CHAPTER VI

OBSERVATIONS AND FINDINGS
CHAPTER – 6
6. OBSERVATIONS AND FINDINGS

Introduction
The current chapter discusses findings and conclusions of the study. The current chapter deals with output of data analysis and throws light on findings of the study. Conclusive remarks have been also provided to increase the awareness, opportunities and to identify problems faced by respondents based on research analysis.

Observation and Finding:-
Study shows that Majority of Consumer (Household as well as Corporate) have awareness about Conventional as well as Non-Conventional Source of Energy Sources, and as a best source of Energy option is non-Conventional source of energy. It shows that Most of the consumers (Household as well as Corporate) have adaptability of both sources. In urban as well as rural electrification option non-conventional source is a best energy conservation option, and Consumer have good experience about it.

It results that Conventional source of energy is generating employment opportunity like that Non-Conventional energy source is also generating employment opportunity in urban as well as rural areas. The Bill generated by using Conventional source energy and average monthly billing by It consumes are not satisfied. Due to that Consumer are attracting towards Non-Conventional energy source option. It results that majority of consumer are using Non-Conventional source energy i.e. Solar Energy Source for the consumption.


Solar energy source is green and environment friendly energy option in urban and rural India. Most of consumers are switching from Conventional source of energy to Non-Conventional Source of Energy. Solar Energy source generate employment and entrepreneurial opportunity.
in urban and rural India. Government is providing various subsidy schemes for Solar Photovoltaic cell Installation. Consumers have knowledge about it and consumers are taking benefit of it.

Consumers pass from various Adoption phases starting from Awareness, Interest, Evaluation, Trial and last adoption or rejection. Consumer passes from various adopter categories from Innovators, Early Adopter, Early majority, Late Majority, Laggards.

Product with best quality and 7 P’s and after sales services, Durability, Convenience these factors keep more impact for use of Solar Energy Usage. Marketing decision of solar energy adoption have influenced due to the solar is abundant source of energy and most of consumer has agreed for this.

Government have giving various Subsidy schemes and consumers adopting it, getting benefit on billing, exemption from VAT, GST and ST. Consumer having good knowledge and experience about Solar Energy Adoption and they satisfied with their energy requirement. Solar energy Installation is one time investment options where consumers invests it once get benefit for more than 25 years and lifetime also.

There are various brands of solar energy sources available and most of the consumers are using following brands, Tata Power Solar System Ltd., Photon Moser-bear, Madhuri, Swellect, Emvee, and many more domestic and international brands are available. Few Chinese brands are captured market. With this all brands consumers are started using Solar energy Source Adoption for their daily life Energy requirement fulfillment.

It is observed that both, Male and Female are using Non-Conventional Energy Source. Among the surveyed respondents Male consumers are more than female respondents who are aware and adapting non-conventional source of energy. From figure 5.1.1 and 5.2.1 Study shows that higher proportion of male category awareness and adaptability of non-conventional energy sources over female category awareness and adaptability.

Majority of the consumers who are aware and adaptability are of age group 31 and 45 years of ages. From Graph 5.1.2 and 5.2.2 shows that majority of the Consumers who have starting adaptability of non-conventional energy source age ranges 31 to 45 years. That implies, majority of consumers are from responsible consumer’s category.

Majority of the respondents were Graduates and Post-graduates. Figure and 5.1.3 and 5.2.3 shows the majority of the consumers have good educational qualification. So it is evident from figure 5.1.3 and 5.2.3 that adaptability of consumers for non-conventional source of energy is higher in highly qualified consumer than lower qualification level and last illiterate.
In survey consumer list majority of consumers are Faculties and Businessman’s, Company employees, various professionals, household consumers, and different national and multinational firms are there. Graph 5.1.4 and 5.2.4 shows the result of occupation of the respondents. It is inferred from above analysis that majority of the consumer who have adaptability of non-conventional source of energy were Teachers and Businessman’s.

For Installation, Implementation and adaption of the non-conventional solar energy source Family income or financial status of consumer always matter because cost of it. From figure 5.1.5 and 5.2.5 it is observed that consumers have good income capacity and good company turnover were adaptability for non-conventional source of energy.

