

SUMMER INTERNSHIP

On

Business Development for Philips Solar business in Delhi & West UP

By

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PHILIPS

This is to Confirm that **Mr. SANJIT SINGH LAMBA** student of College **AMITY BUSINESS SCHOOL, AMITY UNIVERSITY, NOIDA**, has done a Summer Internship with **PHILIPS LIGHTING INDIA LIMITED**, DLF Cyber City building 9B, 9th floor, Gurgaon, for a duration of 6 weeks starting from **22th May, 2017 to 1st July, 2017.**

The Project Assigned to him was **Business Development for Philips Color Kinetics & Solar business in Delhi & West UP.**

We wish him the very best in his Endeavors.

Regards


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CERTIFICATE

This is to certify that **Sanjit Singh Lamba** student of Masters of Business Administration – General at Amity Business School, Amity University Uttar Pradesh has completed the summer internship Report on “**Business Development for Philips Solar business in Delhi & West UP**”, under my guidance.

The report has been checked for Plagiarism and is within limits of acceptance.

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BUSINESS DEVELOPMENT FOR PHILIPS SOLAR BUSINESS IN DELHI AND WEST UTTAR PRADESH.

ABSTRACT

Philips is a Dutch diversified technology company was founded by Gerard Philips. It is one of the largest electronics companies in the world and employs around 128,000 people across more than 60 countries. Philips is organized into three main divisions: **Philips Consumer Lifestyle, Philips Healthcare, and Philips Lighting**. Philips Lightings has introduced various Solar Led Lightings for Outdoor Merchandising products mainly for their Power consumption and to increase their annual savings on electricity. Focusing on the replacement or new installation market, my project is **Business Development for solar business in Delhi and West Uttar Pradesh**. LED are the innovative products which turned out to be the digital version of light. The **light emitting diode** is the new form of light, which is highly efficient and energy saving. It lasts long and the light output is also high when compared to the traditional CFL Bulbs where 40% lumens are exited out as heat and only the rest is used as a productive one. Solar LED is just one-time investment and requires minimum care and since it is not CFL but LED light, it is more efficient because of the coating used in the CFL which helps in reflecting the light towards work area and only 20% amount of light is generated as heat and which cannot be used for the roads. From the findings and interpretations of the study done on solar energy through research papers, government websites and through conducting a survey, it can be said that solar energy products have a great future ahead. Solar energy is also considered as a fuel of future by all the scientists and researchers. Through all this research, I come up with the conclusion that India is far behind in the development of solar power nation and is not moving in a good direction. Government and private solar companies has to work hand in hand to develop and promote solar energy products. Solar companies can provide samples and special benefits to buyers of solar energy which will increase the awareness and will help in changing perception of the customers. It will motivate the investors to invest more in solar and it will be considered as a positive impression of buyers. For promoting solar energy in private companies, CSR can play a vital role and the companies will be ready to invest in eco-friendly source of energy.

CHAPTER 1: INTRODUCTION

ABOUT THE PROJECT

Purpose of the Project

The main objective of project is to perform **BUSINESS DEVELOPMENT OF SOLAR BUSINESS FOR PHILIPS AT DELHI AND WEST UTTAR PRADESH.**

Sub objectives:

1. To identify the target segments and their lighting requirements.
2. To find the major segments that are ready to install and upgrade Solar LED lights.
3. To get knowledge of solar energy and production by reading research papers and information from government website for solar energy.
4. To know the awareness for solar power among the general public through survey.

Description of the Project

Philips Lightings is a separate division from Philips India ltd. and they are the leading brand in the lightings divisions by providing innovative solutions in the digital market. They are using energy efficient products which uses solar energy for consumption of light which is the selling point for the LED segments. Philips lightings are providing industry specific products which are the pitching point.

Project Summary

Phase 1 – Lead generation process started off by identifying the major target. The next stage of the lead generation is to approach the target customers and identifying the decision makers. Once the meeting with the client is fixed then the focus shifts to get the insights on Solar LED, type of Solar LED proposed, total potential quantity, expected order, distribution of the order, completion price and contact details. The region concentrated was: Delhi and West Uttar Pradesh.

Table 1- Different industry segments targeted

Company	Segment	Location
Gas Authority India Limited	Energy, petrochemicals Industry	South Delhi
Gas Authority India Limited	Energy, petrochemicals Industry	Noida
Steel Authority of India Limited	Steel Industry	East Delhi
Hindustan Petroleum Corporation Limited	Oil and Gas Industry	East Delhi
Oil and Natural Gas Corporation Limited	Oil and Gas Industry	South Delhi
University of Delhi	Education Industry	North Delhi
Delhi Jal Board	Water Utility Industry	South Delhi
Delhi Jal Board	Water Utility Industry	South-West Delhi
Indian Oil corporation limited	Oil and Gas Industry	South Delhi
Jawaharlal Nehru University	Education Industry	South Delhi

Phase 2 – Sale closing, this was a structured process, starting with by mapping the existing leads which has to be closed. Once the mapping is done, the meet with the industrial higher authority is fixed. The higher officials are approached through sale closing process along with the terms & conditions, payment terms and along with the total distribution of quantity. The payment terms included the percentage of amount to be paid in advance and the payment once the delivery is done. The region concentrated was: Delhi and West Uttar Pradesh.

Table 2- Companies which were interested in Solar products

Company	Segment	Location
Gas Authority India Limited	Energy, petrochemicals Industry	South Delhi
Oil and Natural Gas Corporation Limited	Oil and Gas Industry	South Delhi
Hindustan Petroleum Corporation Limited	Oil and Gas Industry	East Delhi
Indian Oil corporation limited	Oil and Gas Industry	South Delhi
Jawaharlal Nehru University	Education Industry	South Delhi

Phase 3 – Got to know about solar energy and its benefits by reading 15 research papers and also, got some knowledge from government websites about the steps taken by government to promote solar energy in India. 100 individuals were questioned and surveyed with few questions on solar energy to understand the individual's perceptions about solar energy. Also, to know the behaviour of people for buying solar power products.

Significance of project

The outcome of the project will be helping the company:

- In finding the existing lighting points and the total potential at the target.
- In finding the decision maker.
- In finding the potential or untapped market in the region of Delhi and West Uttar Pradesh.
- In finding out the measures which should be taken by company for expanding solar business.
- In finding and getting knowledge about solar energy and the steps taken by government to encourage solar energy in India.
- In finding the behaviour and perception of people for solar energy.

CHAPTER 2: REVIEW OF LITERATURE

In 2001, Kumar,A; Chaurey,A; Vipradas, M;Kishore, V V N, in their article, 'Solar Energy Development in India' interpreted that India is gifted with a very good solar energy resource. They further found that the average intensity of solar radiation received on India is 200 MW/Km. Even if 10% of the available area can be used, the available solar energy would be 8 million MW, which is equivalent to 5909 mtoe (million tons of oil equivalent) per year.

In a research on **Needs for solar energy utilization by Nathan S. Lewis**. The author found that Solar energy conversion systems fall into three major categories according to their primary energy product that is, solar electricity, solar fuels, and solar thermal systems. Each of the three generic approaches are used in exploiting the solar resource has untapped capability well beyond its present usage. Workshop participants considered the potential of all three approaches, as well as the potential of hybrid systems that can integrate key components of individual technologies into novel cross-disciplinary paradigms.

The authors **Ashok Upadhyay and Arnab Chowdhury in their research paper on Solar Energy Fundamentals and Challenges in Indian restructured power sector** interpreted that Solar power is infirm power and adequate steps are needed to be made it secure power by developing suitable storage facilities. Re-powering has to be a part of any plan and policy to scale-up solar power capacity as it is important to optimally utilize high solar radiation sites that remain unused due to less effort of the government and to replace the old solar panels with modern, large and higher, more efficient ones.

Also, in research paper of **Solar energy in India: Strategies, policies, perspectives and future potential, by Naveen Kumar Sharma, Prashant Kumar Tiwari, Yog Raj Sood** stated that solar energy development in India can be an important tool for encouraging regional economic development, particularly for many underdeveloped states, which have the highest potential for developing solar power systems which is unlimited and clean source of energy. Authors further mentioned that photovoltaic power systems will have an important role in the electricity of the future not only in India, but all over world.

In research paper on **Effective battery charging system by solar energy using C programming and microcontroller by Mohd Tariq, Sagar Bhardwaj, Mohd Rashid** discussed in the paper that the proposed system will be very effective for solving many situations where the solar panels are incapable and not worthy for the work. They proposed effective charging system that can be extended to any level, any set-up, which only involves the small embedded kit with the three essential modules empowering the renewable energy.

The authors **N.Sasikumar, Dr.P.Jayasubramaniam** in the paper on **Solar Energy System in India** found that India has very high solar insolation. India being a tropical country receives adequate amount of solar

radiation for 300 days, amounting to 3,000 hours of sunshine which is equivalent to over 5,000 trillion kWh. Almost all the regions of India receive 4-7 kWh of solar radiation per sq. metre with about 2,300 – 3,200 sunshine hours/year, depending upon the location. Research and Development on solar technologies and solar thermal storage systems, testing facilities towards the advancement of solar technologies should be encouraged in India. Technology Demonstrations on innovative projects in association with reputed institutions will also be encouraged. To effectively implement this policy and to achieve the intended objectives, government will promote capacity building in the area of Solar Energy.

According to the author **Eric McLamb** in the research on **Fossil Fuels vs. Renewable Energy Resources** he found that the earth's environment is engendered with a number of serious problems. From the toxic spills, and mining waste, to acid rain, deforestation and species extinction, the global environment has been severely crippled by man's thoughtlessness and exploitation for generations. While it is apparently certain that there are heap of issues at present confronting the worldwide condition, of focal concentration to numerous analysts and researchers is the impact that the consuming of petroleum derivatives is having on the worldwide atmosphere.

In the research paper of **Impact of Solar Energy in Rural Development in India by Tarujyoti Buragohain** stats that solar home-lighting system in the remote village can influence the life of people very significantly for the better. Substantial reduction in expenditure on kerosene has been found in the households of all income groups due to solar home-lighting system. This scheme is mostly benefiting women and children. Women find it easy to do household activities whereas children get enough light to study at night. Crime rate has also been declined due to availability of light in the village. Most of the beneficiaries of solar home-lighting system are very happy with the functionality of the system. The impact of the solar home lighting system is also significant in the case of performance of school going children. A large number of beneficiaries have reported that there is significant improvement in their children's education.

CHAPTER 3: INDUSTRY PROFILE

About Solar Energy

Solar energy is radiant light and heat from the Sun that is harnessed using a range of ever-evolving technologies such as solar heating, photovoltaics, solar thermal energy, solar architecture, molten salt power plants and artificial photosynthesis.

It is an important source of renewable energy and its technologies are broadly characterized as either passive solar or active solar depending on how they capture and distribute solar energy or convert it into solar power. Active solar techniques include the use of photovoltaic systems, concentrated solar power and solar water heating to harness the energy. Passive solar techniques include orienting a building to the Sun, selecting materials with favourable thermal mass or light-dispersing properties, and designing spaces that naturally circulate air.

The large magnitude of solar energy available makes it a highly appealing source of electricity. The United Nations Development Programme in its 2000 World Energy Assessment found that the annual potential of solar energy was 1,575–49,837 exajoules (EJ). This is several times larger than the total world energy consumption, which was 559.8 EJ in 2012.

In 2011, the International Energy Agency said that "the development of affordable, inexhaustible and clean solar energy technologies will have huge longer-term benefits. It will increase countries' energy security through reliance on an indigenous, inexhaustible and mostly import-independent resource, enhance sustainability, reduce pollution, lower the costs of mitigating global warming, and keep fossil fuel prices lower than otherwise. These advantages are global. Hence the additional costs of the incentives for early deployment should be considered learning investments; they must be wisely spent and need to be widely shared".

Converting Solar Energy into Electricity

There are two different ways for converting solar energy into electricity:

Solar Photovoltaic (PV)

PV, the technology which converts sunlight directly into electricity, is among the fastest growing segments of the renewable energy industry. It is already well established in many countries including India, and looks set to become one of the key technologies of the 21st century. Some of the factors driving the growth of this segment are: concerns towards carbon emissions, energy security and the rising prices of fossil fuels.

Traditional solar cells are made from silicon, and are generally the most efficient. Thin-film solar cells made from amorphous silicon or non-silicon materials such as cadmium telluride are the second-generation solar cells, and are gaining a greater share in overall installations.

Third-generation solar cells use a variety of new materials and nanotechnology etc. for designing high efficiency PV materials. These systems are expected to rapidly become cost effective for use by utilities and industry.

Solar Thermal

Solar thermal systems harness solar energy by utilising solar radiations to generate heat- as hot water, hot air, steam etc. that can be deployed for meeting numerous applications in different sectors such as power generation on a large scale, space heating, space cooling, community cooking, process heating etc. These applications make use of solar energy collectors as heat exchangers that transform solar radiation energy to internal energy of the transport medium (or heat transfer fluid, usually air, water, or oil).

The solar energy thus collected is carried from the circulating fluid either directly to the hot water or space conditioning equipment, or to a thermal energy storage tank from which can be drawn for use at night and/or cloudy days. Solar thermal systems can be either non-concentrating or concentrating types. They may also be either stationary or with sun-tracking mechanisms, depending on the application, temperatures required and economic viability.

INDUSTRY INTRODUCTION

India's lighting market is **worth US\$1.75 billion, with year-on-year growth of 7.5%**, and is stipulated to reach US\$2.75 billion. **CFL is the biggest and fastest growing segment** across the **Indian lighting** marketplace, accounting for 27.5% of total sales value. The **CFL** segment is stipulated to reach US\$760 million, contributing to 28% of the total domestic market. **Luminaires is the second leading segment constituting 22%** of the total. India's Government initiatives to replace incandescent bulbs with LED bulbs, increasing energy demand supply gap and declining prices have been leading to an increase in India's LED market, which is stipulated to reach \$ 1,457 million by 2019, with a CAGR of 35.9% between 2014 and 2019.

The **National government's** mandate of rural electrification along with **usage of energy efficient formats is the core driver** of the lighting marketplace on the long-term basis (especially **CFL** variant). Rajiv Gandhi Grameen Vidyutikaran Yojana and BYL programs have been implemented for the past 4-5 years, with approximately 53% households receiving electricity and subsidized replacement of US\$8.5 million ICL technology with **CFL** variants.

On the other hand, the **national government** of India is the largest customer of the lighting product portfolio for urban housing, airports, railways, and highways (NHAI). **India's lighting market** is slightly consolidated, with the three largest manufacturers controlling 46% of the market share (2011). **Philips is the biggest manufacturer and distributor of lighting products with market share of 26% (2010-2011).**

GOVERNMENT INITIATIVES

Ministry of New and Renewable Energy (MNRE)

The Ministry of New and Renewable Energy (MNRE) is the nodal Ministry of the Government of India for all matters relating to new and renewable energy. The broad aim of the Ministry is to develop and deploy new and renewable energy for supplementing the energy requirements of the country.

The role of new and renewable energy has been assuming increasing significance in recent times with the growing concern for the country's energy security. Energy self-sufficiency was identified as the major driver

for new and renewable energy in the country in the wake of the two oil shocks of the 1970s. The sudden increase in the price of oil, uncertainties associated with its supply and the adverse impact on the balance of payments position led to the establishment of the Commission for Additional Sources of Energy in the Department of Science & Technology in March 1981. The Commission was charged with the responsibility of formulating policies and their implementation, programmes for development of new and renewable energy apart from coordinating and intensifying R&D in the sector. In 1982, a new department, i.e., Department of Non-Conventional Energy Sources (DNES), that incorporated CASE, was created in the then Ministry of Energy. In 1992, DNES became the Ministry of Non-Conventional Energy Sources. In October 2006, the Ministry was re-christened as the Ministry of New and Renewable Energy.

Solar Energy Corporation of India Ltd. (SECI)

Solar Energy Corporation of India Ltd. (SECI) is a CPSU under the administrative control of the Ministry of New and Renewable Energy (MNRE), set up on 20th Sept, 2011 to facilitate the implementation of JNNSM and achievement of targets set therein. It is the only CPSU dedicated to the solar energy sector. It was originally incorporated as a section-25 (not for-profit) company under the Companies Act, 1956.

However, through a Government of India decision, the company has recently been converted into a Section-3 company under the Companies Act, 2013. The mandate of the company has also been broadened to cover the entire renewable energy domain.

In the present outlook of the RE sector, especially solar energy, SECI has a major role to play in the sector's development. The company is responsible for implementation of a number of schemes of MNRE, major ones being the VGF schemes for large-scale grid-connected projects under JNNSM, solar park scheme and grid-connected solar rooftop scheme, along with a host of other specialised schemes such as defence scheme, canal-top scheme, Indo-Pak border scheme etc. In addition, SECI has ventured into solar project development on turnkey basis for several PSUs. The company also has a power-trading license and is active in this domain through trading of solar power from projects set up under the schemes being implemented by it.

