clearance of renewable energy products.  
➢ Lower tax percent on solar energy products.  
➢ Renewable energy companies  
➢ Sales representatives  
➢ Agents  
➢ Personal selling. |
| 3. What are the common distributions channels existing in this business currently? |                                                                         |
The experts interviewed in answering the first survey question in table 8a above pointed out that cash payment, hire purchase systems, payment on delivery and installment payments are the available payment terms used by the customers buying the solar products. Majority of the individual customers are salaried workers hence these payments are mostly appropriate for them. The passage of the renewable energy bill in parliament into law will help in promoting this business greatly as the taxes on solar energy products will be reduced drastically and these products will also be free in terms of customs clearance at the Ghana ports of harbor. The experts interviewed also mentioned sales representatives, agents, renewable energy companies and personal selling as the most common distribution channels existing in this type of business venture in Ghana.

TABLE 8b. Survey questions and its findings

<table>
<thead>
<tr>
<th>4. What is the price sensitive nature of renewable energy customers in Ghana?</th>
<th>Customers in Ghana love to buy the solar energy products but think the prices of these products are quite expensive.</th>
</tr>
</thead>
</table>
| 5. With regards to the renewable energy solutions or products, who are the main customers? | ➢ Individual households  
➢ Public and private institutions  
➢ Government  
➢ Ministries, agencies and departments  
➢ Corporate institutions  
➢ Nongovernmental organizations (NGO’s). |
6. Which entry mode do you think will be appropriate for foreign companies in entering the Ghanaian renewable energy market?

Four different types of entry modes were suggested in a sequence of time frame namely:

- Direct export and distribution channel positioning
- Hypothetical parallel distribution strategy
- Direct export mode with emphasis on corporate social responsibilities and government co-operations
- Joint venture business model.

7. What kind of distribution marketing channel is available in the market to reach the end customers?

- Online marketing
- Radio
- Television adverts
- Individual contacts.

The experts in their submissions during the interview mentioned that government, individual households, public, private institutions, ministries, agencies, departments, corporate institutions and NGOs are the key customers in this market of renewable energy products or solutions. It is therefore essential for the case company to concentrate on reaching these customers through the use of their marketing channels or representatives. There are four different kinds of market entry modes which have been suggested to the case company in order to fully enter and capture the solar energy market in Ghana. This was recommended as a result of the thorough analysis of the answers provided by the interviewees. All these are summarized in table 8b above.

With respect to distribution marketing channels, online marketing, radio, television adverts and individual contacts are key tools and determinants for the
success of the case company in Ghana. The interviewed experts have been using these techniques over a decade ago and major success stories have been recorded hence the need for Suntrica to wholeheartedly consider these channels as they penetrate into the renewable energy market.

TABLE 8c. Survey questions and its findings

| 8. What are the organizations that an intending foreign company must contact in their decision to export solar solutions or products to Ghana? | ➢ Registered companies
➢ Dealers in renewable energy products. |
<table>
<thead>
<tr>
<th></th>
<th></th>
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<tbody>
<tr>
<td>9. What about investing in the solar energy sector in Ghana?</td>
<td>➢ Partnership with local companies to help reduce government bureaucracies and frustrations.</td>
</tr>
</tbody>
</table>
| 10. Can you please describe the level of competition existing among renewable energy companies with respect to solar products? | ➢ The system encourages foreign investors especially those working with grants.
➢ The import levies previously on solar lanterns makes it a bit competitive but this will change as soon as the renewable energy bill is passed into a law. |
| 11. Do you see a shortfall in terms of demand and supply of renewable energy especially solar energy? | ➢ Yes; if government does not change its policies with regards to renewable energy.
➢ Government policies |
previously do not support solar energy like the United States of America and the European Union until recently. In recent times, the government of Ghana is supporting the use of solar and CHP energy during daytime to power households and factories.

- Europe is even considering working towards the use of solar power from the Sahara desert. Therefore the Sub-Saharan Africa needs to wake up and Ghana has started from a good note.