Monthly usage is important attribute by this we can understand how much expense every individual consumer of company do on monthly billing. This helps to understand monthly billing of Consumer. From figure 5.1.6 and figure 5.2.6 for household consumer’s monthly capacity usage is 51 to 100 units and in case of industrial consumers it’s on higher side more than 5000 units.

Study shows most of the consumer were aware about non-conventional source of energy ratio of awareness on very high level. Very few consumers were un-aware about non-conventional energy Source. From figure 5.1.7 and 5.2.7 observed that more than 90% household consumers and industrial consumers are aware about non-conventional energy source.

Survey shows that consumer were adaptable of non-conventional source of energy ratio of adaptability is on very high level. Most of the consumers were adaptable about non-conventional Source. Figure 5.1.8 and 5.2.8 shows that more than 80 % of household and corporate consumers were adaptable about non-conventional source of energy which one is higher side than consumers non-adaptable about non-conventional source of energy.

To study adaptability of consumer for non-conventional source of energy you must understand types of the energy sources. There are two types energy of source conventional and non-conventional type. In this which type of energy you were using currently else you are using it simultaneously both sources. It helps to understand types of energy sources and its consumption pattern. Figure 5.1.9 and 5.2.9 shows that majority of consumers were using both energy sources conventional and non-conventional energy source. Percentage of non-conventional source of energy user were more than conventional energy source.

There are five sources of conventional source of energy. Coal, Gas, Oil, Fossil Fuel and Nuclear Energy are types of conventional energy sources. For study purpose it is very important to understand which source is utilized more. It helps to understand consumer’s
preference for the conventional energy source. Figure 5.1.10 and 5.2.10 shows that majority of household and corporate consumers were using Oil, Gas, and Coal as energy source. Very less percentage of consumers were using Fossil fuel and nuclear energy source. Consumers were using energy sources according to their availability and requirements. They are aware and adaptable for the conventional energy sources.

On the basis of adaptability of consumer and after adoption, Experience rating for non-conventional source of energy for urban and rural electrification as best energy conservation option as below. Experience rating in which one is for less and five is for higher experience rating. One is for lower and five is for higher experience rating. Figure 5.1.11 and 5.2.11 shows that, in this household and corporate consumer adaptability process and after adoption majority of consumers rated experience on higher side 4 and 5, Very less consumers with 1, 2 and 3 experience rating. In this Consumer adoption process majority of the consumers were with highest experience rating for the Non-Conventional Source of energy for Urban and Rural Electrification as best energy Conservation option.

Consumer adaptability process is process in which for consumers select the product and go for adoption. After adoption finding energy option as best option for Urban and rural electrification. Consumer survey shows that majority consumer were accepting it and finding best option for urban and rural electrification in and around Pune city. For corporate and household consumer figure 5.1.12 and 5.2.12 shows that majority of consumers were agree that non-conventional source of energy is best option Urban and Rural electrification.

Non-Conventional and Conventional source of energy generating employment opportunity in Rural, backward and Industrial area. Figure 5.1.13 and 5.2.13 shows that Conventional and Non-Conventional energy sources generating employment opportunity in rural and urban and backward areas. Majority of household and corporate consumers says that non-conventional energy source generating employment opportunity in Rural, backward and Industrial area.

It is very necessary and important that which conventional source you are using in your daily life. It shows your awareness and adaptability about that conventional source of energy. In your daily life you uses electricity supplied by MSEB, Power grid or any other source. Figure 5.1.14 and 5.2.14 shows that more than 90% of household and corporate consumers were using energy generated by Maharashtra State Electricity Board (MSEB). Only less of consumers use energy generated by other source of energy.

