

INTERNSHIP REPORT
ON
Solar and Renewable Energy

Topic
**Renewable Energy for Rural Development in Bangladesh- A Study on
Management of Pace Energy Ltd.**

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Major in Marketing

**An Internship Report Presented to the Faculty of BRAC BUSINESS SCHOOL in Partial
Fulfillment of the Requirements for the Degree of Master of Business Administration.**

Date of Submission: December 15, 2015



Brac University

December 15, 2015

Mr. Suntu Kumar Ghosh
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Subject: Submission of internship report.

Dear Sir

It is of great honor and delight for me to present you my internship report. The entire duration of preparing this report has been immensely helpful to me, and given an excellent opportunity to look to the real scenario and move to the real world of business. Many lessons were learnt and enormous amount of experiences were gained. The practical exposure while working on this paper helped me to bridge the academic work and the practical knowledge.

I tried my level best to furnish this report with all the relevant information and facts. But I do acknowledge that many anomalies might arise, which we are willing to change in light of further in-depth research or information. I will welcome any clarification and suggestion regarding this report.

Sincerely yours

Muktadir Billah
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Acknowledgement

All praises are due to Almighty Allah who enabled me to complete this report. I want to give special thanks to the following people of Pace Energy Ltd. for giving all the information that I needed to make this report successful: Mr. Rakibul Hasan- Chairman & Mr. Khandaker Kamruzzaman- Managing Director.

I would like to convey my sincerest thanks to our teacher Mr. Suntu Kumar Ghosh for this report. Because of his constant support and help- I was able to apply the theoretical knowledge learned in the classrooms to the real life situations. Without his guidance and support, this project work would have been a lot more difficult.

I am also very grateful to Mr. Dinesh Patel, Chairman, Mr. Purushotham Nanduri, Director - Business Development of TOPSUN Solar, Mr. Sudipta Kundu, Head of Engineering Department of Pace Energy Ltd. for providing me valuable information and guidance for making this report.

I would like to state my gratitude to all the people that were involved both directly and indirectly in the preparation of this report. I apologize to the people whose names I could not mention but their contribution is highly appreciated.

I want to acknowledge my family and friends with great respect for their support and love through this time.

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Chapter-1

1.1 Executive Summary

Master in Business Administration (MBA) is the most comprehensive professional course designed to make professionals with better sense in business and administration. To go through internship in an organization is a provision after studying and completing the relevant courses successfully. Where student experiences the real scenario & gets the opportunity to learn about the real professional world and compare the events with whatever they have learnt so far. As a business student, one must be acquainted with the conceptual and practical knowledge of business. Thus, it is an important responsibility of the concerned business school to arrange for the pupils to get the essence of professionalism. As a part of this activity, BRAC Business School had been successfully placing their students to different professionally renowned organizations to give the respective students the orientation of the real life corporate environment. Internship Program of BRAC Business School is a under graduation requirement for the MBA students.

This report is a partial requirement to fulfill the Internship program of MBA curriculum at the BRAC Business School. Assigned by the institutional supervisor, this report is prepared for internship based on the concepts learnt in Pace Energy Ltd. related to renewable energy and technological system industry. As per the concurrent demand of the organization, the project assignment was set by the organizational supervisor Mr. Rakibul Hasan, Chairman and Khandakar Kamruzzaman, Managing Director of Pace Energy Ltd. Mr. Suntu Kumar Ghosh, Asst. Professor, BRAC Business School, BRAC University.

The topic of the Internship Report is “**Renewable Energy for Rural Development in Bangladesh**”- A Study on Management of Pace Energy Ltd.”

I have done my internship in Pace Energy Ltd. My internship program commenced from August 2015 to November 2015. After three months of internship I decided this topic as my intern topic. Solar energy or energy powered by the sun- is one of the most promising sources of energy. Every hour the sun beams on to Earth more than enough energy to satisfy global energy needs for an entire year.

There are many technologies which are available now to produce power from sun but the oldest and the most prominent and dominant is still crystalline technology which is available in mono as well multi crystal formats. The technology is being used widely on earth territory as well as on the satellite wings has a proven track record of more than 50 years. Technology enhancement has also reduced the cost of technology at the same time added efficiency to the tune that it has become the first choice of any customer.