In table 8c above, the contributions shows that foreign companies like Suntrica intending to enter into the Ghanaian market in the form of exporting as an entry mode needs to make contact or liaise with dealers in the renewable energy business and other registered companies dealing in similar products. The experts also added that foreign companies who intend to invest into the solar energy sector in Ghana should endeavor to partner with local companies to help reduce governmental bureaucracies and other frustrations associated with it. The interviewees also cautioned the government of Ghana to enact laws which will support renewable energy business to prevent a possible shortfall in the demand and supply of renewable energy in Ghana. Ghana government needs to emulate the good examples of the United States of America and the European Union on issues of renewable energy.
TABLE 8d. Survey questions and its findings

| 12. What do you think could be some of the challenges faced by foreign investors in Ghana? | ➢ Cultural differences and country specific work styles  
➢ Bureaucratic nature of government administrations  
➢ Government inability to support foreign companies in their policies. |
|---|---|
| 13. With regards to renewable energy, what would you like to recommend for the purpose of this thesis research and the near future? | ➢ The government of Ghana should consider making more campaigns, trade fairs and symposiums on renewable energy systems to raise the awareness of the entire citizenry on its environmentally friendly nature.  
➢ The government should also endeavor making more concrete, favourable and precise laws on renewable energy to enable foreign SME’s and investors to enter the market. The complexities in the civil service administration should be worked on to prevent the investors from becoming frustrated in the market. |

The experts advised foreign investors to be mindful of some of the challenges that could be faced by their employees as they enter into new markets. Cultural differences in the new market and the country specific work styles should not be
taken for granted. The foreign companies need to understand the culture of the new market in order to succeed in it. Bureaucracy of government administrations is a common phenomenon in majority of the African countries and should as well be tolerated by foreign investors. The experts in their concluding remarks stated that the government of Ghana should make more campaigns, trade fairs and symposiums on renewable energy systems to raise the awareness of the entire citizenry on its environmentally friendly nature. The government should also make more concrete, favourable and precise laws on renewable energy to entice more foreign SME’s and investors to enter into the market.

The government of Ghana is now in the realization that renewable energy is the “messiah” in solving the annual power rationing problem encountered all over the country and is putting stringent measures in place to entice foreign investors and SME’s to enter into this market. In conclusion, four different time frames were provided for Suntrica in entering the renewable energy market in Ghana. The onus now lies on Suntrica to decide on when to enter the market and which mode to use in the initial stage as all the modes presented have various timelines.

7.2 Reliability and validity of the research

Validity as described by Bryman & Bell (2003, 288) concerns an estimation on the quality of the research. They both explained that validity is used to establish whether the conclusions drawn from the research work can be considered as sustainable or not. Bryman & Bell also mentioned how important it is to have the right research design which is connected to the purpose of the study. The term reliability as discussed by Bryman & Bell (2003, 288; Kvale 2009, 263) argues how applicable the results achieved from a study are. It serves as a way of controlling the results of a research and to determine whether the results will change assuming someone else does the same research. The two authors also pointed out that if a study is conducted with high reliability, the outcome should turn out similar regardless of who performs the research.

This thesis research is a product of a dedicated, diligent and explicit research work. The primary and secondary information’s in this piece of work were collated from updated and accurate sources such as earlier related studies, printed
books, electronic books, articles, academic journals, email exchanges, interviews from experts in the renewable energy business and other relevant online sources. This study was designed in such a way that semi-structured interviews were employed in soliciting the needed information’s from the experts thereby raising the validity of the research. The interview questions and its guidelines were formed from a collection of theories making the design to fit the purpose of the research. Although the empirical study was conducted only through interviews, the result is highly reliable and valid as careful restructuring of the data was made. The interview was also conducted with different experts and stakeholders in the renewable energy industry in Ghana. The interview questions were initially sent to the respondents earlier to enable them prepare well in advance. The interviews were also recorded and notes taken which make it possible for the author to re-visit them during the compilation process. This was done in making the validity and reliability higher as recorded tapes can be replayed always.

However, globalization in recent time is changing the business environment hence certain key information’s in this research work might become obsolete with respect to time. It should also be noted that only renewable energy industry with main emphasis on solar energy was concentrated upon hence generalization of this piece of work may not be good enough. This is because there are different sources of renewable energy businesses currently in Ghana. The empirical study was only on interviews with renewable energy experts with no surveys with the users of the renewable energy systems. The author also conducted the interviews through Skype calls, VoIP calls, emails and phone calls without conducting field visits to the targeted market area. This notwithstanding, this thesis research work is highly reliable and valid couple with the fact that the author hails from the case country and has lots of reliable networks with accurate and reliable data.