It is total amount money charged for conventional source of energy. Consumers are using various energy sources but we wanted to calculate here the energy billing by conventional source. Figures 5.1.15 shows that money spend for energy source usage for household
consumers is Rs. 251 to 1000. Figure 5.2.15 shows that money spend by corporate consumers is Rs. 50001 to 1 lakh. It shows that how much customer make expenses on electricity billing. It is very important to study that satisfaction of consumers where you are using conventional have you satisfied with monthly usage monthly billing. If both are up-to level then consumer were satisfied otherwise consumer were dissatisfied. Means expectation were not meeting. Something was wrong in between monthly usage and monthly billing. Figure 5.1.16 and 5.2.16 shows that Majority of Household and corporate consumers were dissatisfied with monthly usage capacity and billing. Very less percentage of consumers were satisfied for monthly usage capacity and billing by conventional energy source. Report card shows that Majority of Consumers were dissatisfied with monthly billing and its usage. When you are going to study it is very important to understand that which non-conventional source you were using. It shows your Awareness and adaptability towards non-conventional energy sources. Figure 5.1.17 and 5.2.17 shows that majority of household and corporate consumers 70 % Consumers were using Solar as primary source non-conventional source of energy. Priority wise non-conventional source of energy usage of Solar, wind, Water, Biomass and geothermal source is used by household and corporate consumers. Above observation shows primary source of non-conventional energy was Solar and most of the consumers were using it near about 70 %. This was more than all other sources. Solar is primary source of energy and used by majority of the consumers. There are many solar equipment which generate energy which we use in daily life. The equipment through which we use solar energy is solar equipment’s. As mentioned below there are more than 15 solar equipment’s were available. Few consumers were using single solar equipment but few consumers were using more than one solar equipment’s in their daily life. It shows differentiation in between consumers regarding usage of solar energy sources. Most of the consumers use Solar Water Heater in daily life for the heating water. Then after number starts with Solar calculator, Solar Street Light, Solar Power Battery, Solar Cooker, Solar torch/Lantern, Solar Cooker etc. Consumers have awareness and adaptable of the solar equipment which they use in their daily life. Figure 5.1.18 and 5.2.18 shows that Most of the consumers use Solar Water Heater in daily life for the heating water. Then after that number starts with Solar calculator, Solar Street Light, Solar Power Battery, Solar Cooker, Solar torch/Lantern, Solar Watch, Solar Cooker etc. Consumers have awareness and adaptable of the solar equipment which they use in their daily life. Solar Lighting system, Solar Power generation, Solar Vehicle, Solar Power pack, Solar Inverter, Solar Educational Kits, Solar
Refrigerator, Solar Furnaces, Solar Water Pumps are in introductory stage need some time to utilize in daily life.

Every consumer adopts different strategy for the solar energy adoption. This question is regarding knowing their views about strategies adoption whether they were applying or not it. It is regarding whether they were adopted different strategies or not. Figure 5.1.19 and 5.2.19 shows that majority of consumers 70% were adopting different strategies for Solar energy adoption and very less consumers were not adopting different strategies for Solar energy adoption. Majority of consumers were adopting different strategies for the solar energy adoption.

This question was asked to know the household energy efficiency improvement. To understand whether they have improved efficiency or not on the scale of one to five one is lower and five is higher. It is as efficiency rating of consumers. Figure 5.1.20 and 5.2.20 shows that majority of household and corporate consumers were rated 4 and 5 for household energy efficiency improvement. Very less consumers were rated with 1, 2 and 3 as household energy efficiency improvement. The highest efficiency improvement rating by consumers was five and five which one is highest which 45%.

This question asked to know the solar energy source was the green and environment friendly option. To know the whether it is environmental helpful and not producing any hazardous things in environment. Its purpose to know that this question suggesting for the Go Green initiative by the Solar energy Adoption. Figure 5.1.21 and 5.2.21 shows majority of the consumers responded that solar energy was a green and environmentally friendly option. This gives message of solar energy source is the green and environment friendly option. It gives message of Go Green.

Solar energy generate employment and entrepreneurial opportunity to people in society Figure 5.2.22 shows that majority of consumers responded that solar energy source generate entrepreneurial and employment opportunity to people and society. Majority of consumers were responded that solar energy source generate entrepreneurial and employment opportunity to people and society.

Government has announced subsidy schemes and giving subsidy schemes to consumers and society whether consumers were aware or not for that, this question prepared in questionnaire. To know status of state and central government subsidy schemes for the solar energy source.

Figure 5.1.23 and 5.2.23 shows that majority of the Consumers were aware about state and central government subsidy schemes for the solar energy source. Majority of consumers more
than 80% were aware about central and state government subsidy schemes. Who were aware about it getting benefits of subsidy schemes.

Adoption has five stages process to understand in which stage respondents were prepared this questions. It shows that out of 200 respondent who were in which stage of adoption stages. Figure 5.1.24 and 5.2.24 shows that majority of consumers were at adoption stage of adoption process. Remaining customers at remaining stages awareness, interest, evaluation, trial of adoption process.