The most lauded inexhaustible fuel source is solar energy free from pollution and often noise. The versatile technology of solar doesn't work at night without a storage device such as a battery, and cloudy weather can make the technology unreliable during the day. Till today solar technologies are also very expensive and require a lot of land area to collect the sun's energy at

rates useful to lots of people. Despite the drawbacks, solar energy becomes the most expected power solution. Bangladesh govt. has also adopted the policy for new electricity connection for domestic consumption subjected to have 10% supplies from renewable energy such as Solar.

1.2. Purpose of the Study

The internship program and the report have the following purposes:

- ☐ To have detail knowledge about on-the-job responsibility.
- ☐ To experience the real business world.
- ☐ To become part of a project which helps to apply and utilize the knowledge in future profession.
- ☐ To compare the real scenario with the lessons and courses learned at BRAC Business School, BRAC University.
- ☐ To fulfill the partial requirement of BBA Program.

1.3 Objective of the Study

☐ Main Objective

To make a thorough analysis on how Renewable Energy Systems (Photovoltaic Solar System) and Technologies can help us to meet our electricity demand.

☐ Specific Objectives

- To find out the current and potential market of Pace Energy Ltd.
- To find out distinctive product and services provided by Management of Pace Energy Ltd.
- To study the opportunities and impediments of renewable energy, especially solar energy systems.
- To find out favorable solutions for the problems and appropriate strategies for expansion of the business.

1.4 Scope of the Study

Here I considered that renewable power and energy sector and related industry are a blooming sector which has much potentiality to expand. This industry is not sophisticated yet due to the absence of a proper framework. From this study we can learn how renewable energy, technology, systems and consultancy is made and what are the prospects and problems at present and what are the guidelines for solving the problems, meet the demand of electricity, and expanding the business. In this report, I have given more emphasis on the potential of Photovoltaic Solar Systems (PV) and Technologies in urban Bangladesh.

1.5 Methodology

The methodology includes the methods, procedures, and techniques used to collect and analyze information. The methods that we have used in preparing this report were effective methods that helped us in conducting the research and analyzing the data that we have collected. In this report there are uses of two types of data. These are as below:

□ **Primary Data:**

- Data and information I have collected from my personal experiences.
- From the training session on Technical specification and Marketing.
- From the marketing activities.
- I have collected information while visiting corporate offices and ongoing projects of Pace Energy Ltd.
- Personal experience gained by visiting DESCO, DESA & REB offices.

□ **Secondary Data:**

- Internet
- Google
- Wikipedia
- From different articles.

1.6 Limitations

The problems, which are encountered in preparing the paper, are as follows:

- In spite of sincere efforts due to time constraint, it was not possible to make an in-depth analysis of the topic.
- Absence of reliable documents on Renewable Solar energy and Systems related to Bangladesh market practice.
- Project Document is highly confidential to share or publish. So the report may create less understanding or communicative.
- Management allows me to work on this report after the written undertakings not to share or leak management & financial issues may hamper organizational interest.

Chapter 2

The Industry

2.1 The Industry Scenario

Electricity is the major source of power for most of the country's economic activities. Installed electricity generation capacity of Bangladesh is 8525 MW in 2013. Only three-fourth of which is considered to be 'available'. Only 40% of the population has access to electricity with a per capita availability of 136 kWh per annum. The maximum generation was 6675.00 MW in 2013. But the maximum demand is 8,349 MW.

In the Power System Master Plan (PSMP) -2010 study is now underway. The preliminary demand forecast was made based on 7 % GDP growth rate. The actual demand could not be supplied for the last few years. The maximum demand served so far is 5244 MW. The electricity development is required to be accelerated to increase access and attain economic development. The desirable economic growth rate would be about 7% p.a. Based upon this preliminary study the anticipated peak demand would be about 10,283 MW in FY2015, 17,304 MW in FY2020 and 25,199 MW in 2025.

Government utilities are involved in large scale grid connected renewable energy based power project development. On the other hand, private sector is involved with off-grid home-based renewable energy solutions.

Till now, national capacity of renewable energy based power is approx. 50 MW. In which Solar PV application including irrigation & domestic solar electricity is only 1 MW but over the time it becomes the most prominent segment.