Solar Guidelines

With the continuous efforts of the Governments at the Centre as well as States, India is rapidly advancing towards augmenting its renewable power generation capacity. However, in order to meet the ambitious targets envisaged under Jawaharlal Nehru National Solar Mission and under various policies announced by respective State Governments, it is desirable that relevant and easily accessible information to help and support the project developers and all stakeholders is properly disseminated at a convenient platform. This shall encourage timely implementation of solar projects as well as attract private sector participation in the solar power generation segment.

With the aim to facilitate the dissemination of proper and desired information to the project developers/administrative institutions/financial institutions and various other stakeholders to ensure timely implementation of solar projects under JNNSM and state policies, the Ministry of New and Renewable Energy and the German Federal Ministry of Environment, Nature Conservation and Nuclear Safety agreed to implement the project Solar Guidelines.

Solar Guidelines and its Relevance

SOLAR GUIDELINES are a web-based platform for encouraging rapid development of the solar power sector in India by facilitating dissemination of latest updates on the development of projects, policy frameworks announced by governments from time to time, regulatory framework announced by CERC, Regulations of the MoEF, Contractual Agreements and procedural details of approval and clearances required for timely commissioning and financial closures of solar installations in the country.

The project has been jointly initiated by **GIZ** under the International Climate Initiative administered by German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety and the Ministry of New and Renewable Energy, Government of India. The Ministry of New and Renewable Energy has assigned the Solar Guidelines Project to **Solar Energy Corporation of India**.

The first phase of the project saw the setting up of the website (www.solarguidelines.in) that includes, as of now, comprehensive description of the step-by-step processes needed for commissioning of solar projects in the state of **Rajasthan**. During the second phase, the is intended to cover various other states including **Andhra Pradesh, Delhi, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Odisha, Tamil Nadu, Telangana, Uttar Pradesh and Uttarakhand**.

Solar Parks

Ministry of New and renewable Energy (MNRE) has drawn a scheme to set up number of solar parks across various states in the country, each with a capacity of Solar Projects generally above 500 MW. The Scheme proposes to provide financial support by Government of India to establish solar parks with an aim to facilitate creation of infrastructure necessary for setting up new solar power projects in terms of allocation of land, transmission and evacuation lines, access roads, availability of water and others, in a focused manner.

Solar Energy Corporation of India (SECI), a central public-sector enterprise under MNRE, has been implementing various schemes to develop solar sector in the country. As per the policy, these solar parks will be developed in collaboration with the State Governments. The implementation agency would be Solar Energy Corporation of India (SECI) on behalf of Government of India (GOI). SECI will handle funds to be made available under the scheme on behalf of GOI. The states shall designate a nodal agency for implementation of the solar park.

The Solar Park is a concentrated zone of development of solar power generation projects. As part of Solar park development, land required for development of Solar Power Projects with cumulative capacity generally 500 MW and above will be identified and acquired and various infrastructure like transmission system, water, road connectivity and communication network etc. will be developed. The parks will be characterized by well-developed proper infra-structure where the risk & gestation period of the projects will be minimized. At the state level, the solar park will enable the states to bring in significant investment from project developers in Solar Power sector, to meet its Solar Purchase Obligation (SPO) mandates and provide employment opportunities to local population. The state will also be able to reduce its carbon footprint by avoiding emissions equivalent to the solar park's generated capacity.

Solar potential in India

- India presents a great potential for solar power
- India receives solar energy equivalent to over 5,000 trillion kWh per year, far more than its total energy consumption
- Daily average solar energy incident varies from 4 - 7 kWh per sq. m. depending on the location and time of the year

- Irradiation data suggests that 0.5% of India's land area under solar PV could meet all electricity needs of the country in 2030
- Rajasthan and north Gujarat receive highest annual radiation with over 6 kWh/sq meters
- Andhra Pradesh, Maharashtra, and Madhya Pradesh receive radiation of 5-6 kWh/sq m
- But, still comparable to European countries with a high solar installation, such as Spain and Italy

Figure 1- Annual solar-power generation of India

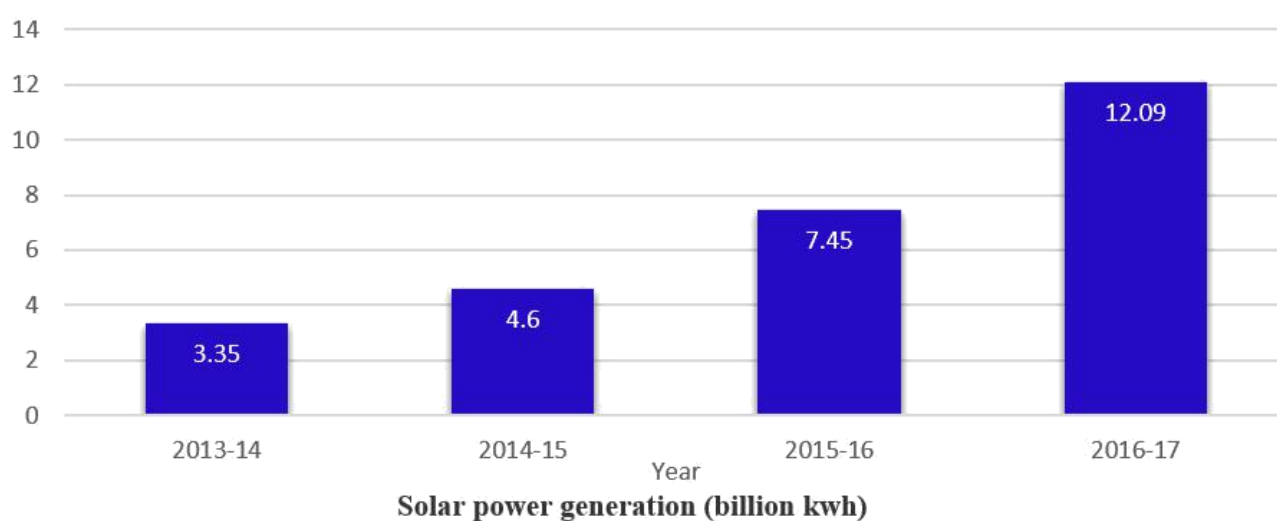


Table 3- Annual solar-power generation of India

Year	Solar power generation (billion kwh)
2013-14	3.35
2014-15	4.6
2015-16	7.45
2016-17	12.09

CHAPTER 4: COMPANY PROFILE

Koninklijke Philips N.V. (Koninklijke Philips N.V. of the Netherlands, Philips), (stylized as **PHILIPS**) is a Dutch technology company headquartered in Amsterdam with primary divisions focused in the areas of electronics, healthcare and lighting. It was founded in Eindhoven in 1891, by Gerard Philips and his father Frederik. It is one of the largest electronics companies in the world and employs around 105,000 people across more than 60 countries. Philips is organized into three main divisions: Philips Consumer Lifestyle (formerly Philips Consumer Electronics and Philips Domestic Appliances and Personal Care), Philips Healthcare (formerly Philips Medical Systems) and Philips Lighting. As of 2012, Philips was the largest manufacturer of lighting in the world measured by applicable revenues. In 2013, the company announced the sale of the bulk of its remaining consumer electronics operations to Japan's Funai Electric Co, but in October 2013, the deal to Funai Electric Co was broken off and the consumer electronics operations remain under Philips. Philips said it would seek damages for breach of contract in the US\$200-million sale. In April 2016, the International Court of Arbitration ruled in favour of Philips, awarding compensation of €135 million in the process.

Philips is registered in the Netherlands as a naamloze vennootschap and has its global headquarters in Amsterdam. At the end of 2013 Philips had 111 manufacturing facilities, 59 R&D Facilities across 26 countries and sales and service operations in around 100 countries.

Philips is organized into three main divisions: Philips Consumer Lifestyle (formerly Philips Consumer Electronics and Philips Domestic Appliances and Personal Care), Philips Healthcare (formerly Philips Medical Systems) and Philips Lighting. Philips achieved total revenues of €22.579 billion in 2011, of which €8.852 billion were generated by Philips Healthcare, €7.638 billion by Philips Lighting, €5.823 billion by Philips Consumer Lifestyle and €266 million from group activities. At the end of 2011 Philips had a total of 121,888 employees, of whom around 44% were employed in Philips Lighting, 31% in Philips Healthcare and 15% in Philips Consumer Lifestyle. Philips invested a total of €1.61 billion in research and development in 2011, equivalent to 7.1% of sales. Philips Intellectual Property and Standards is the group-wide division responsible for licensing, trademark protection and patenting. Philips currently holds around 54,000 patent rights, 39,000 trademarks, 70,000 design rights and 4,400 domain name registrations.

Royal Philips Electronics

Royal Philips Electronics of the Netherlands is a differentiated Well-being and Prosperity organization, concentrated on enhancing individuals' lives through convenient advancements. As a world pioneer in medicinal services, way of life and lighting, Philips incorporates innovations and outline into individuals driven arrangements, in view of basic client bits of knowledge and the brand guarantee of "sense and effortlessness".

Headquartered in the Netherlands, Philips utilizes more than 120,000 representatives with deals and administrations in more than 100 nations around the world. With offers of EUR 22.3 billion in 2010, the organization is a market pioneer in heart mind, intense care and home social insurance, vitality proficient lighting arrangements and new lighting applications, and also way of life items for individual prosperity and joy with solid administration positions in male shaving and prepping, versatile amusement and oral human services.

Global Footprint

Philips is a global leader across its healthcare, lighting and lifestyle portfolio. It is the world's largest home healthcare company, being number one in: Monitoring systems, Automated External Defibrillators, Cardiac Ultrasound, Cardiovascular X-ray.

The company is number one in lamps in Europe, Latin America and Asia Pacific and number two in North America; in Automotive lighting, we are leading in Europe, Latin America, Japan and Asia Pacific.

The number one in the electric shavers and male grooming category globally. Philips is one of the leading flat-TV brands globally.

Business in India

Philips began operations in India in 1930, with the establishment of **Philips Electrical Co. (India) Pvt Ltd** in Kolkata as a sales outlet for imported Philips lamps. In 1938, Philips established its first Indian lamp-manufacturing factory in Kolkata. In 1948, Philips began fabricating radios in Kolkata.

In 1959, a moment radio plant was set up near Pune. This was shut and sold around 2006. In 1957, the organization changed over into an open constrained organization, renamed "Philips India Ltd".

In 1970 a new consumer electronics factory began operations in Pimpri near Pune. This is presently called the 'Healthcare Innovation Centre'. Additionally, an assembling office 'Philips Place for Manufacturing Excellence' was set up in Chakan, Pune in 2012.

In 1996, the Philips Programming Centre was set up in Bangalore, later renamed the Philips Innovation Campus. In 2008, Philips India entered the water purifier showcase. In 2014, Philip's was positioned twelfth among India's most trusted brands as per the Brand Trust Report, an examination directed by Trust Exploration Consultative.

BUSINESS OFFEERED

Philips Healthcare

Philips simplifies healthcare by focusing on the people in the care cycle – patients and care providers. Through combining human insights and clinical expertise, Philips aim to improve patient outcomes while lowering the burden on the healthcare system. Advanced healthcare solutions are a fundamental part of the portfolio for both healthcare professionals and consumers, to meet the needs of patients in hospitals and at home. Philips Healthcare employs approximately 34,000 people worldwide.

Philips Consumer Lifestyle

Guided by the brand promise of “sense and simplicity” and the consumer insights, Philips Consumer Lifestyle offers rich, new consumer experiences that meet consumers’ desire for relaxation and improving their state of mind. Philips also responds to the consumer's desire for wellness and pleasure by introducing products that meet the individual’s interests in terms of their body and appearance. Philips Consumer Lifestyle employs approximately 18,400 people worldwide.

Philips Lighting

Philips Lighting is the main supplier of lighting solutions and applications both for professional and consumer markets, changing how lighting is utilized to upgrade the human involvement in the places where individuals live and work. Whether at home, on the road, in the city, shopping, at work or at school, we are creating lighting solutions that transform environments, create experiences, and help shape identities. We serve our customers through a market segment approach which encompasses Homes, Office and Outdoor, Industry, Retail, Hospitality, Entertainment, Healthcare and Automotive. For these segments, we provide a wide range of offerings from across the entire lighting value chain - from light sources, luminaries and lighting controls to lighting solutions and services. Philips Lighting employs approximately 53,000.

The national legislature of India is the biggest client of the lighting item portfolio for urban lodging, air terminals, railroads, and thruways (NHAI). India's lighting market is controlled by the three biggest producers 46% of the piece of the overall industry (2011). **Philips is the greatest maker and merchant of lighting items with piece of the overall industry of 26% (2010-2011).**

Vision

In a world where complexity increasingly touches every aspect of our daily lives, we will lead in bringing sense and simplicity to people.

Mission

“Improve the quality of people’s lives through timely introduction of meaningful innovations.”

Behaviours

- Eager to win
- Take ownership
- Team up to excel

Brand Promise

Engage individuals to profit by advancement by conveying on our image guarantee of "sense and simplicity". This brand guarantee exemplifies our sense of duty regarding convey arrangements that are progressed, simple to utilize, and outlined around the necessities of every one of our clients.



PRODUCTS OFFERED

Philips' core products are consumer electronics and electrical products, including small domestic appliances, shavers, beauty appliances, mother and childcare appliances, electric toothbrushes and coffee makers (products like Smart Phones, audio equipment, Blu-ray players, computer accessories and televisions are sold under license); healthcare products (including CT scanners, ECG equipment, mammography equipment, monitoring equipment, MRI scanners, radiography equipment, resuscitation equipment, ultrasound equipment and X-ray equipment).

Lighting Products

- Professional indoor luminaires
- Professional outdoor luminaires
- Professional lamps
- Lighting controls and control systems
- Digital projection lights
- Horticulture lighting
- **Solar LED lights**
- Smart office lighting systems
- Smart retail lighting systems
- Smart city lighting systems
- Home lamps
- Home fixtures
- Home systems (branded as Philips Hue)

COMPANY LOGOS

Philips as a company is always being dynamic and has changed with the change in time. It has transformed from just a radio producing company to one of the biggest companies of electronics in whole world. With the change in its function, Philips keeps on changing the logos of its the company since 1938 and existing logo was launched in November 2013 with a blue colour shield which is similar to the logo which was there in 1938.



Original Philips shield introduced in 1938



Philips shield in use from 1968 until March 2008

PHILIPS

The Philips logo in use until March 2008

PHILIPS

The current Philips logo



Philips Shield in use until November 2013



Philips shield design introduced in November 2013

SWOT ANALYSIS

Strengths

- Popular brand
- Best quality products (PTR)
- Innovation capabilities
- Large global footprint
- Low-cost and highly efficient manufacturing and supply base.
- Save transmission losses

Weaknesses

- Initial high cost as compared to traditional products
- Limited buying capacity of market
- After sales support

Opportunities

- Growing market for energy efficient products
- Emergence of new markets,
- Technological change
- Taxation law (recognized through energy efficient tax credits)
- 40% area not on power grid
- Government regulation and policies
- Go green initiative & Corporate Social Responsibility

Threats

- Cheaper competitive products
- Macroeconomic changes
- More competitors enter the market
- Foreign competitors making similar products, but utilizing cheap labour

PEST ANALYSIS

Political

- Government subsidies.
- Tie ups with developed countries to develop nonpolluting energy sources.
- Capacity addition of 72,400 MW by 2022, with solar will contribute 28%.
- Government mandate for SERCs to promote renewable sources of energy.

Economical

- US\$ 41.73 billion opportunity in the solar energy market in India till 2022.
- Emerging market in power/infrastructure sector.
- Financially viable option – Subsidies.
- In 2011, India received \$2 billion funding for solar projects in 2011.

Social

- Social Media has high impact.
- Low awareness for solar energy.
- 1/5th Energy is consumed in lighting.
- Increased concern for the environment.
- Different geographical levels with man remote / unreachable areas.
- Changing trends of Brand Loyalty.

Technological

- Increased emphasis for green technology
- Cost-effective solution where electricity supply is expensive or problematic
- Ease of installation and low maintenance
- Immunity to power outages
- High color index, providing bright, true colors during nighttime hours

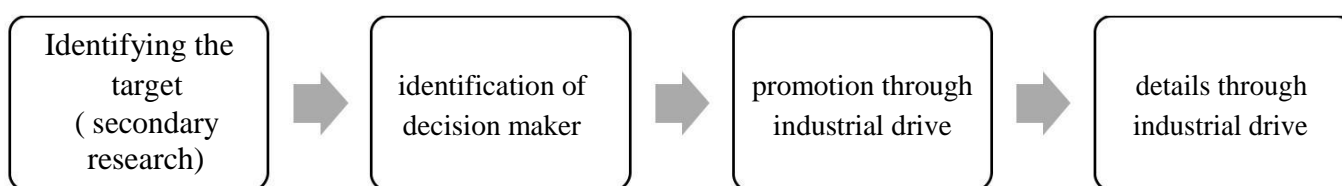
CHAPTER 5: METHODOLOGY

Project Methodology

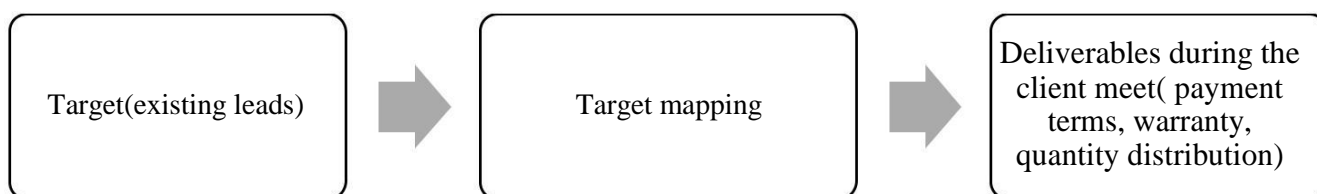
To complete this report successfully I have to follow some methods. These are as follows:



1. Lead Generation process –



2. Sale Closing process –



3. Research Methods and Procedures

For the purpose of my project, information is collected through both primary as well as secondary data. The source of primary data are the potential customers of Delhi NCR region.