7.3 Suggestions for future research

This thesis work was mainly concerned about finding new entry business models for case Suntrica to enter the renewable energy market in Ghana. A further research can be conducted on how to scout for competent partners who will act as main distributors of the case company in Ghana giving the company a bigger
presence in the new market. A benchmarking research can also be conducted for the case company to enable them adopt certain success stories achieved by similar companies in other parts of the world in Ghana. In case Suntrica wishes to understand the renewable energy industry in Ghana, Porters five forces can be used in analyzing the different sources of renewable energy which could also be ventured into by the case company in the near future. The author also thinks that a SWOT analysis study can be made for Suntrica in getting to know their competitors more.

Finally, further studies can be conducted on the parameters involved in import processes and procedures such as the importer, wholesaler, the retailer and the final customer in Ghana. This when achieved will enable Suntrica to understand the market and its customers more. A market research analysis can also be made on Suntrica’s new educational solar solutions in Ghana.
8 SUMMARY

This thesis research is set out to analyze the renewable energy market focusing mainly on solar energy to seek for entry mechanisms to enable Suntrica Limited to enter the market. The renewable energy market in recent times has been considered all over the world including the government of Ghana as the sole alternative in curbing the energy and power challenges experienced lately. This market is so vast in Ghana and predominantly under-exploited hence a thesis of this nature is welcome news for the case company who is expanding its market globally.

The researcher designed research questions and research approach with the information about the target market which will help in achieving the objectives of the thesis. The main objectives of this research were to understand the renewable energy business environment in Ghana; to develop a market entry plan for Suntrica Limited in selling its products in Ghana and finally to analyze the existing distribution channels in this business currently in Ghana. In answering the research questions, the researcher employed qualitative method in the entire research work.

However, data was collected in two different stages namely desk-research and empirical research. With respect to desk-research, the researcher read so many books, articles, academic journals and other relevant internet sources all geared towards the objective of the thesis. The empirical research was done by interviewing five different experts in renewable energy including the CEO of Suntrica Limited, CEO of Solar light Co. Limited, Karla Solar solutions CEO, Sunrise Solar solutions limited CEO and the director in charge of renewable at the ministry of energy in Ghana. The collected data from the experts interviewed were assessed and analyzed vigorously by the author of this thesis before the main findings were reached as shown in pages 89-93 above. In analyzing the Ghanaian renewable energy market, market analysis tools such as the PESTEL, 4P’s of marketing were used. The issue of culture which is essentially paramount in international business was also looked into using Geert Hofstede’s 5 cultural dimensions.
The government of Ghana in its policy on energy and rural electrification considers renewable energy as the main alternative in achieving the “2020 target of electricity for all in Ghana”. Ghana has a peaceful business climate and the government has been supporting foreign donors and investors in the development of renewable energy projects. The most recent among these projects is the solar street lighting for all academic institutions and hospitals in Ghana. The passage of the renewable energy law is regarded as welcome news which will provide more opportunities for foreign investors or SME’s in entering the energy market.

The author believes that Suntrica Limited, a pioneer in this business in other African markets can achieve its goals and aspirations in entering the Ghanaian market. The time is now for Suntrica to decide on the suitable entry modes suggested in this research and to consider answering this “multi-million question” on when to enter and who to contact in entering this vast market. Although there might be some challenges in new markets at the early stage, Suntrica is already present in 40+ global markets and the author trust Suntrica’s vast experience hence success will be achieved in this market.
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Interviews


APPENDICES

APPENDIX 1 Interview Questions for renewable energy experts in Ghana

1. What available payment terms are used by the customers of renewable energy solar products?

2. What kind of subsidies, tax exemptions, grants and custom clearance policies are available for renewable energy investors and their products?

3. What are the common distributions channels existing in this business currently?

4. What is the price sensitive nature of renewable energy customers in Ghana?

5. With regards to the renewable energy solutions or products, who are the main customers?

6. Which entry mode do you think will be appropriate for foreign companies in entering the Ghanaian renewable energy market?