PDB, REB and IDCOL are encouraging Solar Home System (SHS) to the people living in the off-grid areas. IDCOL through different NGO has already distributed 1.0 million SHS throughout the country & targets to achieve 25 MW contributions by 2020.

Major Players:

More over 50 Companies in Bangladesh are operating business to grab this 25MW market over the country. Some of them have already achieved strategic market share. Major Players of this market includes: Grameen Shakti, Rahim Afroz, Solaric, InGen Technology Ltd., Hydron Bangladesh Pvt. Ltd. Xenergeia International Ltd, Bangladesh Alternative Energy System Pvt. Ltd., Intraco Renewable Energy Limited, Greenfinity Energy Ltd. Etc

Market Share:

Rahim Afroz	20%
Solaric	10%
Grameen Shakti	30%
Intraco Renewable Energy Limited	5%
Others	35%

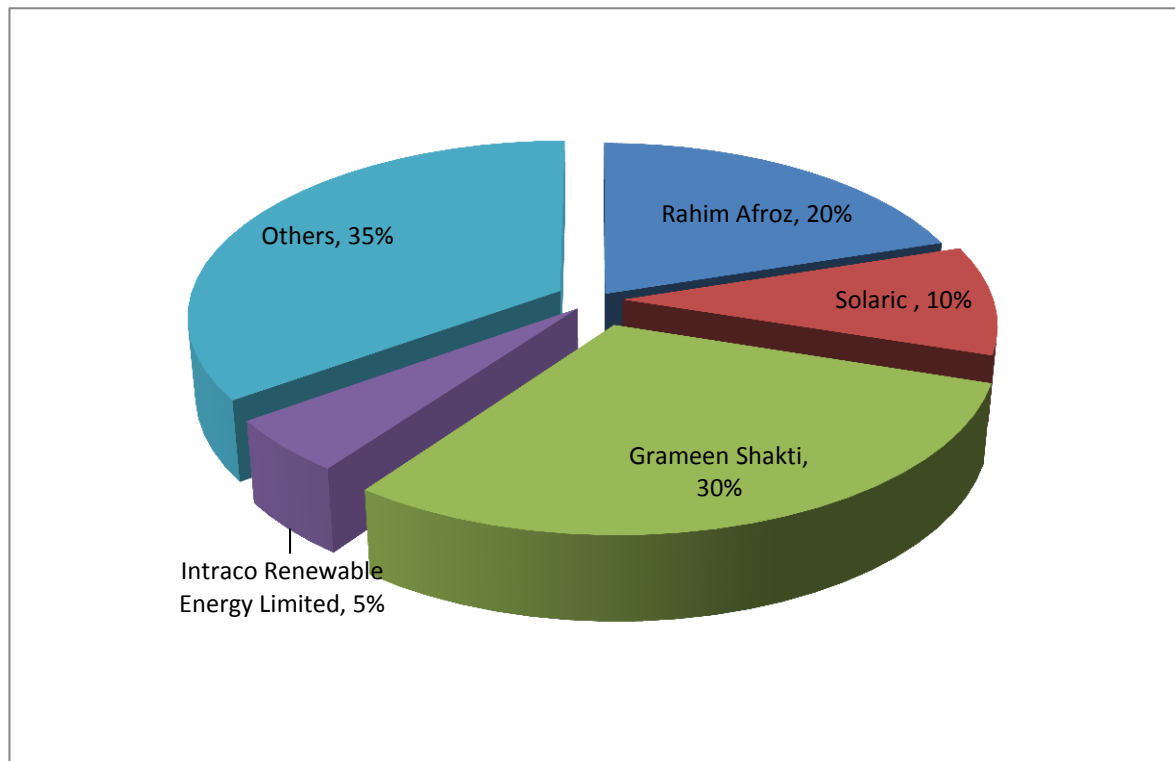


Figure: Market Share

2.2 Brief profile Of PACE Energy Limited.

The company launched in Bangladesh by 2013 as Pace Energy Limited, Registered Address: 226/3 Mirpur DOHS (Appendix C) Figure 1. Pace Energy Limited imports solar panel, inverters, Batteries and solar system from India's one of the renowned producers named TOPSUN, and, LED (Light Emitting Diode), CFL lighting solutions & Electric Home appliances from China. Pace Energy Limited is an exclusive distributor for PV (Photo Voltaic) and Inverters of TUPSUN Company (Appendix C) Figure 2 and it operate marketing & distribution activities over Bangladesh as PACE Brand. Solar energy is gaining in importance worldwide as well as in Bangladesh.