The main objective of market research is to study the awareness and knowledge of general public for solar energy and also to see the buying behaviour of individuals for solar products.

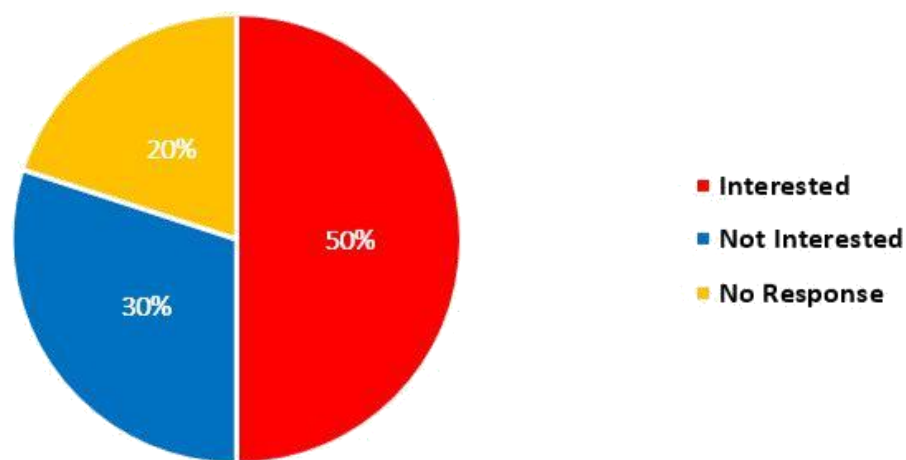
Research Design:

- **Participants:** 100 individuals were surveyed in Delhi NCR Region.
- **Data Collection:** Respondents to be chosen randomly. (Random Sampling)
- **Instruments used:** Questionnaire on Google Forms
- **Procedures:** Information is collected through both primary as well as secondary data. The source of primary data are the potential customers of Delhi NCR region. The main objective of market research is to study the awareness and knowledge of general public for solar energy and also to see the buying behaviour of individuals for solar products.
- **Market Research Design:** Descriptive cum exploratory
- **Data Source:** Primary & secondary
- **Research Approach:** Survey method
- **Types of Questions:** Close as well open ended
- **Presentation of Data:** Through Pie Charts, Bar Chart and Higher Statistical Analysis

CHAPTER 6: DATA ANALYSIS

Figure 2- Companies Responses for Solar Products

Companies Responses for Solar Products



Interpretation:

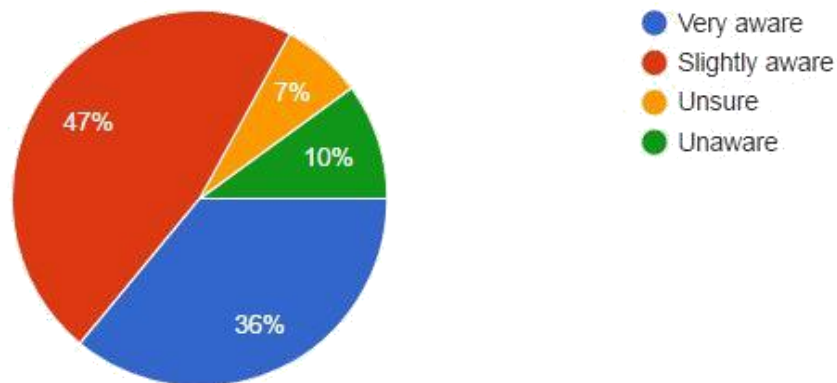
For business development for solar products, only public-sector industry was targeted and no private sector industry was pitched. This shows that, due to lots of benefits of solar energy, only government owned companies are interested in solar products. Out of the companies visited and pitched for sale of solar products, only 50% of the companies were interested in purchasing of solar products. 30% companies were not interested in solar products due to high cost of product or due to poor trust on technology. Remaining 20% of companies were in confusion and were not able to decide that investing in solar products is advantageous or not. They were not able to reach to one conclusion. This interprets that still 50% of the target customers are not willing to purchase solar products for their company.

Analysis of Data

A questionnaire was framed and filled up by 100 Individuals. With the help of data obtained after the survey is being analysed for finding out the answers to the questions asked in objective. Each and every question is analysed one by one.

- **How aware are you of Solar Energy Technologies?**

Figure 3- How aware are you of Solar Energy Technologies?



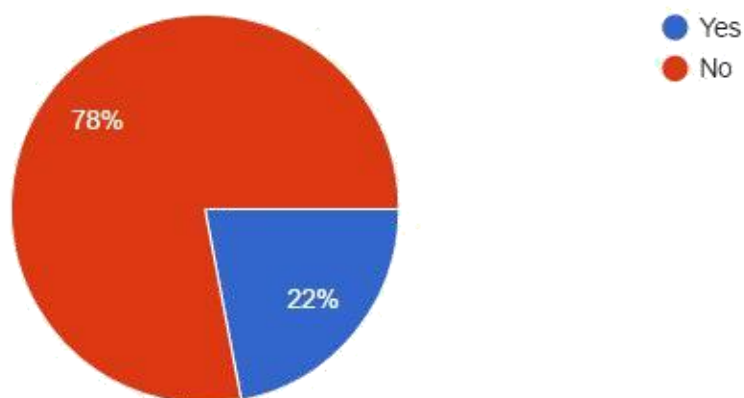
Interpretation:

This question was asked to check the awareness of individuals about solar energy technologies. It has been observed that 36% people are very much aware of solar energy technologies and 47% people are slightly aware of solar energy technologies. Remaining 17% individuals are unsure or are unaware of solar energy technologies.

This shows that 83% people are aware of solar energy products and these can be targeted for selling of solar products. But out of 83% people, only 36% are fully aware of it and rest 47% are slightly aware, which means that to increase the awareness for solar products, better promotional activities should be conducted to make them fully aware of solar energy and its benefits.

- Do you have any Solar Energy technology installed in your home?

Figure 4- Do you have any Solar Energy technology installed in your home?



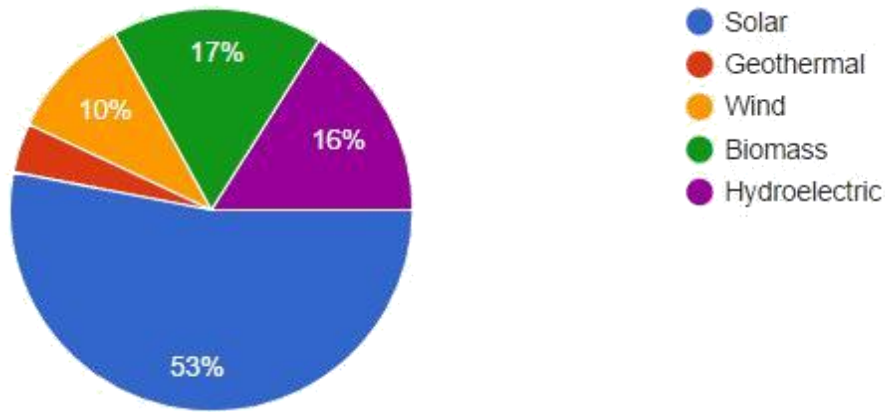
Interpretation:

This question was very important to be surveyed because this shows that, whether people have installed any solar energy products in their home or not. This Pie Chart demonstrates that only 22% of people have installed solar energy technology in their houses and remaining 78% of people are still not using solar energy for their domestic use.

This means that only 3 out of 10 houses have installed solar energy products in their homes and which is very poor as compared to Israel, where 9 out of 10 houses have solar energy installed in their home. This is a very negative situation in country like India where government is taking so many steps to encourage use of solar energy. The main cause of this situation is that government is only focusing on industrial regions for promoting use of solar energy. On the other hand, domestic sector is being not part of focus for government as of now. The government should focus on domestic sector also, to promote solar energy products and special benefits can be provided to houses which are using solar energy products.

- What is best source of generating energy according to you?

Figure 5- What is best source of generating energy according to you?



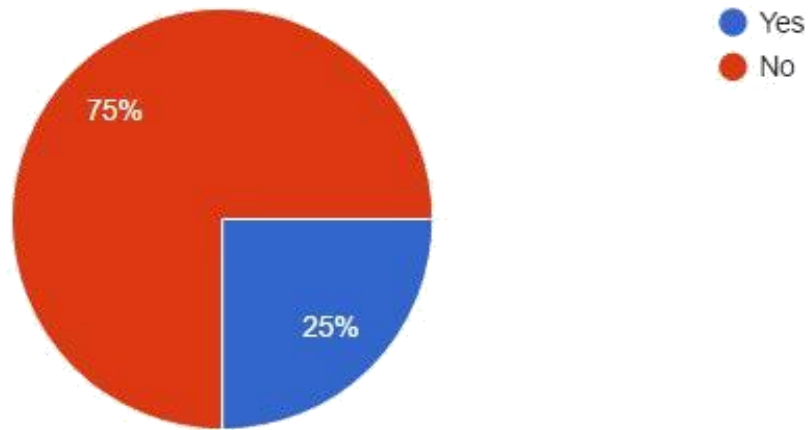
Interpretation:

This question was to know the perception of people which they prefer as a best source for generating energy out of Solar, Geothermal, Wind, Biomass or Hydroelectric energy according to them. According to the survey, 53% people are in favour of using solar energy as a source of generating energy. Whereas, Biomass and hydroelectric is equally preferred by 17% and 16% respectively. Only 10% of people think that wind energy is a good source of generating electricity and remaining 4% people are in favour of geothermal source of energy.

This shows that more than 50% of individuals prefer solar energy as a best source of generating energy for electricity. This demonstrates that 53% of the market can be targeted for solar energy products which is very large as compared to any other source of energy.

- Have you purchased products from solar firms in the last five years?

Figure 6- Have you purchased products from solar firms in last five years?



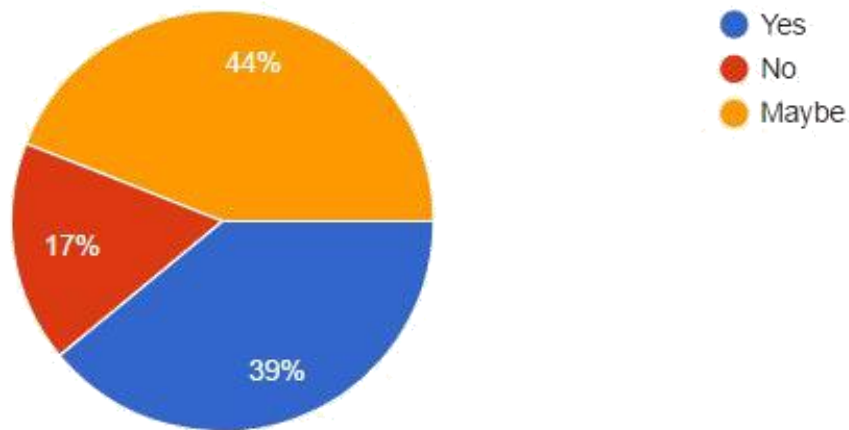
Interpretation:

This question was being asked in the survey to know the purchasing of solar products from solar firms in the last five years to know the trust of individuals on solar firms for their products. This demonstrates that only one fourth of the people have purchased the products for last five years and remaining 75% of people have not purchased solar products for the last five years.

This illustrates that three fourth of the people are still not used solar products and the biggest reason for this gap is lack of promotion done by solar firms. Due to this reason, people are unaware of advantages of solar products and are not encouraged to invest in solar energy products.

- Are you planning to purchase products from solar businesses over the next ten years?

Figure 7- Are you planning to purchase products from solar businesses over the next ten years?



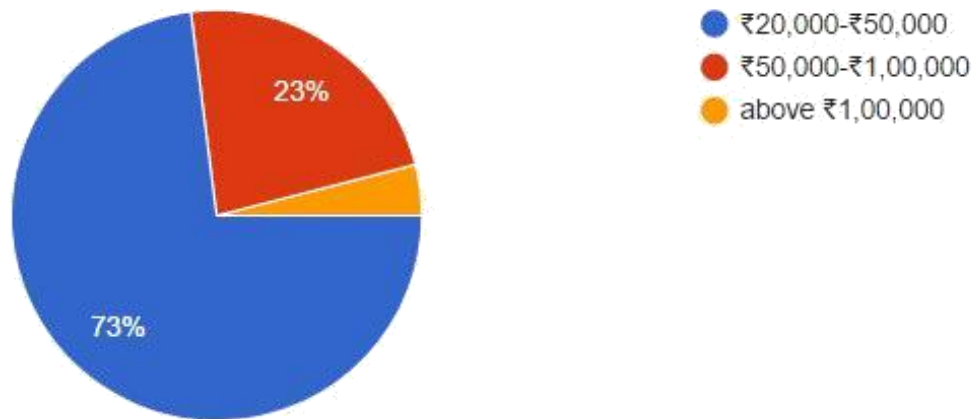
Interpretation:

This Pie chart illustrates that how many people are planning to purchase products form solar businesses for next 10 years. According to the survey, 39% of people are planning to buy solar products over next ten years and 44% individuals are still in confusion in buying solar products in coming ten years. Remaining 17% of people are not planning to purchase solar products for next ten years.

This demonstrates that 83% people can be targeted by solar companies for selling their products. This is because 39% people ae definitely going to purchase solar products in near future and 44% which are still in confusion of buying solar products or not. These sections of people need to focused more because if they are pitched well, they can think of buying solar products which can expand solar energy technology to be installed in eight out of ten homes in India which will help India to grow as a solar power nation in the world.

- How much would you be willing to invest/ spend on solar energy?

Figure 8- How much would you be willing to invest/ spend on solar energy?



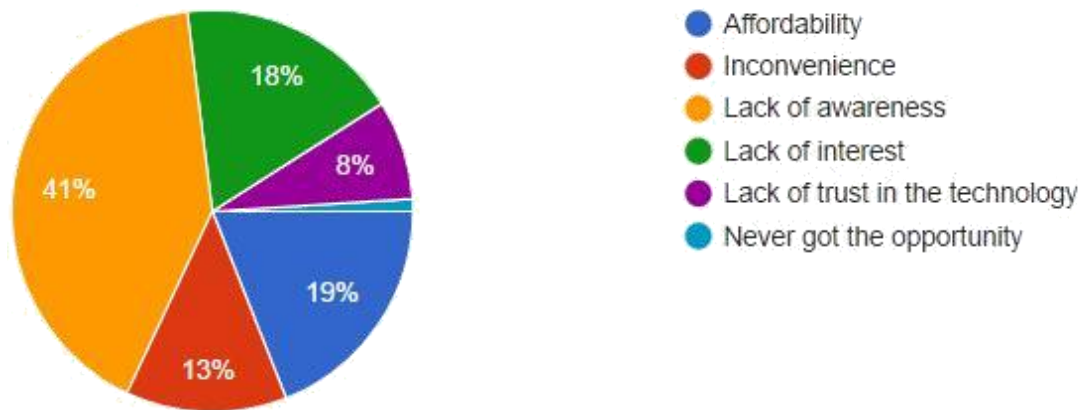
Interpretation:

This is one of the most important question which was asked by people to know the amount of money which people are willing to spend on solar energy products. According to the survey 73% people are willing to invest only ₹ 20,000 to ₹ 50,000 on solar energy, 23% people are willing to invest ₹ 50,000 to ₹ 1,00,000 for solar energy installation. Only 6% people are willing to invest more than ₹ 1,00,00 on solar energy products.

This illustrates that people are not much confident on solar energy products, this is the reason that major chunk of people is willing to invest less than ₹ 50,000 for solar energy which is very less for first time solar installations. This shows that people do not want to spend more on solar energy products for the first time, but once they are used to it, they will definitely ready to invest more on solar products.

- What factors according to you are responsible for not installing Solar Energy Technology?

Figure 9- What factors according to you are responsible for not installing Solar Energy Technology?