7. What kind of distribution marketing channels is available in the market to reach the end customers?

8. What are the organizations that an intending foreign company must contact in their decision to export solar solutions or products to Ghana?

9. What about investing in the solar energy sector in Ghana?

10. Can you please describe the level of competition existing among renewable energy companies with respect to solar products?

11. Do you see a shortfall in terms of demand and supply of renewable energy especially solar energy?

12. What do you think could be some of the challenges faced by foreign investors in Ghana?

13. With regards to renewable energy, what would you like to recommend for the purpose of this thesis research and the near future?
APPENDIX 2 Interview questions for the Chief Executive Officer of Suntrica Limited, Finland.

1. What is Suntrica’s strategy in existing international markets?
2. Who are Suntrica’s main competitors locally and globally?
3. Does Suntrica have co-operations in terms of activities with other stakeholders?
4. What are Suntrica’s strengths and weaknesses?
5. Can you elaborate a bit on the product features and Suntrica’s future plan in the development of its products and market expansion?
6. How does Suntrica enter new markets?
APPENDIX 3 List of the first fifteen renewable energy competitors in Ghana.

There are currently 62 companies dealing in different renewable energy products who are also capable of being competitors. The following is a list of the first 20 companies with their websites.

1. Solar Light Company Limited

• Business type: design, system packaging, assembly, retail sales, service, import/export, engineering

• Product types: solar electric power systems, packaged power systems, Voltage regulators and controllers, renewable energy.

• Service types: Installation and packaging of electrical systems

• Address: 60 Faanofa Road, Kokomlemle, Accra, Ghana

• Telephone: +233 30 223 4349, +16157195192

• FAX: +233 30 2245675

• Web Site: http://www.solar-light.com

2. African Rural Energy Enterprise Development (AREED)

• Business type: nonprofit organization

• Product types: early-stage funding and enterprise development services to entrepreneurs to help build successful businesses that supply clean energy technologies.

• Service types: project development services, financial services

• Address: c/o KITE, P.O. Box 6534, Kumasi, Ghana (Mali, Senegal, and Zambia)

  Telephone: +233.51.33824

• FAX: +233.51.33824

• Web Site: http://www.areed.org

- Business type: manufacturer, retail sales, wholesale supplier, exporter, importer
- Product types: photovoltaic module components, solar charge controllers, streetlights, biomass energy systems, wind energy systems (large), solar water heating systems, batteries renewable energy system, Inverters (domestic and industrial).
- Service types: consulting, design, installation, construction, engineering, project development services, education and training services, research services, architectural design services
- Address: No. 882 Sowutuom Road, P O Box GP 3548, Accra Ghana
- Telephone: +233 0302 917176; +233 (0)24 2685323
- FAX: +233 0302 917176
- Web Site: http://www.abesafrica.com

4. Eco-solar and Construction Ltd

- Business type: manufacturer, retail sales, wholesale supplier, exporter, importer, distributor
- Product types: Solar photovoltaic panels, solar PV systems, backup power systems, solar street lighting, DC to AC power inverters, hybrid power systems, solar electric power systems, solar water pumping systems, Solar Lanterns, Solar Torch lights.
- Service types: design, installation, construction, engineering, contractor services
- Address: P. O. Box Aj 14, Accra, Ghana, West Africa, Greater Accra, ACC Ghana +233
- Telephone: +233 248482392 or +233275791143
- FAX: +233-302-224991
5. Kupatech Ghana Limited

• Business type: retail sales, wholesale supplier, importer, distributor

• Product types: energy efficient homes and buildings, solar electric power systems, solar water heating components controls, backup power systems, DC to AC power inverters, LED lighting.

• Service types: consulting, installation, engineering, contractor services

• Address: Mallam House, Office #5, P. O. Box KN 6317, Accra, Ghana 00233

• Telephone: (0)244514620

• Web Site: http://www.kupatech.com

6. Naiko Engineering

• Product types: power inverter, solar battery, solar panel, solar charge controller, UPS, remote control gate.