For more over 2 years PACE Energy Ltd. has been a national Electric industry producing & marketing Solar panel, rechargeable batteries, Bakelite, Cables & ESLs. It is a testament to the power of consumer loyalty that the Brand has survived. In Bangladesh alternative energy has made a revolution in lighting sector due to outstanding lighting performance and lower power consumption. Over the last 10 years – particularly the last 2, Electric Industry has changed dramatically. PACE Energy Ltd. has developed energy efficiency program for both understanding consumer behavior and market research. Solar panel & ESLs are mostly cost effective for industrial & household users in Bangladesh. With this market signals are clearer introducing new lighting technology in market where benefits are clearly defined and consisted with buyers need. Electric lighting burns up to 25% of the average house energy budget.

PACE Energy Ltd. is operating several market researches to understand customers need & making products available where consumers traditionally purchase lighting products. It is essential for the company to utilize current interest to spark substantial growth.

Mission Statement

According to management the mission of this company is to serve the nation by producing renewable energy and introducing different kinds of solar power products in Bangladesh with a view to ensuring uninterrupted power supply as well as to supporting, sharing and minimizing the load of National Power Grid.

More Specifically:

- To co-operate end user's to save energy.
- To be the price leader.
- To be the customer's safety concern.
- To be the destination of customer's satisfaction brand.

Vision

The vision of the company is to promote new renewable & alternative sources of energy products & conserve energy.

Strategy

The strategy of this particular company is to provide Energy Saving products with making the clients understand the use and benefit, and to promote save energy around the country. The company penetrates the market by enlisting itself to BSREA (Bangladesh Solar and Renewable Energy Association), IDCOL (Infrastructure Development Company Limited), and DPDC (Dhaka Power Distribution Company), REB (Rural Electrification Board).

The main target is REHAB (Real Estate & Housing Association of Bangladesh) enlisted developer companies and different NGO's (Non-Government Organization). All together there are more than 1000 companies in this target area. PACE Energy Limited is trying to capture this particular market. Another strategy is to provide Solar Home System (SHS) to the remote parts of the country. So in this way domestic user enjoy the service from PACE Energy Limited.

Pace Energy has established its marketing & distribution channel all over the country ensuring maximum profit of its dealers & distributors in electric market through lower price of products.

2.3 Organization at a Glance

The management of PACE Energy Ltd. is highly professional. Teams of skilled personnel are enforcing their best efforts to achieve the corporate, Retail & Production objective of the company. PACE Energy Ltd. has introduced a well-designed corporate & Retail management system and developed a suitable management structure with well-defined responsibility, delegation of power and true accountability. The company is having a group of professionals of various disciplines who are responsible to the Board in carrying out their day to day business responsibilities.

A sound internal and financial control system has also been established which involves periodical reporting, continuous audit of different segments of business and budgetary control to ensure optimum utilization of company's resources. A detail framework can be found in figure-1 (Appendix).

Number of Employees PACE Energy Limited engages 45 full time employees, and nine (06) day labors. The company is planning to expand its business through Dealers & Distributors all around the country step-by-step. This indicates more employment opportunity in the organization. More detailed information about the employee number can be seen in figure -2 (Appendix).

Responsibility and Duties Promoting Energy saving products with sustainable beneficiary relationship with customers is the main duties that are being performed in everyday work schedule. The company is responsible to provide quality products and assure that it really helps the customer to reduce the power consumption as well as reducing pressure on national power grid.

2.4 Products & Services:

1. Domestic Solar System:

It is a small system which can store enough power to power up minimum two (2) and maximum ten (12) energy saving lights. It is primarily designed for remote areas where DPDC/DESCO connection is not available and for the urban areas. Figure-3 (Appendix)

2. Solar Irrigation & Production System:

It's a large and multifunctional complex system of storing & consuming power as well as contributing on national Grid. Figure-4 (Appendix)

3. CFL & LED (Light Emitting Diode) Lighting Solution

In order to minimize the electricity consumption and make a difference in the company provides lighting solution. CFL & LED lights consumes less electricity than regular energy saving and other lights. LED initially costs more than CFL but LED is creating awareness among customers. Figure-6 (Appendix)

4. Electric Home Appliances

This segment includes accessories like: Switch, Socket, Distribution Box, Miniature Circuit Breaker, Plug, Gang Regulator, Cables etc.