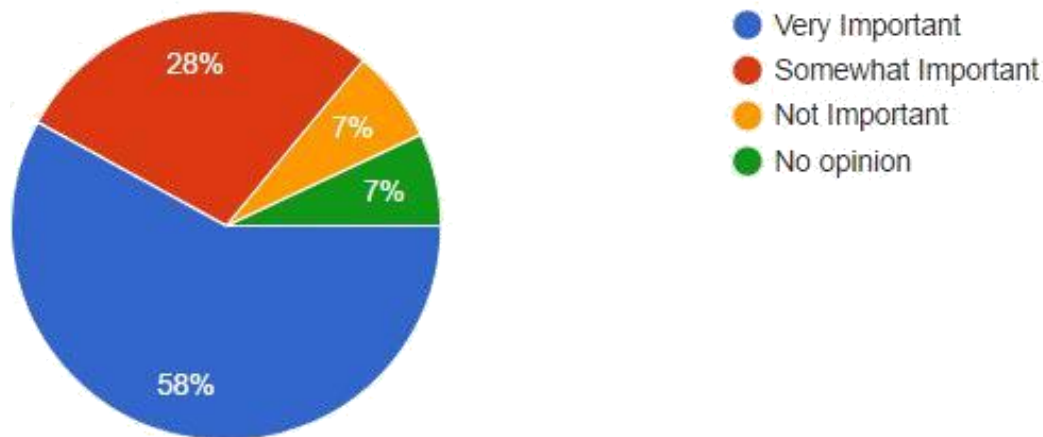
Interpretation:

This question was being surveyed to know the factors which are responsible for not installing solar energy technology. This is a very important question to be surveyed to know the reasons responsible for not using solar energy technology. According to survey, 41% of people think that reason behind not installing of solar energy is lack of awareness among the people. 19% of people consider affordability as a factor responsible for not installing solar energy technology. 18% people think lack of interest as a major factor. 13% and 8% people think inconvenience and lack of trust on technology respectively, are the reason are responsible for not installing solar energy technology. Only 1% people never got the opportunity to know about solar energy.

This interprets that most of the people think that most of the people have lack of awareness when it comes to solar products, which shows that there is a need to increase the awareness among people for solar energy technologies. Solar firms should take adequate promotional steps to increase awareness of people. Affordability and lack of interest are the major factors which are responsible for not installing solar energy technology. This problem can be solved by providing samples to public and once they will use the samples, they will ready to spend more on solar energy products and will also gain interest in technology.

- How important do you think It is for India to develop and use solar power?

Figure 10- How important do you think It is for India to develop and use solar power?



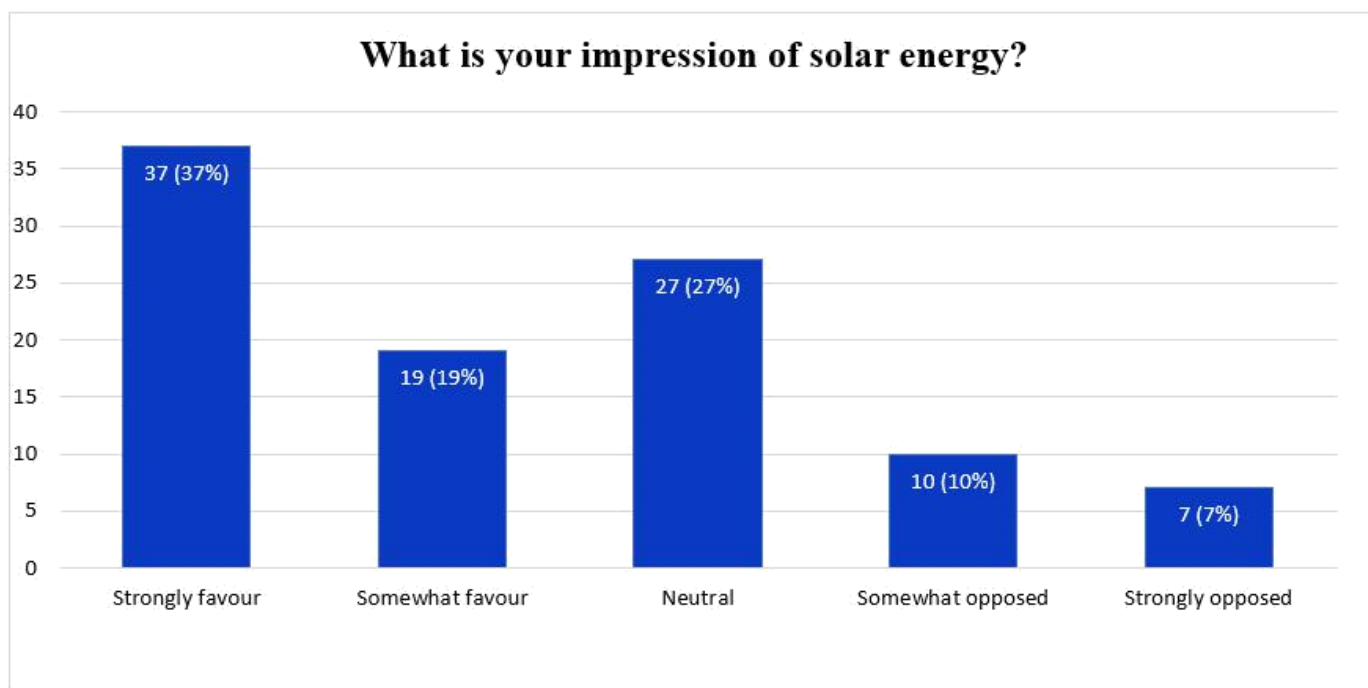
Interpretation:

This question was to know the perception of people about development of solar power in India. According to the survey, almost 60% of people think that it is very important for India to develop resources and use solar power and 28% people consider that it is somewhat important to develop solar power in a developing country like India. 7% people think that it is not important to develop India to use solar power and remaining 7% does not have any opinion about solar power.

This interprets that more than 85% people are in the perception of developing India as a solar power nation. This shows that 85% individuals are in favour of solar power and these people can be a target market for solar energy products. It is very impressive that 8 out of 10 people think that India should be a solar power nation. Remaining 7% people who does not have any opinion can be changed into positive opinion for solar energy if they are being demonstrated the qualities of solar power. With the help of this, India can be developed as solar power nation.

- What is your impression of solar energy?

Figure 11- What is your impression of solar energy?



Interpretation:

This question was surveyed to know the impression of solar energy in the mind of people. This will help to understand that whether people are in favour of solar energy or oppose it. According to the survey, 37% people are strongly in favour of solar energy. 19% of people are slightly in favour of solar energy and 27% individuals are neutral. 10% people were somewhat opposing solar energy and 7% people were strongly opposing solar energy.

This shows that 56% of people are in favour of solar energy and only 17% people are opposing it, and this is a positive signal for the growth of solar energy. And neutral 27% can be made in favour by instructing them the benefits of solar. If neutrals can be convinced, 8 out of 10 people will be having favourable impression about solar energy. This is positive for India because solar energy will be the best source of energy in future. It will be good if people will adapt it as soon as possible, which will help India to be a solar power nation and lot of foreign exchange will be saved by using solar energy for energy generation.

How aware are you of Solar Energy Technologies? * Have you purchased products from solar firms in the last five years?

Table 4.1- Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
How aware are you of Solar Energy Technologies? * Have you purchased products from solar firms in the last five years?	100	100.0%	0	0.0%	100	100.0%

How aware are you of Solar Energy Technologies? * Have you purchased products from solar firms in the last five years? Crosstabulation Table 4.2- Count

		Have you purchased products from solar firms in the last five years?		Total
		Yes	No	
How aware are you of Solar Energy Technologies?	Very Aware	18	18	36
	Slightly Aware	7	40	47
	Unsure	0	7	7
	Unaware	0	10	10
Total		25	75	100

Table 4.3- Symmetric Measures

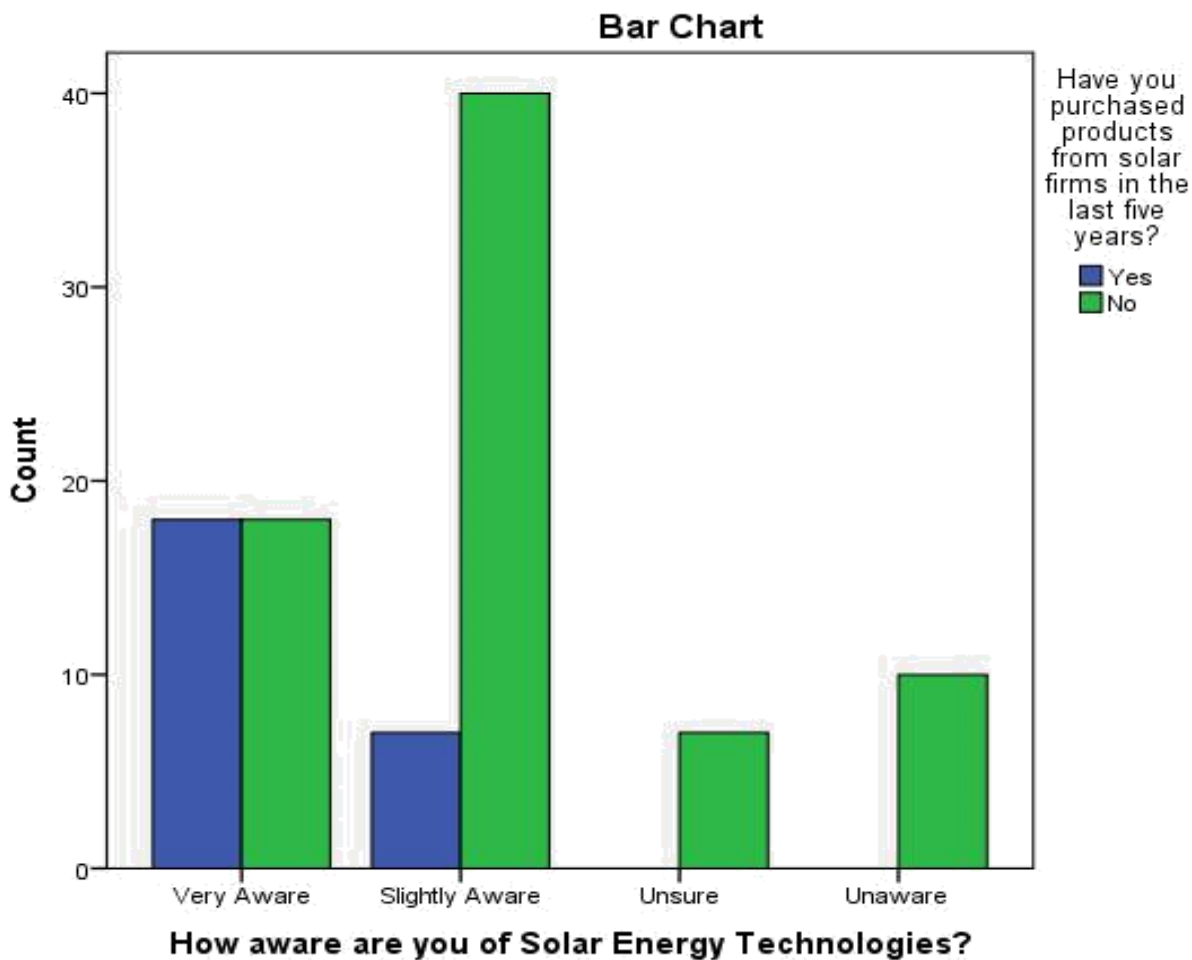
	Value	Asymptotic Standardized Error ^a	Approximate T ^b	Approximate Significance
Interval by Interval Pearson's R	.401	.058	4.336	.000 ^c
Ordinal by Ordinal Spearman Correlation	.443	.075	4.886	.000 ^c
N of Valid Cases	100			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

Figure 12- How aware are you of Solar Energy Technologies? * Have you purchased products from solar firms in the last five years?



Interpretation:

This is a Cross Tabulation with Pearson's Correlation which is done between aware of Solar Energy Technologies and Have they purchased products from solar firms in the last five years through SPSS software. This correlation is done to know the relationship between both the variables. After doing the cross tabulation, it can be seen through Count Table that 18 people out of 100 are very aware of solar energy and purchased solar products in last five years, but on the other hand 18 people are also very much aware about the solar energy and its benefits but have not purchased the solar products in last five years which shows that 50% of very aware people have not purchased solar products and 40 out of 100 slightly aware people have not purchased which is very high which demonstrates that slightly aware people are not willing to take risk for purchasing solar products. This problem can only be solved by conducting promotion activities by solar firms to increase the awareness of people and this will boost the confidence of general public towards solar products and they will show keen interest in buying solar products.

Correlation can take on any value in the range $[-1, 1]$. The sign of the correlation indicates the direction of the relationship, while the magnitude of the correlation (how close it is to -1 or +1) indicates the strength of the relationship. A negative correlation corresponds to a decreasing relationship, while a positive correlation corresponds to an increasing relationship. After doing correlation which both the variables, correlation value is 0.401 which has a positive.

The strength can be assessed by these general guidelines:

- $0.1 < |r| < 0.3$... small / weak correlation
- $0.3 < |r| < 0.5$... medium / moderate correlation
- $0.5 < |r|$ large / strong correlation

The **correlation value is 0.401** which shows that it is between range of $0.3 < |r| < 0.5$ which shows that there is a moderate correlation between the two variables. This interprets that both the variables have a relationship between both the variables and this shows that only those people are who are aware of the bout solar energy have purchased solar products from solar firms in the last five years. But is also indicates that many individuals who are aware of the solar energy have not purchased solar products in the last five years and this is the reason that there is a moderate relationship between the variables and if above mentioned measures are taken into consideration, we can definitely get a strong relationship between both the variables. The Bar Chart also shows that only those people who were aware about solar energy have only done the purchasing of solar products for the last five years. Unsure and unaware have not done any purchasing for last five years for solar energy products. But as we see in bar chart that highest number of people are slightly aware of solar energy products have not done any purchasing for solar energy products from solar firms.

How much would you be willing to invest/ spend on solar energy? * Monthly income of the family (per month)

Table 5.1- Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
How much would you be willing to invest/ spend on solar energy? * Monthly income of the family (per month)	100	100.0%	0	0.0%	100	100.0%

How much would you be willing to invest/ spend on solar energy? * Monthly income of the family (per month) Crosstabulation

Table 5.2- Count

		Monthly income of the family (per month)				Total
		20,000-50,000	50,000-1,00,000	1,00,000-2,00,000	Above 2,00,000	
How much would you be willing to invest/ spend on solar energy?	20,000-50,000	29	13	10	21	73
	50,000-1,00,000	8	3	3	9	23
	Above 1,00,000	1	0	2	1	4
Total		38	16	15	31	100

Table 5.3- Symmetric Measures

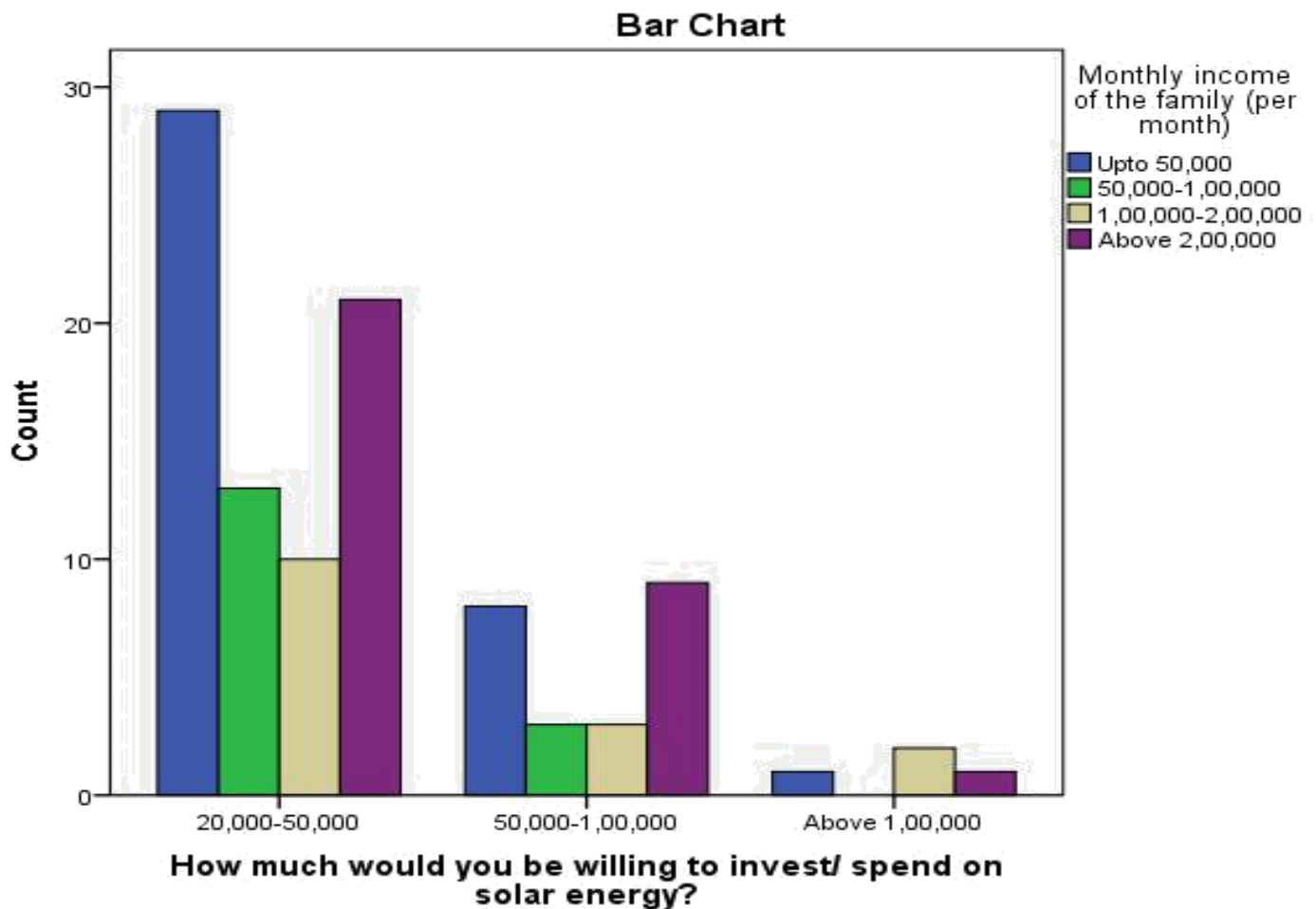
	Value	Asymptotic Standardized Error ^a	Approximate T ^b	Approximate Significance
Interval by Interval Pearson's R	.100	.096	.997	.321 ^c
Ordinal by Ordinal Spearman Correlation	.093	.099	.924	.358 ^c
N of Valid Cases	100			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

Figure 13- How much would you be willing to invest/ spend on solar energy? * Monthly income of the family (per month)



Interpretation:

This is a Cross Tabulation with Pearson's Correlation which is done between Monthly income of people and how much they are will to spend on solar energy. This correlation is done to know the relationship between both the variables. After doing the cross tabulation, it can be seen through Count Table that most of the people of all income group and willing to spend minimum amount of ₹ 20,000-₹ 50,000 on solar energy products. This means 73 out of 100 are willing to invest minimum amount of money on solar energy. Remaining only 23 people are ready to invest above ₹ 50,000 on solar energy products.