• Service types: design, installation, engineering, project development services

• Address: 22 Soutuom Last Stop Rd., Accra, Ghana

• Telephone: +233277748877

• Web Site: http://www.naikopower.getafricaonline.com

7. PSC Industries, Ltd.

• Business type: manufacturer, retail sales, wholesale supplier, exporter

• Product types: batteries deep cycle, LED lighting, photovoltaic modules, solar electric power systems, solar charge controllers, solar water pumping systems, small and utility scale solar electric power.
• Service types: consulting, installation, construction, engineering, contractor services

• Address: C/o 17 -18 Ring Road, Accra, Ghana

• Telephone: 234 1628 0208, 234 702 5768686, 234 806 4205393

• FAX: 33 648 512 518

• Web Site: http://WWW.PSCSOLAR.COM

8. PTL Enterprise Ltd

• Business type: retail sales, importer, system Integrators

• Product types: Photovoltaic systems, solar outdoor lighting systems, Wind Turbines, Mini Hydro Turbines, LED lighting, LED traffic lights, telecommunications power systems, deep cycle batteries, industrial batteries, Back-up power Systems, DC to AC power inverters.

• Service types: Manufactures Representation, Service Providers

• Address: P. O. Box LG 678, Legon-Accra, Ghana

• Telephone: +233 30 2418531, +233 20 4218532 Direct: +233 26 8243297

• FAX: +233 30 2418531

• Web Site: www.ptlghana.com

9. Sunrise Solar Solutions Limited

• Business type: survey, design, engineering, installation and also offer maintenance and after sales service to the customers.

• Address: P.O. Box 8436, Community 7, Tema, Ghana

• Telephone: +233 (0) 303304623

• Website: www.sunrisesolarsolutionsltd.co.uk
10. REP TECH Ghana Limited

• Business type: retail sales, wholesale supplier, importer, distributor, electric utility, mutual fund


• Service types: consulting, design, installation, construction, engineering, project development services, education and training services, research services, site survey and assessment service, contractor services

• Address: 1 Alajo Street, Accra, Greater Accra Ghana +233

• Telephone: +233244917729

• Web Site: http://www.facebook.com/reptechghana

11. Solarviva

• Business type: manufacturer, retail sales, wholesale supplier, importer, distributor

• Product types: solar water pumping systems, photovoltaic cells, and photovoltaic cell materials wafers monocrystalline, solar lighting systems, Solar Water Heater, Solar Street Light, Energy Saving Bulbs, Air Switch, High Quality wiring cables etc.

• Service types: consulting, design, installation, project development services, research services, site survey and assessment services

• Address: Accra, Ghana +233

• Telephone: +233 244 91 77 29

• Web Site: http://www.tianbao-pv.com

12. Karla Solar Solutions & Trading Limited
12. Karla Solutions

• Business type: Solar water pumping solutions, photovoltaic cells, solar lanterns, solar bulbs, manufacturing & wholesale, food & drinks and food processing.

• Service types: consulting, design, installation, construction, engineering, project development services, education and training services, research services, site survey and assessment service, contractor services

• Address: No 11 4th Street, Teshie Nungua Estates-Accra.

• Telephone: +233 302 715185

• Website: www.karlasolutions.com

13. Stellar Power

• Business type: retail sales, wholesale supplier, importer, distributor

• Product types: Solar water heater systems, solar electricity, solar streetlights, solar lights, solar power, solar thermal energy, heat pumps.

• Service types: consulting, design, installation, engineering, site survey and assessment service, maintenance and repair services

• Address: Plot 105, Spintex Road, PO Box KIA 164, Accra, Ghana

• Telephone: +233 (0)54 4315576

• Web Site: www.stellar-africa.com

14. Alpha High Limited

• Business type: wholesale supplier, exporter, importer

• Product types: photovoltaic systems residential.

• Service types: consulting, contractor services

• Address: Legon, Accra, Accra, AC Ghana 00233

• Telephone: 00233 244745950
15. Deng Limited

• Business type: manufacturer, retail sales, wholesale supplier, exporter, importer

• Product types: backup power systems, solar street lighting, DC to AC power inverters, hybrid power systems, solar electric power systems, solar water pumping systems, Solar Lanterns, Solar Torch lights, Components (such as Batteries, Panels, Regulators, Inverters etc) for solar / hybrid systems.

• Service types: design, installation, engineering, education and training services, research services, maintenance and repair services

• Address: PO Box AN 19996, Accra, Ghana

• Telephone: +233 (0)21 257-100

• FAX: +233 (0)21 222-276