5. Technical support & After Sales Service

Pace also provides expert consultation and installation service to project works with after sales services under sub contract. It also provides repairing and maintenance services on behalf of customers.

2.5 Organogram

The corporate framework in Figure-2 (Appendix) gives a clear idea of the source of orders throughout the hierarchy of the organization. As per my case, I have to perform various tasks as the Head of Sales & Marketing for my supervisor Chairman of the company.

2.5 Major Clients

Pace Energy has more than thousands of customers including retail corporate clients. More specifically it has 20 Exclusive Distributors & 65 Dealers 1 Retail Showroom. Major Corporate clients include Military Engineering Services & Rural Development Foundation, Solaric, Panna Batteries Ltd. Rahim Afroz Etc. (Appendix- List).

Chapter-3

Job Responsibilities

3.1 Type of Duties Performed

I started my internship program at Pace Energy Limited from August 2015 to November 2015 in Sales & Marketing department under supervision of Chairman, Rakibul Hasan. I had to perform different tasks at different department time to time.

- ✓ Forecasting Sales & Achievement
- ✓ Co coordinating Sales, Production & Distribution Department.
- ✓ Supervising & Directing Sales Force
- ✓ Monitoring Sales growth, credit realization and collection
- ✓ Attending weekly & monthly meeting with Production, Distribution, Sales & Accounts & finance officials
- ✓ Checking daily reports & provide feedbacks
- ✓ Visiting Distribution points & major Corporate clients
- ✓ Building task forces for attending tender works
- ✓ Preparing tender documents, fulfilling requisites & offering price
- ✓ Maintaining effective coordination with Managing Director & Chairman

3.2 Job Responsibilities Held by Others Working in Pace Energy Limited

- In every department Pace Energy Limited has handful numbers of positions, each holding specific job responsibilities. However, the job responsibilities of those that I had direct or indirect interaction with the entire department heads on a daily basis. I hold the position of the Head of Sales & Marketing. My job responsibilities involve supervision of various activities within the Sales department. This includes Sales, Banking, Insurance, Sales, Contracts, Site Survey, Demonstration and Marketing etc. I am also responsible for external and internal sales reporting which includes the preparation and presentation of monthly, quarterly, biannually and yearly sales statements and projection.
- Mr Aminul Islam –Manager (Sales & Marketing) is the responsible for sales and sales executive's daily activities. He guides the sales team and the team follows his guidance accordingly. His main duty is to prepare all the required reports & follow up retail & corporate sales officers and fix important corporate business meetings with me.

- Engr. Sudipta Kundu- Manager (Technical & Commercial) is responsible for sourcing new products and designing big systems. His one of the key responsibility is to meet all technical aspect of production and projects & Mr. Shommo Asst. Engineer is responsible for designing solar systems and report My Kundu.
- Mr. Shakkhar Datta- Sr. Executive, responsible for tender and projects. His job is to participate in tenders and cooperate with technical team to meet prerequisite of projects. Apart from tender and projects, he is responsible for overall corporate clients.

3.3 Project Work

Project work under Internship:

In 2015, IDCOL has approved more than 50 solar Irrigation projects, in which RDF (Rural Development Foundation) has one project at Mirpur, Kustia. In this project 15 farmers will be facilitate to have solar irrigation. It requires to discharge almost 400,00 liters water per day with Solar PV capacity of 8.5 KWp. Project will be on operation by January 2016.

Project Time Line:

July 30, 2015: Invitation for Quotation

Mr. Shakkhar Datta- Sr. Executive, Corporate Sales receives a RFQ from purchase dept. of RDF. He notified me by the day and we made a working plan to response on the invitation. I made notification to top management and made appointment with MD & Chairman on next available time.

June 13, 2015: Meeting with MD & Chairman:

Decisions made to utilize this opportunity, as we have several business with RDF we decided to be flexible & negotiable with them in terms of price and service conditions. MD Sir made an Appointment with top officials of TOPSUN and invited them to visit Bangladesh.