Through correlation between two variables, it was found that **correlation value is 0.100** which means that there is a weak or low relationship between both the variables. This interprets that monthly income of family and money willing to be invest for solar energy by people is not much related with each other. This means that income of people cannot determine their investing pattern behaviour. This shows that people do not want to invest more and they want to invest in small amount to test the technology.

Bar Chart also demonstrates that most of the people are ready to invest ₹ 20,000-₹ 50,000, irrespective of their income and very less number of people want to invest more that ₹ 50,000 on solar products.

How aware are you of Solar Energy Technologies? * Education Qualification**Table 6.1- Case Processing Summary**

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
How aware are you of Solar Energy Technologies? * Education Qualification	100	100.0%	0	0.0%	100	100.0%

How aware are you of Solar Energy Technologies? * Education Qualification Crosstabulation Table**6.2- Count**

		Education Qualification			Total
		Degree/Diploma	PG	Professional	
How aware are you of Solar Energy Technologies?	Very Aware	17	7	12	36
	Slightly Aware	23	15	9	47
	Unsure	3	3	1	7
	Unaware	5	2	3	10
	Total	48	27	25	100

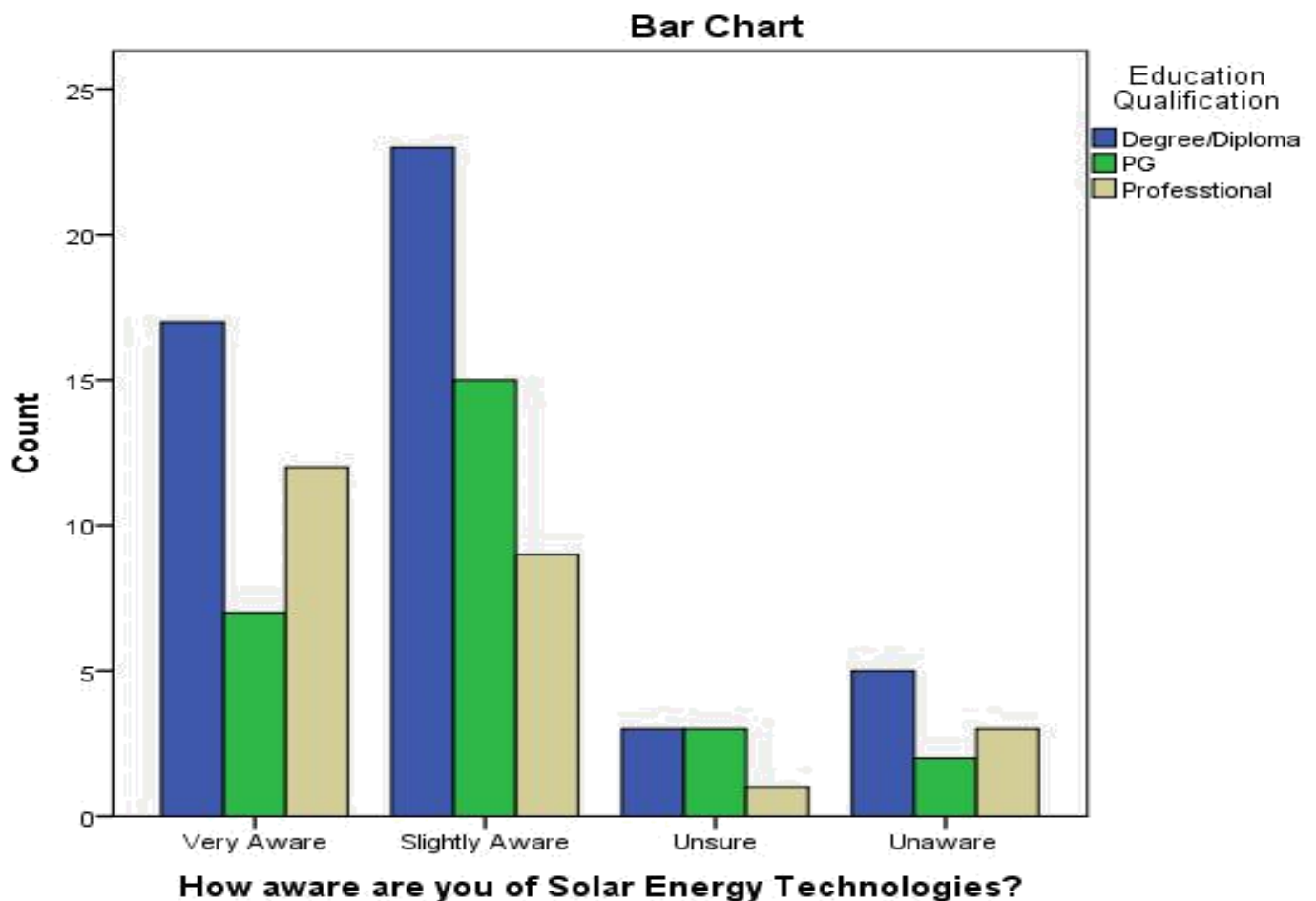
Table 6.3- Symmetric Measures

		Value	Asymptotic Standardized Error ^a	Approximate T _b	Approximate Significance
Interval by Interval	Pearson's R	-.041	.105	-.408	.684 ^c
Ordinal by Ordinal	Spearman Correlation	-.051	.104	-.509	.612 ^c
N of Valid Cases		100			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

Figure 14- How aware are you of Solar Energy Technologies? * Education Qualification**Interpretation:**

Cross tabulation is applied with Correlation to check the relationship between Education Qualification and How aware are you of Solar Energy Technologies. In this case, correlation is negative because **correlation value is -0.41**, which means negative correlation between two variables and shows that Education Qualification and How aware are you of Solar Energy Technologies are negatively related. It illustrates that most of the people of different educational qualification are aware about solar energy technologies. This shows that awareness about solar energy technology does not depend on educational qualification of individual. It shows that higher the qualification, lesser awareness of individuals.

Conclusion of above Crosstab is shown through Count Table and Bar Chart. This Bar Chart demonstrates that most of the people with different age groups are aware of solar technologies and very few individuals are unsure or unaware about solar energy. This shows that most of the people of different educational qualification are aware about solar energy technologies. This is good for the country to promote solar energy to all people irrespective of their educational qualification.

What is your impression of solar energy? * Age**Table 7.1- Case Processing Summary**

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
What is your impression of solar energy? * Age	100	100.0%	0	0.0%	100	100.0%

What is your impression of solar energy? * Age Crosstabulation**Table 7.2- Count**

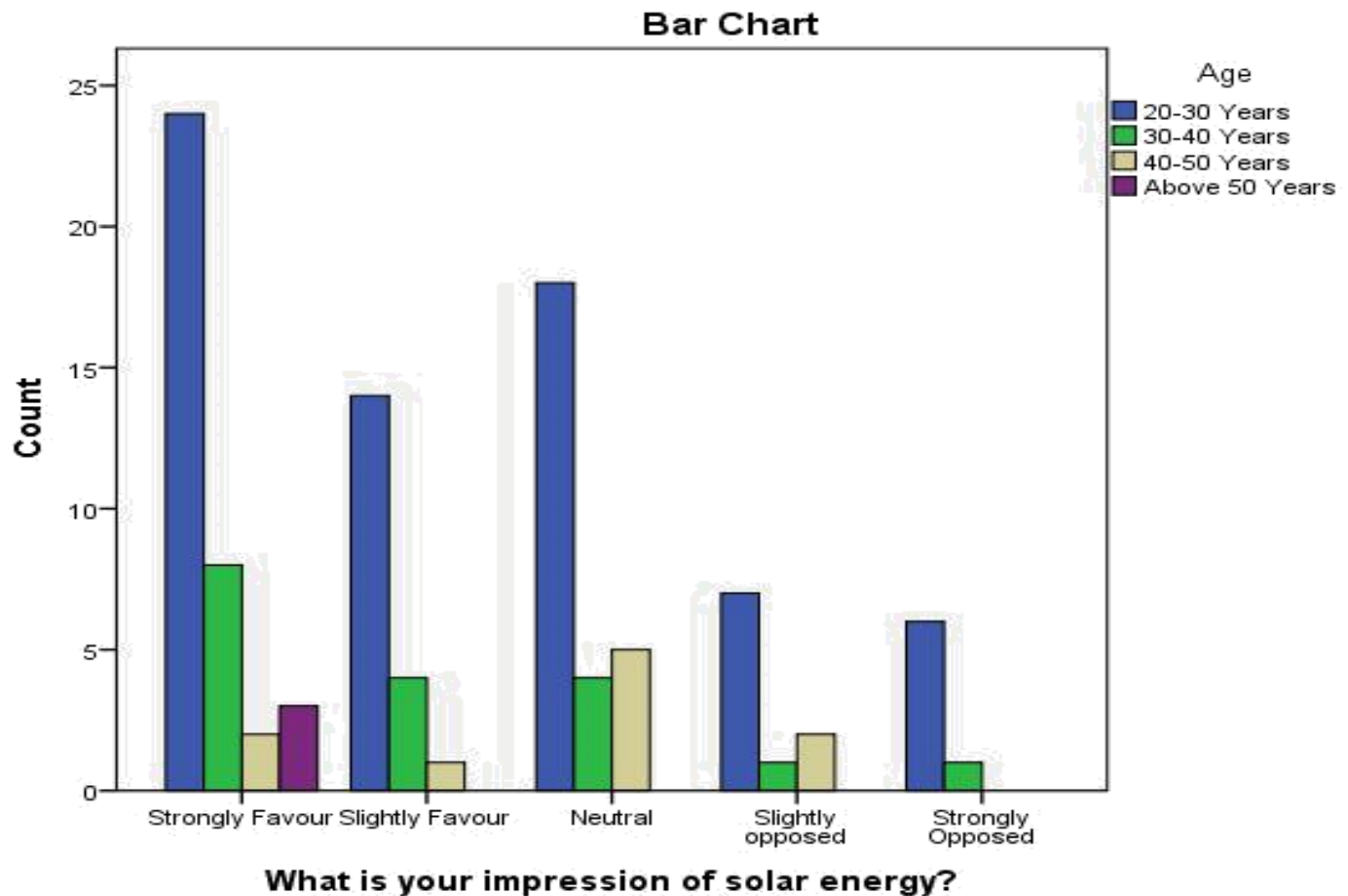
		Age				Total
		20-30 Years	30-40 Years	40-50 Years	Above 50 Years	
What is your impression of solar energy?	Strongly Favour	24	8	2	3	37
	Slightly Favour	14	4	1	0	19
	Neutral	18	4	5	0	27
	Slightly opposed	7	1	2	0	10
	Strongly Opposed	6	1	0	0	7
Total		69	18	10	3	100

Table 7.3- Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	11.362 ^a	12	.498
Likelihood Ratio	12.585	12	.400
Linear-by-Linear Association	.734	1	.391
N of Valid Cases	100		

a. 15 cells (75.0%) have expected count less than 5. The minimum expected count is .21.

Figure 15- What is your impression of solar energy? * Age

**Interpretation:**

This is a cross tabulation with Chi Square is done to find out the relationship between age group of people and their impression of solar energy. The count table shows that 38 out of 69 people of age group of 20-30 years are in favour of solar energy which shows that younger generation is in support of solar than any other age group. But it can also be observed that in every age group of people are mostly in favour of solar energy which is a positive sign for the growth of solar energy in India.

In Chi square test, if $p < 0.05$, we can say that there is a statistically significant relationship between the two variables and if $p > 0.05$, then there is no statistically significant relationship between the two variables. In this case, age group and their impression on solar energy are the two variables. The p-value in chi-square output is $p = 0.498$, which is close to $p = 0.500$. This tells us that there is no statistically significant association between age of individuals and their impression on solar energy. That is, all age of individuals equally in favour of solar energy.

The Bar Chart also shows that in all age of people are in favour of solar energy and very less number of people oppose it. This shows that people have a positive attitude towards solar energy, which is very important for growth and development of solar energy in India.

CHAPTER 7: CONCLUSION

From the findings and interpretations of the study done on solar energy through research papers, government websites and through conducting a survey, it can be said that solar energy products have a great future ahead. Solar energy is also considered as a fuel of future by all the scientists and researchers. It has been found that sun generates that much of energy in a day, which is enough for generation of energy for whole world for complete one year. This means that sun light is been wasted which can be used for electric generation, this is due to lack of technology for converting solar energy into electric power. Government is taking a lot of measures to make increase the use of solar energy and they have started many projects and also established solar parks to develop India as a solar power nation. But government is only targeting commercial sectors as of now, and domestic industry is been completely ignored by them. Government should pay equal attention to both commercial and domestic sectors simultaneously.

Further, it was observed that Philips has a very limited range of products for solar energy and are only able to provide solar street lights which are only useful to commercial industry and does not have any product which can be used in households, which is provided by other competitors of Philips. Philips is only focusing on government companies and public-sector industry for selling their solar energy products. This shows that only public-sector companies are interested in solar products till now. Out of all the companies I pitched for solar products, only 50% of public-sector companies were ready to buy solar energy products. Private companies are not ready to invest in solar energy products. This interprets that private companies are still not relying on solar energy and are not ready to pay more for solar products because substitutes of solar products are really cheap.

After conducting survey on solar energy and further after interpretation, it can be said that 50% of people are slightly aware about the solar energy which means they do not have clarity about solar energy which acts as a hindrance when it comes to solar. It can be solved by promoting solar energy by advertising to general public. This is very important because only 2 out of 10 people are using solar energy products and this is an alarming situation for India.

But according to survey more than 50% of individuals think that solar energy is a best source of energy as compared to other environmental friendly sources of energy, which shows a good expression about solar

energy in the mind of people. But only one fourth of people have purchased solar energy products for the last five years and 44% people are confused to buy solar energy products for next ten years. And not only this,

people are not ready to invest more amount of money on solar products are want to test the products before making big amount purchases.

Moreover, according of most of people, lack of awareness and affordability are the two major factors which act as biggest obstacles in the way of developing solar energy in India. But more than 85% people think that it is very important to develop India and use solar power products which will help in development in much faster way.

Through all these facts, I come up with the conclusion that India is far behind in the development of solar power nation and is not moving in a good direction. Government and private solar companies has to work hand in hand to develop and promote solar energy products. They can provide samples and special benefits to buyers of solar energy which will motivate the investors to invest more in solar and it will be considered as a positive impression of buyers. For promoting solar energy in private companies, CSR can play a vital role and the companies will be ready to invest in eco-friendly source of energy.

Limitations of Project Report

Despite of my highest effort the internship is not free from limitations. Some of those limitations are mentioned as follows:

- Time Constraint: Six week is a short time to make the report incorporate with the internship task. So, I faced time limitation and unable to give enough time to make my report. A longer time period would have ensured a much better result for the study findings.
- Philips have a very short range of solar products which makes it difficult to pitch sales for.
- Financial Constraint.
- Lack of knowledge about solar energy of general public.
- Respondent's unavailability.

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APPENDICES

APPENDIX: 1

Solar energy is the energy that is in sunlight. It has been used for thousands of years in many different ways by people all over the world. It is becoming cheaper to make electricity from solar energy and in many situations, it is now competitive with energy from coal or oil. **Solar energy is also called "Heat Trapper" as it is the automatic, non-mechanical, sun ray trapper.**

Name:

Age:

Location:

☐ Delhi NCR

☐ Others _____ (Please specify)

Sex:

☐ Male

☐ Female

Education Qualification:

☐ School level

☐ Degree /Diploma

☐ PG

☐ Professional

Occupational status

☐ Student

☐ House wife

☐ Employed

☐ Business

Monthly income of the family (per month)

- ☐ Up to ₹50,000
- ☐ ₹50,000 to ₹1,00,000
- ☐ ₹1,00,000 to ₹2,00,000
- ☐ Above ₹2,00,000

No. of members in the family

- ☐ Up to 2
- ☐ 2 to 4
- ☐ 4 to 6
- ☐ Above 6

How aware are you of Solar Energy Technologies?