Adopter having different categories to find out and understand adoption categories question prepared in questionnaire. Adoption categories having five categories as follows Innovators, Early Adopter, Early majority, Late Majority, Laggards. Figure 5.1.25 and 5.2.25 shows that majority of the Consumers were at adoption stages. Remaining consumers at innovators stage, Early Adopter stage, Majority stage of adoption categories, Late Majority stage of adoption categories, Laggards stage of adoption categories. It is observed that consumers were at every stage of adoption categories available.

For adoption of solar energy source which factor more impact from 7 P’s and AMC. 7 P’s were Product, Price, place, Promotion, People, process, Physical evidence and after sales service or AMC. Figure 5.1.26 and 5.2.26 shows that of consumer responded that Product keep more impact on solar energy adoption process. All 7p’s keep impact on solar energy adoption. After sales service is considered for it. Every 7 P’s keep impact on adoption of Solar energy source.

As Consumers were facing problem of load shading and energy shortage and energy crunch they were going for no-conventional source of energy option they were switching from conventional to non-conventional source of energy. It helps to solve energy problem by adopting non-conventional energy source. Figure 5.1.27 and 5.2.27 shows that majority of Consumers were switching from conventional source to non-conventional energy source. Remaining consumers were not switching from non-conventional to conventional source of energy. It shows that majority of consumers were switching form non-conventional to conventional source of energy, to solve energy problem. They have started adopting non-conventional energy source.

Marketing decision of solar energy adoption were influenced due to the solar is abundant source of energy. Marketing activities were carried on that basis that solar is abundant and free source to everyone to utilization. Figure 5.1.28 and 5.2.28 shows that, majority consumers strongly agree and agree that marketing decision of solar energy adoption are influenced due to the as solar is abundant source of energy, few consumers can’t say that
marketing decision of solar energy adoption are influenced due to the as solar is abundant source of energy. Remaining Consumers disagree that marketing decision of solar energy adoption are influenced due to the as solar is abundant source of energy. Least of consumers strongly disagree that marketing decision of solar energy adoption are influenced due to the as solar is abundant source of energy.

Government has given subsidy schemes to people and society for the adoption of non-conventional energy sources mainly solar energy source adoption. What other technique or marketing government and company need to adopt. Here I have given four options for solar energy marketing strategy. First Special Offer, Second Billing Discount, third Subsidy Schemes and fourth more offers. Figure 5.1.29 and 5.2.29 shows that, majority of customers were aware of government subsidy schemes and getting government subsidy for the adopting solar energy source.

Satisfaction is the process where every product meets your expectation or exceed the expectation. It helps to know better about product or service quality and its satisfaction to consumer. Whether product meet consumer expectation or not if exceed it then well and good. Figure 5.1.30 and 5.2.30 shows that, majority of Consumers were satisfied and strongly satisfied about solar energy adoption. Least consumers can’t explain their views about solar energy adoption. Least consumers were dissatisfied and strongly dissatisfied about solar energy adoption. This shows consumer satisfaction level about solar energy adoption.

From Figure 5.1.31 and 5.2.31 consumers are aware about non-conventional source of energy and shows their willingness to change from conventional to non-conventional source of energy which is highest and majority of Consumers says definitely yes and yes to it. Few consumers says Can’t say and remaining says Definitely not and not to consumers says not that they are aware about non-conventional source of energy and shows their willingness to change from conventional to non-conventional source of energy.

Graph 5.1.32 and 5.2.32 shows that majority of Consumers says yes they have knowledge of Government subsidies and they are taking benefit of government Subsidies. Few consumers says No they don’t have knowledge of Government subsidies and they aren’t taking benefit of government Subsidies. Majority is of Consumers says yes they have knowledge of Government subsidies and they are taking benefit of government Subsidies.
Here with the attached list of Solar Energy Equipment Manufacturing Company in India, Maharashtra in and around Pune city and their market coverage. Figure 5.1.33 and 5.2.33 shows that, in Pune major market is covered by TATA BP Solar Pvt. Ltd. Who is a major player. He acquired major market remaing is covered by Emmvee and Swelect, madhuri, HHV, Indosolar, Premier, Websol, Photon, Waree, Moser Bear covered market. Other than there are many player who covered very good market for Solar Energy Equipment Manufacturing.