- ☐ Very aware
- ☐ Slightly aware
- ☐ Unsure
- ☐ Unaware

Do you have any Solar Energy technology installed in your home?

- ☐ Yes
- ☐ No

What is best source of generating energy according to you?

- ☐ Solar
- ☐ Geothermal
- ☐ Wind
- ☐ Biomass
- ☐ Hydroelectric

Have you purchased products from solar firms in the last five years?

- ☐ Yes
- ☐ No

Are you planning to purchase products from solar businesses over the next ten years?

- ☐ Yes
- ☐ No
- ☐ May be

How much would you be willing to invest/ spend on solar energy?

- ☐ ₹ 20,000-₹ 50,000
- ☐ ₹ 50,000-₹ 1,00,000
- ☐ above ₹ 1,00,000

What factors according to you are responsible for not installing Solar Energy Technology?

- ☐ Affordability
- ☐ Inconvenience
- ☐ Lack of awareness
- ☐ Lack of interest
- ☐ Lack of trust in the technology
- ☐ Never got the opportunity

How important do you think It is for India to develop and use solar power?

- ☐ Very Important
- ☐ Somewhat Important
- ☐ Not Important
- ☐ No opinion

What is your impression of solar energy?

- ☐ Strongly favour
- ☐ Somewhat favour
- ☐ Neutral
- ☐ Somewhat opposed
- ☐ Strongly opposed

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<https://en.wikipedia.org/wiki/Philips>**paper text:**

SUMMER INTERNSHIP On Business Development for Philips Solar business in Delhi & West UP By Sanjit Singh Lamba A0101916187 MBA Class of 2017 Under the Supervision of Shinu Vig Assistant Professor Department of Law In Partial Fulfilment of the Requirements for the Degree of Master of Business Administration – Marketing & Sales At AMITY BUSINESS SCHOOL AMITY UNIVERSITY UTTAR PRADESH SECTOR 125, NOIDA - 201303, UTTAR PRADESH, INDIA DECLARATION Title of Summer internship Business Development for Philips Solar business in Delhi & West UP I declare (a) That the work presented for assessment in this summer internship Report is my own, that it has not previously been presented for another assessment and that my debts (for words, data, arguments and ideas) have been appropriately acknowledged. (b) That the work conforms to the guidelines for presentation and style set out in the relevant documentation. (c) The Plagiarism in the report is _____ % (permissible limit is 15 %) Date: Sanjit Singh Lamba A0101916187 MBA –General (Class of 2018) INDUSTRY GUIDE CERTIFICATE CERTIFICATE This is to certify that Sanjit Singh Lamba student of Masters of Business Administration – General at Amity Business School, Amity University Uttar Pradesh has completed the summer internship Report on “Business Development for Philips Solar business in Delhi & West UP”, under my guidance. The report has been checked for Plagiarism and is within limits of acceptance. Ms. Shinu Vig Assistant Professor Department of Marketing ACKNOWLEDGEMENT I would like to articulate thankfulness to my supervisor Mr. Abhimanyu Malhotra, Sales Manager, Philips. Thanks to him for helping me with the

relevant information about business development of Philips Lighting India Limited that I needed to prepare this report. I would also like to recognize the support, leadership and help given from a number of persons. I am very obliged to my internship supervisor Ms. Shinu Vig, Associate professor, Amity Business School for providing advice and support. In addition, I would like to show gratitude to all of the employees and responsible persons of Philips Lighting India limited for providing me essential support whenever required. Without their contribution, it would not have been possible for me to conduct this project work. Besides this, I am also thankful to all my classmates and well-wishers.

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BUSINESS DEVELOPMENT FOR

PHILIPS SOLAR BUSINESS IN DELHI AND WEST UTTAR PRADESH. ABSTRACT Introduction Royal Philips, commonly known as Philips is a Dutch diversified technology company was founded by Gerard Philips.

3It is one of the largest electronics companies in the world and employs around 128 ,000 people across more than 60 countries. Philips is organized into three main divisions: Philips Consumer Lifestyle, Philips Healthcare, and Philips

Lighting. Philips Lighting spans the entire lighting value chain – from light sources, luminaries, electronics and controls to full applications and solutions – through the following businesses: Light Sources &

Electronics, Consumer Luminaries, Professional Lighting Solutions and Automotive Lighting. Philips Lightings has introduced various Solar Led Lightings for Outdoor Retail mainly for their Power consumption and to increase their annual savings on electricity. Focusing on the replacement or new installation market, my project is Business Development for solar business in Delhi and West Uttar Pradesh. Scope of the project LED are the innovative products which turned out to be the digital version of light and acted as a parasite for CFL. The light emitting diode is the new form of light, which is highly efficient and energy saving. It lasts long and the light output is also high when compared to the traditional CFL Bulbs where 40% lumens are exited out as heat and only the rest is used as a productive one. But for Solar LED the efficiency, it is just one-time investment and minimum care and since it is not CFL but LED light with solar panel which makes it more efficient because of the coating used in the CFL which helps in reflecting the light towards work area and only 20% amount of light is generated as heat and which cannot be used for the roads. Findings and Conclusions From the findings and interpretations of the study done on solar energy through research papers, government websites and through conducting a survey, it can be said that solar energy products have a great future ahead. Solar energy is also considered as a fuel of future by all the scientists and researchers. It has been found that sun generates that much of energy in a day, which is enough for generation of energy for whole world for complete one year. This means that sun light is been wasted which can be used for electric generation, this is due to lack of technology for converting solar energy into electric power. Government is taking a lot of measures to make increase the use of solar energy and they have started many projects and also established solar parks to develop India as a solar power nation. But government is only targeting commercial sectors as of now, and domestic industry is been completely ignored by them. Government should pay equal attention to both commercial and domestic sectors simultaneously. INTRODUCTION ABOUT THE PROJECT Purpose of the Project The main objective of project is to perform BUSINESS DEVELOPMENT OF SOLAR BUSINESS FOR PHILIPS AT DELHI AND WEST UTTAR PRADESH. Sub objectives: 1. To identify the target segments and their lighting requirements. 2. To find the major segments that are ready to install and upgrade Solar LED lights. 3. To get knowledge of solar energy and production by reading research papers and information from government website for solar energy. 4. To know the awareness for solar power among the general public through survey. Description of the Project Philips Lightings is a separate division from Philips India Ltd. and they are the leading brand in the lightings divisions by providing innovative solutions in the digital market. They are using energy efficient products which uses solar energy for consumption of light which is the selling point for the LED segments. Philips lightings are providing industry specific products which are the pitching point. Project Summary Phase 1 – Lead generation process started off by identifying the major target. The next stage of the lead generation is to approach the target customers and identifying the decision makers. Once the meeting with the client is fixed then the focus shifts to get the insights on Solar LED, type of Solar LED proposed, total potential quantity, expected order, distribution of the order, completion price and contact details. The region concentrated was: Delhi and West Uttar Pradesh. Table 1- Different industry segments targeted Company Segment Location Gas Authority India Limited Energy, petrochemicals Industry South Delhi Gas Authority

India Limited Energy, petrochemicals Industry Noida Steel Authority of India Limited Steel Industry East

Delhi Hindustan Petroleum Corporation Limited Oil and Gas Industry East Delhi Oil and Natural Gas

Corporation Limited Oil and Gas Industry South Delhi University of Delhi Education Industry North Delhi

Delhi Jal Board Water Utility Industry South Delhi Delhi Jal Board Water Utility Industry South-West Delhi

Indian Oil corporation limited Oil and Gas Industry South Delhi Jawaharlal Nehru University Education Industry South Delhi Phase 2 – Sale closing, this was a structured process, starting with by mapping the existing leads which has to be closed. Once the mapping is done, the meet with the industrial higher authority is fixed. The higher officials are approached through sale closing process along with the terms & conditions, payment terms and along with the total distribution of quantity. The payment terms included the percentage of amount to be paid in advance and the payment once the delivery is done. The region concentrated was: Delhi and West Uttar Pradesh. Table 2-Companies which were interested in Solar products Company Segment Location Gas Authority India Limited Energy, petrochemicals Industry South Delhi Oil and Natural Gas Corporation Limited Oil and Gas Industry South Delhi Hindustan Petroleum

Corporation Limited Oil and Gas Industry East Delhi Indian Oil corporation limited Oil and Gas Industry South Delhi Jawaharlal Nehru University Education Industry South Delhi Phase 3 – Got to know about solar energy and its benefits by reading few research papers and also, got some knowledge from government websites about the steps taken by government to promote solar energy in India. 100 individuals were questioned and surveyed with few questions on solar energy to understand the individual's perceptions about solar energy. Also, to know the behaviour of people for buying solar power products. Significance of project The outcome of the project will be helping the company: • In finding the existing lighting points and the total potential at the target. • In finding the decision maker. • In finding the potential or untapped market in the region of Delhi and West Uttar Pradesh. • In finding out the measures which should be taken by company for expanding solar business. • In finding and getting knowledge about solar energy and the steps taken by government to encourage solar energy in India. In finding the behaviour and perception of people for solar energy. REVIEW OF LITERATURE INDUSTRY PROFILE About Solar Energy Solar energy is radiant light and heat from the Sun that is harnessed using a range of ever-evolving technologies such as solar heating, photovoltaics, solar thermal energy, solar architecture, molten salt power plants and artificial photosynthesis. It is an important source of renewable energy and its technologies are broadly characterized as either passive solar or active solar depending on how they capture and distribute solar energy or convert it into solar power. Active solar techniques include the use of photovoltaic systems, concentrated solar power and solar water heating to harness the energy. Passive solar techniques include orienting a building to the Sun, selecting materials with favourable thermal mass or light-dispersing properties, and designing spaces that naturally circulate air. The large magnitude of solar energy available makes it a highly appealing source of electricity. The United Nations Development Programme in its 2000 World Energy Assessment found that the annual potential of solar energy was 1,575–49,837 exajoules (EJ). This is several times larger than the total world energy consumption, which was 559.8 EJ in 2012. In 2011, the International Energy Agency said that "the development of affordable, inexhaustible and clean solar energy technologies will have huge longer-term benefits. It will increase countries' energy security through reliance on an indigenous, inexhaustible and mostly import-independent resource, enhance sustainability, reduce pollution, lower the costs of mitigating global warming, and keep fossil fuel prices lower than otherwise. These advantages are global. Hence the additional costs of the incentives for early deployment should be considered learning investments; they must be wisely spent and need to be widely shared". Converting Solar Energy into Electricity There are two different ways for converting solar energy into electricity: Solar Photovoltaic (PV) PV, the technology which converts sunlight directly into electricity, is among the fastest growing segments of the renewable energy industry. It is already well established in many countries including India, and looks set to become one of the key technologies of the 21st century. Some of the factors driving the growth of this segment are: concerns towards carbon emissions, energy security and the rising prices of fossil fuels. Traditional solar cells are made from silicon, and are generally the most efficient. Thin-film solar cells made from amorphous silicon or non-silicon materials such as cadmium telluride are the second-generation solar cells, and are gaining a

greater share in overall installations. Third-generation solar cells use a variety of new materials and nanotechnology etc. for designing high efficiency PV materials. These systems are expected to rapidly become cost effective for use by utilities and industry. Solar Thermal Solar thermal systems harness solar energy by utilising solar radiations to generate heat- as hot water, hot air, steam etc. that can be deployed for meeting numerous applications in different sectors such as power generation on a large scale, space heating, space cooling, community cooking, process heating etc. These applications make use of solar energy collectors as heat exchangers that transform solar radiation energy to internal energy of the transport medium (or heat transfer fluid, usually air, water, or oil). The solar energy thus collected is carried from the circulating fluid either directly to the hot water or space conditioning equipment, or to a thermal energy storage tank from which can be drawn for use at night and/or cloudy days. Solar thermal systems can be either non-concentrating or concentrating types. They may also be either stationary or with sun-tracking mechanisms, depending on the application, temperatures required and economic viability. **INDUSTRY**

INTRODUCTION India's lighting market is worth US\$1.75 billion, with year-on-year growth of 7.5%, and is stipulated to reach US\$2.75 billion. CFL is the biggest and fastest growing segment across the Indian lighting marketplace, accounting for 27.5% of total sales value. The CFL segment is stipulated to reach US\$760 million, contributing to 28% of the total domestic market. Luminaires is the second leading segment constituting 22% of the total. India's Government initiatives to replace incandescent bulbs with LED bulbs, increasing energy demand supply gap and declining prices have been leading to an increase in India's LED market, which is stipulated to reach \$ 1,457 million by 2019, with a CAGR of 35.9% between 2014 and 2019. The National government's mandate of rural electrification along with usage of energy efficient formats is the core driver of the lighting marketplace on the long-term basis (especially CFL variant). Rajiv Gandhi Grameen Vidyutikaran Yojana and BYL programs have been implemented for the past 4-5 years, with approximately 53% households receiving electricity and subsidized replacement of US\$8.5 million ICL technology with CFL variants. On the other hand, the national government of India is the largest customer of the lighting product portfolio for urban housing, airports, railways, and highways (NHAI). India's lighting market is slightly consolidated, with the three largest manufacturers controlling 46% of the market share (2011). Philips is the biggest manufacturer and distributor of lighting products with market share of 26% (2010-2011). Government Initiatives Ministry of New and Renewable Energy (MNRE) The Ministry of New and Renewable Energy (MNRE) is the nodal Ministry of the Government of India for all matters relating to new and renewable energy. The broad aim of the Ministry is to develop and deploy new and renewable energy for supplementing the energy requirements of the country. The role of new and renewable energy has been assuming increasing significance in recent times with the growing concern for the country's energy security. Energy self-sufficiency was identified as the major driver for new and renewable energy in the country in the wake of the two oil shocks of the 1970s. The sudden increase in the price of oil, uncertainties associated with its supply and the adverse impact on the balance of payments position led to the establishment of the Commission for Additional Sources of Energy in the Department of Science & Technology in March 1981. The Commission was charged with the responsibility of formulating policies and their implementation, programmes for development of new and renewable energy apart from coordinating and intensifying R&D in the sector. In 1982, a new department, i.e., Department of Non-Conventional Energy Sources (DNES), that incorporated CASE, was created in the then Ministry of Energy. In 1992, DNES became the Ministry of Non-Conventional Energy Sources. In October 2006, the Ministry was re-christened as the Ministry of New and Renewable Energy. Solar Energy Corporation of India Ltd. (SECI) Solar Energy

Corporation of India Ltd. (SECI) is a CPSU under the administrative control of the Ministry of New and Renewable Energy (MNRE), set up on 20th Sept, 2011 to facilitate the implementation of JNNSM and achievement of targets set therein. It is the only CPSU dedicated to the solar energy sector. It was originally incorporated as a section-25 (not for-profit) company under the Companies Act, 1956. However, through a Government of India decision, the company has recently been converted into a Section- 3 company under the Companies Act, 2013. The mandate of the company has also been broadened to cover the entire renewable energy domain. In the present outlook of the RE sector, especially solar energy, SECI has a major role to play in the sector's development. The company is responsible

for implementation of a number of schemes of MNRE, major ones being the VGF schemes for large-scale grid-connected projects under JNNSM, solar park scheme and grid-connected solar rooftop scheme, along with a host of other specialised schemes such as defence scheme, canal-top scheme, Indo-Pak border scheme etc. In addition, SECI has ventured into solar project development on turnkey basis for several PSUs. The company also has a powertrading license and is active in this domain through trading of solar power from projects set up under the schemes being implemented by it. Solar Guidelines

1With the continuous efforts of the Governments at the Centre as well as States, India

is rapidly advancing towards augmenting its renewable power generation capacity.

1However, in order to meet the ambitious targets envisaged under Jawaharlal Nehru National Solar Mission and under various policies announced by respective State Governments, it is desirable that relevant and easily accessible information to help and support the project developers and all stakeholders is properly disseminated at a convenient platform. This shall encourage timely implementation of solar projects as well as attract private sector participation in the solar power generation segment. With the aim to facilitate the dissemination of proper and desired information to the project developers/administrative institutions/financial institutions and various other stakeholders to ensure timely implementation of solar projects under JNNSM and state policies, the Ministry of New and Renewable Energy and the German Federal Ministry of Environment, Nature Conservation and Nuclear Safety agreed to implement the project Solar Guidelines. Solar Guidelines and its Relevance SOLAR GUIDELINES are a web-based platform for encouraging rapid development of the solar power sector in India by facilitating dissemination of latest updates on the development of projects, policy frameworks announced by governments from time to time, regulatory framework announced by CERC, Regulations of the MoEF, Contractual Agreements and procedural details of approval and clearances required for timely commissioning and financial closures of solar installations in the country. The project has been jointly initiated by GIZ under the International Climate Initiative administered by German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety and the Ministry of New and Renewable Energy, Government of India. The Ministry of New and Renewable Energy has assigned the Solar Guidelines Project to Solar Energy Corporation of India. The first phase of the project saw the setting up of the website (www.solarguidelines.in) that includes, as of now, comprehensive description of the step-by-step processes needed for

commissioning of solar projects in the state of Rajasthan. During the second phase, the is

intended to cover various other states including Andhra Pradesh, Delhi, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Odisha,

Tamil Nadu, Telangana, Uttar Pradesh and Uttarakhand. Solar Parks Ministry of New and renewable Energy (MNRE) has drawn a scheme to set up number of solar parks across various states in the country, each with a capacity of Solar Projects generally above 500 MW. The Scheme proposes to provide financial support by Government of India to establish solar parks with an aim to facilitate creation of infrastructure necessary for setting up new solar power projects in terms of allocation of land, transmission and evacuation lines, access roads, availability of water and others, in a focused manner. Solar Energy Corporation of India (SECI), a central public-sector enterprise under MNRE, has been implementing various schemes to develop solar sector in the country. As per the policy, these solar parks will be developed in collaboration with the State Governments. The implementation agency would be Solar Energy Corporation of India (SECI) on behalf of Government of India (GOI). SECI will handle funds to be made available under the scheme on behalf of GOI. The states shall designate a nodal agency for implementation of the solar park. The Solar Park is a concentrated zone of development of solar power generation projects. As part of Solar park development, land required for development of Solar Power Projects with cumulative capacity generally 500 MW and above will be identified and acquired and various infrastructure like transmission system, water, road connectivity and communication network etc. will be developed. The parks will be characterized by well-developed proper infra-structure where the risk & gestation period of the projects will be minimized. At the state level, the solar park will enable the states to bring in significant investment from project developers in Solar Power sector, to meet its Solar Purchase Obligation (SPO) mandates and provide employment opportunities to local population. The state will also be able to reduce its carbon footprint by avoiding emissions equivalent to the solar park's generated capacity.

Figure 1- Annual solar-power generation of India 14 12 10 8 6 4 2 0 3.35 4.6 7.45 12.09 2013-14 2014-15
Year 2015-16 2016-17 Solar power generation (billion kwh) Table 3- Annual solar-power generation of India
Year Solar power generation (billion kwh) 2013-14 3.35 2014-15 4.6 2015-16 7.45 2016-17 12.09

COMPANY PROFILE

Koninklijke Philips N.V. (Koninklijke Philips N.V. of the Netherlands, Philips), (stylized as PHILIPS) is a Dutch technology company headquartered in Amsterdam with primary divisions focused in the areas of electronics, healthcare and lighting. It was founded in Eindhoven in 1891, by Gerard Philips and his father Frederik. It is one of the largest electronics companies in

the world and employs around 105,000 people across more than 60 countries. Philips is organized into three main divisions: Philips Consumer Lifestyle (formerly Philips Consumer Electronics and Philips Domestic Appliances and Personal Care), Philips Healthcare (formerly Philips Medical Systems) and Philips Lighting. As of 2012, Philips was the largest manufacturer of lighting in the world measured by applicable revenues. In 2013, the company announced the sale of the bulk of its remaining consumer electronics operations to Japan's Funai Electric Co, but in October 2013, the deal to Funai Electric Co was broken off and the consumer electronics operations remain under Philips. Philips said it would seek damages for breach of contract in the US\$200-million sale. In April 2016, the International Court of Arbitration ruled in favour of Philips, awarding compensation of €135 million in the process. Philips has a primary listing on the Euronext Amsterdam stock exchange and is a component of the Euro Stoxx 50 stock market index. It has a secondary listing on the New York Stock Exchange.

Philips is registered in the Netherlands as a naamloze vennootschap and has its global headquarters in Amsterdam. At the end of 2013 Philips had 111 manufacturing facilities, 59 R&D Facilities across 26 countries and sales and service operations in around 100 countries. Philips is organized into three main divisions: Philips Consumer Lifestyle (formerly Philips Consumer Electronics and Philips Domestic Appliances and Personal Care), Philips Healthcare (formerly Philips Medical Systems) and Philips Lighting.

Philips achieved total revenues of €22.579 billion in 2011, of which €8.852 billion were generated by Philips Healthcare, €7.638 billion by Philips Lighting, €5.823 billion by Philips Consumer Lifestyle and €266 million from group activities. At the end of 2011 Philips had a total of 121,888 employees, of whom around 44% were employed in Philips Lighting, 31% in Philips Healthcare and 15% in Philips Consumer Lifestyle. Philips invested a total of €1.61 billion in research and development in 2011, equivalent to 7.1% of sales. Philips Intellectual Property and Standards is the group-wide division responsible for licensing, trademark protection and patenting. Philips currently holds around 54,000 patent rights, 39,000 trademarks, 70,000 design rights and 4,400 domain name registrations. Global Footprint Philips is a global leader across its healthcare, lighting and lifestyle portfolio. It is the world's largest home healthcare company, being number one in: Monitoring systems, Automated External Defibrillators, Cardiac Ultrasound, Cardiovascular X-ray. The company is number one in lamps in Europe, Latin America and Asia Pacific and number two in North America; in Automotive lighting, we are leading in Europe, Latin America, Japan and Asia Pacific. The number one in the electric shavers and male grooming category globally. Philips is one of the leading flat-TV brands globally. Business in India Philips began operations in India in 1930, with the establishment of Philips Electrical Co. (India) Pvt Ltd in Kolkata as a sales outlet for imported Philips lamps. In 1938, Philips established its first Indian lamp- manufacturing factory in Kolkata. In 1948, Philips started manufacturing radios in Kolkata. In 1959, a second radio factory was established near Pune. This was closed and sold around 2006. In 1957, the company converted into a public limited company, renamed "Philips India Ltd". In

1970 a new consumer electronics factory began operations in Pimpri near Pune. This is now called the 'Philips Healthcare Innovation Centre'. Also, a manufacturing facility 'Philips Centre for Manufacturing

Excellence' was set up in Chakan, Pune in 2012. In 1996, the Philips Software Centre was established in Bangalore, later renamed the Philips Innovation Campus. In 2008, Philips India entered the water purifier market. In 2014,

Philips was ranked 12th among India's most trusted brands according to the Brand Trust Report, a study conducted by Trust Research Advisory. Businesses Offered Philips Healthcare Philips simplifies healthcare by focusing on the people in the care cycle – patients and care providers. Through combining human insights and clinical expertise, Philips aim to improve patient outcomes while lowering the burden on the healthcare system. Advanced healthcare solutions are a fundamental part of the portfolio for both healthcare professionals and consumers, to meet the needs of patients in hospitals and at home. Philips Healthcare employs approximately 34,000 people worldwide. Philips Consumer Lifestyle Guided by the brand promise of “sense and simplicity” and the consumer insights, Philips Consumer Lifestyle offers rich, new consumer experiences that meet consumers’ desire for relaxation and improving their state of mind. Philips also responds to the consumer's desire for wellness and pleasure by introducing products that meet the individual’s interests in terms of their body and appearance. Philips Consumer Lifestyle employs approximately 18,400 people worldwide. Philips Lighting As the world’s leader in Lighting, Philips is driving the switch to energy-efficient solutions. With worldwide electrical lighting using 19 per cent of all electricity, the use of energy-efficient lighting will significantly reduce energy consumption around the world and thereby cut harmful CO₂ emissions. Philips provides advanced energy-efficient solutions for all segments: road lighting, office & industrial, hospitality and home - and has been instrumental in enhancing sustainability through innovations in lighting technology. Philips is also a leader in shaping the future with exciting new lighting applications and technologies such as LED technology, which, besides energy efficiency, provides attractive benefits and endless new ‘never-before-possible’ lighting solutions. Philips Lighting employs approximately 51,000 people worldwide. Our mission “Improve the quality of people’s lives through timely introduction of meaningful innovations.” Our vision In a world where complexity increasingly touches every aspect of our daily lives, we will lead in bringing sense and simplicity to people. Our behaviors • Eager to win • Take ownership • Team up to excel

PRODUCTS OFFERED Philips' core products are consumer electronics and electrical products, including small domestic appliances, shavers, beauty appliances, mother and childcare appliances, electric toothbrushes and coffee makers (products like Smart Phones, audio equipment, Blu-ray players, computer accessories and televisions are sold under license); healthcare products (including CT scanners, ECG equipment, mammography equipment, monitoring equipment, MRI scanners, radiography equipment, resuscitation equipment, ultrasound equipment and X-ray equipment). Lighting products • Professional indoor luminaires • Professional outdoor luminaires • Professional lamps •

Lighting controls and control systems • Digital projection lights • Horticulture lighting • Solar LED lights •

Smart office lighting systems • Smart retail lighting systems • Smart city lighting systems • Home lamps • Home fixtures • Home systems (branded as Philips Hue)

COMPANY LOGOS Philips as a company is always being dynamic and has changed with the change in time. It has transformed from just a radio producing company to one of the biggest companies of electronics in whole world. With the change in its function, Philips keeps on changing the logos of its the company since 1938 and existing logoo was launched in November 2013 with a blue colour shield which is similar to the logo which was there in 1938.

3Original Philips shield introduced in 1938 Philips shield in use from 1968 until March 2008 The Philips logo in use until March 2008 The current Philips logo Philips Shield in use until November 2013 Philips shield design introduced in November

201133 SWOT ANALYSIS Strengths • Popular brand • Best quality products (PTR) • Innovation capabilities • Large global footprint • Low-cost and highly efficient manufacturing and supply base. • Save transmission losses Weaknesses • Initial high cost as compared to traditional products • Limited buying capacity of market • After sales support Opportunities • Growing market for energy efficient products • Emergence of new markets, • Technological

change • Taxation law (recognized through energy efficient tax credits) • 40% area not on power grid • Government regulation and policies • Go green initiative & Corporate Social

Responsibility Threats • Cheaper competitive products • Macroeconomic changes • More competitors enter the market • Foreign competitors making similar products, but utilizing cheap labour

PEST ANALYSIS

Political • Government subsidies. • Tie ups with developed countries to develop nonpolluting energy sources. • Capacity addition of 72,400 MW by 2022, with solar will contribute 28%. • Government mandate for SERCs to promote renewable sources of energy.

Economical • US\$ 41.73 billion opportunity in the solar energy market in India till 2022. • Emerging market in power/infrastructure sector. • Financially viable option – Subsidies. • In 2011, India received \$2 billion funding for solar projects in 2011.

Social • Social Media has high impact. • Low awareness for solar energy. • 1/5th Energy is consumed in lighting. • Increased concern for the environment. • Different geographical levels with man remote / unreachable areas. • Changing trends of Brand Loyalty.

Technological • Increased emphasis for green technology • Cost-effective solution where electricity supply is expensive or problematic • Ease of installation and low maintenance • Immunity to power outages • High color index, providing bright, true colors during nighttime hours

METHODOLOGY

Project Methodology

To complete this report successfully I have to follow some methods. These are as follows: Lead generation Sale Closing Business Development

1. Lead Generation process – Identifying the target (secondary research) identification of decision maker promotion through industrial drive details through industrial drive
2. Sale Closing process – Deliverables during the Target(existing leads) Target mapping client meet(payment terms, warranty, quantity distribution)
3. Research Methods and Procedures

For the purpose of my project, information is collected through both primary as well as secondary data. The source of primary data are the potential customers of Delhi NCR region. The main objective of market research is to study the awareness and knowledge of general public for solar energy and also to see the buying behaviour of individuals for solar products.

Research Design: • • • • Participants: 100 individuals were surveyed in Delhi NCR Region. **Data Collection:** Respondents to be chosen randomly. (Random Sampling)

Instruments used: Questionnaire on Google Forms **Procedures:** Information is collected through both primary as well as secondary data. The source of primary data are the potential customers of Delhi NCR region. The main objective of market research is to study the awareness and knowledge of general public for solar energy and also to see the buying behaviour of individuals for solar products. • • • • • **Market Research Design:** Descriptive cum exploratory **Data Source:** Primary & secondary **Research Approach:** Survey method **Types of Questions:** Close as well open ended **Presentation of Data:** Through Pie Charts, Bar Chart and Higher Statistical Analysis **Data Analysis**

DATA ANALYSIS

Figure 2- Companies Responses for Solar

Products Responses for Solar Products 20% Interested 50% Not Interested 30% No Response

Interpretation: For business development for solar products, only public-sector industry was targeted and no private sector industry was pitched. This shows that, due to lots of benefits of solar energy, only government owned companies are interested in solar products. Out of the companies visited and pitched for sale of solar products, only 50% of the companies were interested in purchasing of solar products. 30% companies were not interested in solar products due to high cost of product or due to poor trust on technology. Remaining 20% of companies were in confusion and were not able to decide that investing in solar products is advantageous or not. They were not able to reach to one conclusion. This interprets that still 50% of the target customers are not willing to purchase solar products for their company.

Analysis of Data

A questionnaire was framed and filled up by 1000 Individuals. With the help of data obtained after the survey is being analysed for finding out the answers to the questions asked in objective. Each and every question is analysed one by one. • How aware are you of Solar Energy Technologies?

Figure 3- How aware are you of Solar Energy Technologies?

Interpretation: This question was asked to check the awareness of individuals about solar energy technologies. It has been observed that 36% people are very much aware of solar energy technologies and 47% people are slightly aware of solar energy technologies. Remaining 17% individuals are unsure or are unaware of solar energy technologies. This shows that 83% people are aware of solar

energy products and these can be targeted for selling of solar products. But out of 83% people, only 36% are fully aware of it and rest 47% are slightly aware, which means that to increase the awareness for solar products, better promotional activities should be conducted to make them fully aware of solar energy and its benefits. Do you have any Solar Energy technology installed in your home? Figure 4- Do you have any Solar Energy technology installed in your home? Interpretation: This question was very important to be surveyed because this shows that, whether people have installed any solar energy products in their home or not. This Pie Chart demonstrates that only 22% of people have installed solar energy technology in their houses and remaining 78% of people are still not using solar energy for their domestic use. This means that only 3 out of 10 houses have installed solar energy products in their homes and which is very poor as compared to Israel, where 9 out of 10 houses have solar energy installed in their home. This is a very negative situation in country like India where government is taking so many steps to encourage use of solar energy. The main cause of this situation is that government is only focusing on industrial regions for promoting use of solar energy. On the other hand, domestic sector is being not part of focus for government as of now. The government should focus on domestic sector also, to promote solar energy products and special benefits can be provided to houses which are using solar energy products. What is best source of generating energy according to you? Figure 5- What is best source of generating energy according to you? Interpretation: This question was to know the perception of people which they prefer as a best source for generating energy out of Solar, Geothermal, Wind, Biomass or Hydroelectric energy according to them. According to the survey, 53% people are in favour of using solar energy as a source of generating energy. Whereas, Biomass and hydroelectric is equally preferred by 17% and 16% respectively. Only 10% of people think that wind energy is a good source of generating electricity and remaining 4% people are in favour of geothermal source of energy. This shows that more than 50% of individuals prefer solar energy as a best source of generating energy for electricity. This demonstrates that 53% of the market can be targeted for solar energy products which is very large as compared to any other source of energy. Have you purchased products from solar firms in the last five years? Figure 6- Have you purchased products from solar firms in last five years? Interpretation: This question was being asked in the survey to know the purchasing of solar products from solar firms in the last five years to know the trust of individuals on solar firms for their products. This demonstrates that only one fourth of the people have purchased the products for last five years and remaining 75% of people have not purchased solar products for the last five years. This illustrates that three fourth of the people are still not used solar products and the biggest reason for this gap is lack of promotion done by solar firms. Due to this reason, people are unaware of advantages of solar products and are not encouraged to invest in solar energy products. Are you planning to purchase products from solar businesses over the next ten years? Figure 7- Are you planning to purchase products from solar businesses over the next ten years? Interpretation: This Pie chart illustrates that how many people are planning to purchase products from solar businesses for next 10 years. According to the survey, 39% of people are planning to buy solar products over next ten years and 44% individuals are still in confusion in buying solar products in coming ten years. Remaining 17% of people are not planning to purchase solar products for next ten years. This demonstrates that 83% people can be targeted by solar companies for selling their products. This is because 39% people are definitely going to purchase solar products in near future and 44% which are still in confusion of buying solar products or not. These sections of people need to be focused more because if they are pitched well, they can think of buying solar products which can expand solar energy technology to be installed in eight out of ten homes in India which will help India to grow as a solar power nation in the world. How much would you be willing to invest/ spend on solar energy? Figure 8- How much would you be willing to invest/ spend on solar energy? Interpretation: This is one of the most important question which was asked by people to know the amount of money which people are willing to spend on solar energy products. According to the survey 73% people are willing to invest only 20,000 to 50,000 on solar energy, 23% people are willing to invest 50,000 to 1,00,000 for solar energy installation. Only 6% people are willing to invest more than 1,00,000 on solar energy products. This illustrates that people are not much confident on solar energy products, this is the reason that major chunk of people is willing to invest less than 50,000 for solar energy which is very less for first time solar installations. This shows that people do not want to spend more on solar energy products for the first

time, but once they are used to it, they will definitely ready to invest more on solar produucctss.. What factors according to you are responsible for not installing Solar Energy Technology? Figure 9- What factors according to you are responsible for not nstalling Solar Energy Technology? Interpretation: This question was being surveyed to know the factors which are responsible for not installing solar energy technology. This is a very important question to be surveyed to know the reasons responsible for not using solar energy technology. According to survey, 41% of people think that reason behind not nstalling of solar energy is lack of awareness among the people. 19% of people consider affordability as a factor responsible for not installing solar energy technology. 18% people think lack of interest as a major factor. 13% and 8% people think inconvenience and lack of trust on technology respectively, are the reason are responsible for not installing solar energy technology. Only 1% people never got the opportunity to know about solar energy. This interprets that most of the people think that most of the people have lack of awareness when it comes to solar products, which shows that there is a need to increase the awareness among people for solar energy technologies. Solar firms should take adequate promotional steps to increase awareness of people. Affordability and lack of interest are the major factors which are responsible for not installing solar energy technology. This problem can be solved by providing samples to public and once they will use the samples, they will ready to spend more on solar energy products and will also gain interest in technolgggy.. How important do you think It is for India to develop and use solar power? Figure 10- How important do you think It is for India to develop and use solar power? Interpretation: This question was to know the perception of people about development of solar power in India. According to the survey, almost 60% of people think that it is very important for India to develop resources and use solar power and 28% people consider that it is somewhat important to develop solar power in a developing country like India. 7% people think that it is not important to develop India to use solar power and remaining 7% does not have any opinion about solar power. This interprets that more than 85% people are in the perception of developing India as a solar power nation. This shows that 85% individuals are in favour of solar power and these people can be a target market for solar energy products. It is very impressive that 8 out of 10 people think that India should be a solar power nation. Remaining 7% people who does not have any opinion can be changed into positive opinion for solar energy if they are being demonstrated the qualities of solar power. With the help of this, India can be developed as solar power nation. What is your impression of solar energy? 40 35 [VALUE] (37%) 30 25 20 15 10 5 0 Figure 11- What is your impression of solar energy? What is your impression of solar energy? 27 (27%) [VALUE] (19%) 10 (10%) 7 (7%) Strongly favour Somewhat favour Neutral Somewhat opposed Strongly opposed Interpretation: This question was surveyed to know the impression of solar energy in the mind of people. This will help to understand that whether people are in favour of solar energy or oppose it. According to the survey, 37% people are strongly in favour of solar energy. 19% of people are slightly in favour of solar energy and 27% individuals are neutral. 10% people were somewhat opposing solar energy and 7% people were strongly opposing solar energy. This shows that 56% of people are in favour of solar energy and only 17% people are opposing it, and this is a positive signal for the growth of solar energy. And neutral 27% can be made in favour by instructing them the benefits of solar. If neutrals can be convinced, 8 out of 10 people will be having favourable impression about solar energy. This is positive for India because solar energy will be the best source of energy in future. It will be good if people will adapt it as soon as possible, which will help India to be a solar power nation and lot of foreign exchange will be saved by using solar energy for energy generation. How aware are you of Solar Energy Technologies? * Have you purchased products from solar firms in the last five years? Table 4- Case Processing Summary N Valid Percent N Cases Missing Percent N Total Percent How aware are you of Solar Energy Technologies? * Have you purchased products from solar firms in the last five years? 100 100.0% 0 0.0% 100 100.0% How aware are you of Solar Energy Technologies? * Have you purchased products from solar firms in the last five years? Crosstabulation Table 5- Count Have you purchased products from solar firms in the last five years? Yes No Total How aware are you of Solar Very Aware 18 18 36 Energy Technologies? Slightly Aware 7 40 47 Total Unsure Unaware 0 0 25 7 10 75 7 10 100 Table 6- Symmetric Measures Value Asymptotic Standardized Errora Approximate Tb

Approximate Significance Interval by Interval Ordinal by Ordinal N of Valid Cases Pearson's R Spearman Correlation .401 .443 100 .058 .075 4.336 4.886 .000c .000c a. Not assuming the null hypothesis. b. Using the asymptotic standard error assuming the null hypothesis. c. Based on normal approximation. Figure 12 How aware are you of Solar Energy Technologies? * Have you purchased products from solar firms in the last five years? Interpretation: This is a Cross Tabulation with Pearson's Correlation which is done between aware of Solar Energy Technologies and Have they purchased products from solar firms in the last five years through SPSS software. This correlation is done to know the relationship between both the variables. After doing the cross tabulation, it can be seen through Count Table that 18 people out of 100 are very aware of solar energy and purchased solar products in last five years, but on the other hand 18 people are also very much aware about the solar energy and its benefits but have not purchased the solar products in last five years which shows that 50% of very aware people have not purchased solar products and 40 out of 100 slightly aware people have not purchased which is very high which demonstrates that slightly aware people are not willing to take risk for purchasing solar products. This problem can only be solved by conducting promotion activities by solar firms to increase the awareness of people and this will boost the confidence of general public towards solar products and they will show keen interest in buying solar products. Correlation can take on any value in the range [-1, 1]. The sign of the correlation indicates the direction of the relationship, while the magnitude of the correlation (how close it is to -1 or +1) indicates the strength of the relationship. A negative correlation corresponds to a decreasing relationship, while a positive correlation corresponds to an increasing relationship. After doing correlation which both the variables, correlation value is 0.401 which has a positive. The strength can be assessed by these general guidelines: • $0.1 < |r| < 0.3$... small / weak correlation • $0.3 < |r| < 0.5$... medium / moderate correlation • $0.5 < |r|$ large / strong correlation The correlation value is 0.401 which shows that it is between range of $0.3 < |r| < 0.5$ which shows that there is a moderate correlation between the two variables. This interprets that both the variables have a relationship between both the variables and this shows that only those people are who are aware of the about solar energy have purchased solar products from solar firms in the last five years. But is also indicates that many individuals who are aware of the solar energy have not purchased solar products in the last five years and this is the reason that there is a moderate relationship between the variables and if above mentioned measures are taken into consideration, we can definitely get a strong relationship between both the variables. The Bar Chart also shows that only those people who were aware about solar energy have only done the purchasing of solar products for the last five years. Unsure and unaware have not done any purchasing for last five years for solar energy products. But as we see in bar chart that highest number of people are slightly aware of solar energy products have not done any purchasing for solar energy products from solar firms. How much would you be willing to invest/ spend on solar energy? * Monthly income of the family (per month) Table 7- Case Processing Summary Cases Valid Missing Total N Percent N Percent N Percent How much would you be willing to invest/ spend on solar energy? * Monthly income of the family (per month) 100 100.0% 0 0.0% 100 100.0% How much would you be willing to invest/ spend on solar energy? * Monthly income of the family (per month) Crosstabulation Table 8- Count 20,000- 50,000 Monthly income of the family (per month) 50,000- 1,00,000 1,00,000 2,00,000 Above 2,00,000 Total How much would you 20,000-50,000 be willing to invest/ 50,000- spend on solar energy? 1,00,000 Above 1,00,000 Total 29 8 1 38 13 3 0 16 10 3 2 15 21 9 1 31 73 23 4 100 Table 9 Symmetric Measures Value Asymptotic Standardized Error a Approximate Tb Approximate Significance

Ordinal by Ordinal Spearman Correlation Interval by Interval Pearson's R .100 .093 .096 .099 .997 .924 .321c .358c N of Valid Cases 100 a. Not assuming the null hypothesis. b. Using the asymptotic standard error assuming the null hypothesis. c. Based on normal approximation. Figure 13- How much would you be willing to invest/ spend on solar energy? * Monthly income of the family (per month) Interpretation: This is a Cross Tabulation with Pearson's Correlation which is done between Monthly income of people and how much they are will to spend on solar energy. This correlation is done to know the relationship between both the variables. After doing the cross tabulation, it can be seen through Count Table that most of the people of all income group and willing to spend minimum amount of 20,000- 50,000 on solar energy products. This means 73 out of 100 are willing to invest minimum amount of money

on solar energy. Remaining only 23 people are ready to invest above 50,000 on solar energy products. Through correlation between two variables, it was found that correlation value is 0.100 which means that there is a weak or low relationship between both the variables. This interprets that monthly income of family and money willing to be invest for solar energy by people is not much related with each other. This means that income of people cannot determine their investing pattern behaviour. This shows that people do not want to invest more and they want to invest in small amount to test the technology. Bar Chart also demonstrates that most of the people are ready to invest 20,000- 50,000, irrespective of their income and very less number of people want to invest more than 50,000 on solar products. How aware are you of Solar Energy Technologies? * Education Qualification Table 10- Case Processing Summary Cases Valid Missing Total N Percent N Percent N

Percent How aware are you of Solar Energy Technologies? * Education Qualification 100 100.0% 0 0.0%

100 100.0% How aware are you of Solar Energy Technologies? * Education Qualification Crosstabulation

Table 11- Count Degree/Diploma Education Qualification PG Professional Total How aware are you of Solar

Energy Technologies? Total Very Aware Slightly Aware Unsure Unaware 17 23 3 5 48 7 15 3 2 27 12 9 1 3

25 36 47 7 10 100 Table 12- Symmetric Measures Value Asymptotic Standardized Errora Approximate Tb Approximate Significance Interval by Interval Ordinal by Ordinal N of Valid Cases Pearson's R Spearman Correlation - .041 -.051 100 .105 .104 -.408 -.509 .684c .612c a. Not assuming the null hypothesis. b. Using the asymptotic standard error assuming the null hypothesis. c. Based on normal approximation. Figure 14 How aware are you of Solar Energy Technologies? * Education Qualification Interpretation: Cross tabulation is applied with Correlation to check the relationship between Education Qualification and How aware are you of Solar Energy Technologies. In this case, correlation is negative because correlation value is -0.41, which means negative correlation between two variables and shows that Education Qualification and How aware are you of Solar Energy Technologies are negatively related. It illustrates that most of the people of different educational qualification are aware about solar energy technologies. This shows that awareness about solar energy technology does not depend on educational qualification of individual. It shows that higher the qualification, lesser awareness of individuals. Conclusion of above Crosstab is shown through Count Table and Bar Chart. This Bar Chart demonstrates that most of the people with different age groups are aware of solar technologies and very few individuals are unsure or unaware about solar energy. This shows that most of the people of different educational qualification are aware about solar energy technologies. This is good for the country to promote solar energy to all people irrespective of their educational qualification. What is your impression of solar energy? * Age Table 13- Case Processing Summary Cases Valid Missing Total N Percent N Percent N Percent What is your impression of solar energy? * Age 100 100.0% 0 0.0% 100

100.0% What is your impression of solar energy? * Age Crosstabulation Table 14- Count 20-30 Years 30-40

Years Age 40-50 Years Above 50 Years Total What is your impression of solar energy? Total Strongly

Favour Slightly Favour Neutral Slightly opposed Strongly Opposed 24 14 18 7 6 69 8 4 4 1 1 18 2 1 5 2 0 10

3 0 0 0 0 3 37 19 27 10 7 100 Table 15- Chi-Square Tests Value df Asymptotic Significance (2-sided)

Pearson Chi-Square Likelihood Ratio Linear-by-Linear Association 11.362a 12.585 .734 12 12 1 .498 .400 .391 N of Valid Cases 100 a. 15 cells (75.0%) have expected count less than 5. The minimum expected count is .21. Figure 15- What is your impression of solar energy? * Age Interpretation: This is a cross tabulation with Chi Square is done to find out the relationship between age group of people and their impression of solar energy. The count table shows that 38 out of 69 people of age group of 20-30 years are in favour of solar energy which shows that younger generation is in support of solar than any other age group. But it can also be observed that in every age group of

people are mostly in favour of solar energy which is a positive sign for the growth of solar energy in India. In Chi square test, if $p < 0.05$, we can say that there is a statistically significant relationship between the two variables and if $p > 0.05$, then there is no statistically significant relationship between the two variables. In this case, age group and their impression on solar energy are the two variables. The p-value in chi-square output is $p = 0.498$, which is close to $p = 0.500$. This tells us that there is no statistically significant association between age of individuals and their impression on solar energy. That is, all age of individuals equally in favour of solar energy. The Bar Chart also shows that in all age of people are in favour of solar energy and very less number of people oppose it. This shows that people have a positive attitude towards solar energy, which is very important for growth and development of solar energy in India.

CONCLUSION From the findings and interpretations of the study done on solar energy through research papers, government websites and through conducting a survey, it can be said that solar energy products have a great future ahead. Solar energy is also considered as a fuel of future by all the scientists and researchers. It has been found that sun generates that much of energy in a day, which is enough for generation of energy for whole world for complete one year. This means that sun light is been wasted which can be used for electric generation, this is due to lack of technology for converting solar energy into electric power. Government is taking a lot of measures to make increase the use of solar energy and they have started many projects and also established solar parks to develop India as a solar power nation. But government is only targeting commercial sectors as of now, and domestic industry is been completely ignored by them. Government should pay equal attention to both commercial and domestic sectors simultaneously. Further, it was observed that Philips has a very limited range of products for solar energy and are only able to provide solar street lights which are only useful to commercial industry and does not have any product which can be used in households, which is provided by other competitors of Philips. Philips is only focusing on government companies and public-sector industry for selling their solar energy products. This shows that only public-sector companies are interested in solar products till now. Out of all the companies I pitched for solar products, only 50% of public-sector companies were ready to buy solar energy products. Private companies are not ready to invest in solar energy products. This interprets that private companies are still not relying on solar energy and are not ready to pay more for solar products because substitutes of solar products are really cheap. After conducting survey on solar energy and further after interpretation, it can be said that 50% of people are slightly aware about the solar energy which means they do not have clarity about solar energy which acts as a hindrance when it comes to solar. It can be solved by promoting solar energy by advertising to general public. This is very important because only 2 out of 10 people are using solar energy products and this is an alarming situation for India. But according to survey more than 50% of individuals think that solar energy is a best source of energy as compared to other environmental friendly sources of energy, which shows a good expression about solar energy in the mind of people. But only one fourth of people have purchased solar energy products for the last five years and 44% people are confused to buy solar energy products for next ten years. And not only this, people are not ready to invest more amount of money on solar products are want to test the products before making big amount purchases. Moreover, according of most of people, lack of awareness and affordability are the two major factors which act as biggest obstacles in the way of developing solar energy in India. But more than 85% people think that it is very important to develop India and use solar power products which will help in development in much faster way. Through all these facts, I come up with the conclusion that India is far behind in the development of solar power nation and is not moving in a good direction. Government and private solar companies has to work hand in hand to develop and promote solar energy products. They can provide samples and special benefits to buyers of solar energy which will motivate the investors to invest more in solar and it will be considered as a positive impression of buyers. For promoting solar energy in private companies, CSR can play a vital role and the companies will be ready to invest in eco-friendly source of energy.

Limitations of Project Report Despite of my highest effort the internship is not free from limitations. Some of those limitations are mentioned as follows:

- Time Constraint: Six week is a short time to make the report incorporate with the internship task. So, I faced time limitation and unable to give enough time to make my report. A longer time period would have ensured a much better result for the study findings.
- • • • Philips

have a very short range of solar products which makes it difficult to pitch sales for. Financial Constraint. Lack of knowledge about solar energy of general public. Respondent's unavailability.

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<https://en.wikipedia.org/wiki/Philips> Research papers 1. The reasons why solar power is a more efficient and environmental friendly source of energy over fossil fuels. 2. The Benefits of Solar Power Questionnaire:

<https://docs.google.com/forms/d/1mpyMdM2jjc6GNEGcLC4yXQwodM25BQfvJMVuE8q640M/edit>

APPENDICES APPENDIX: 1 Solar energy is the energy that is in sunlight. It has been used for thousands of years in many different ways by people all over the world. It is becoming cheaper to make electricity from solar energy and in many situations, it is now competitive with energy from coal or oil. Solar energy is also called "Heat Trapper" as it is the automatic, non-mechanical, sun ray trapper. Name: Age: Location: Delhi

NCR Others _____ (Please specify) Sex: Male Female Education Qualification: School level Degree

/Diploma PG Professional Occupational status Student House wife Employed Business Monthly income of

the family (per month) Up to 50,000 50,000 to 1,00,000 1,00,000 to 2,00,000 Above 2,00,000 No. of

members in the family Up to 2 2 to 4 4 to 6 Above 6 How aware are you of Solar Energy Technologies? Very

aware Slightly aware Unsure Unaware Do you have any Solar Energy technology installed in your home? Yes

No What is best source of generating energy according to you? Solar Geothermal Wind Biomass

Hydroelectric Have you purchased products from solar firms in the last five years? Yes No Are you planning

to purchase products from solar businesses over the next ten years? Yes No May be How much would you

be willing to invest/ spend on solar energy? 20,000- 50,000 50,000- 1,00,000 above 1,00,000 What factors

according to you are responsible for not installing Solar Energy Technology? Affordability Inconvenience Lack

of awareness Lack of interest Lack of trust in the technology Never got the opportunity How important do

you think It is for India to develop and use solar power? Very Important Somewhat Important Not Important

No opinion What is your impression of solar energy? Strongly favour Somewhat favour Neutral Somewhat

opposed Strongly opposed • • • • • • • •