June 27, 2015: Meeting with TOPSUN Officials

My team received the technical team of TOPSUN from airport. And the meeting was fruitful on price & technical specification required to fulfill the requirements by RDF.

June 29, 2015 to June 30, 2015: Project Visit

A professional team from TOPSUN, PACE & RDF visited the project. And the technical manager reported me regarding the pros & cons of the project. Later on I reported to top management and had a discussion on how to overcome obstacles and to set standards for service reliability.

August 04, 2015: Setting Standards & Price-1

August 12, 2015: Setting Standards & Price-2

After a long discussion we finalized the pricing & payment methods. Listing the issues may create dispute in future and probable sources to solve the issues are discussed and a task force was made to prepare for setting service standard.

August 18, 2015: Setting Service Standards & Conditions

Technical team prepared a draft of service requirements & plant design. Finally I placed the draft to Chairman Sir & MD Sir for approval. Being concerned we finalize the RFQ documents and made preparation for tender.

August 31, 2015: RFQ Submission

We submitted the RFQ to the tender board of RDF.

September 31, 2015: Price Negotiation

RDF called three lowest participants for price negotiation; I meet them with my technical team on the discussion. We agreed with some extend and receive positive signal from the purchase committee.

September 03, 2015: Negotiation on Price & Service Conditions

An urgent meeting called on discussing the price matters. We recalculated the project cost and negotiated with TOPSUN regarding the final price. Later on we agreed the price and conditions from RDF.

September 09, 2015: Preparing Draft Agreement

We hired a professional for preparing drafts of project agreement. Finally I submitted the agreement to MD & Chairman for board perusal & Approval.

September 23, 2015: Approvals & Testing

We submit product Sample to BUET for testing the operating performance & reliability. And also all the project document for IDCOL inspection was submitted to IDCOL.

September 28, 2015: Approvals & Testing

BUET test was satisfactory and the certificate submitted to IDCOL for getting NOC.

September 29, 2015: Final Quotation Submission

Ensuring all the aspects as positive we submitted the final price quotation for acceptance.

October 12, 2015: Agreement Signing

Finally, RDF agreed with our price & service conditions & we signed the agreement for the Irrigation project. On behalf of Pace Energy Ltd. Managing director signed the agreement. And I signed the service agreement of the project.

October 15, 2015: Work Order

Finally we received the work order from RDF.

October 26, 2015: LC Opening

Technical Manager Mr. Sudipta Kundu prepared the shipping document and coordinated with accounts & finance department and reports me the updates.

October 28, 2015: Product delivery & Payment

TOPSUN ensured me the due date for shipment and we made final payment to them.

November 12, 2015: Installation

Primary infrastructural installation started at MIRPUR, KUSTIA.

November 15, 2015: Project Monitoring Team Building

I required manpower for the project maintenance from HR Department. They demand cv's from HR Kites (Recruitment Agent).

November 20, 2015: Manpower Selection & recruiting

Primary Screening done and reported to me, selected candidate will be called for further interview and will be recruited soon.

3.4 Evaluation of My Performance

As a full time employee and holding the top most executive position I have to monitor and coordinate teams rather than doing things by myself, but I always tried to make sure I did it as accurately and quickly as possible. I was afraid and scared that I may make a mistake, even after the instructions this may be a minor error or a major blunder. I was afraid that this would lead to my superiors thinking that I am incapable or callous and once they have a terrible impression of me, it would be difficult to alter it.

However, I am lucky that I have not fallen into such a situation yet and try to do my best at the workplace. I tend to thrive under pressure on days when I am stacked with lots of tasks I seem to be more productive. However, sometimes there are instances where I do not have much to do initially after I arrive at work. This tends to affect my productivity as I become a little sluggish during work on those days, especially when it comes to updating in house stock and daily sales report.

Once I start any assignment, I tend to be so engrossed into it that I often do not move on to other things without completion of the job. While most others seek a break between their tasks, I find that it disturbs my flow or drive. This can sometimes be a problem especially as Pace Energy Limited tends to have a strict routine.

Lastly, I maintain professionalism at my workplace. I have a habit of checking and rechecking my work. This quality puts me both at an advantage and disadvantage. As accuracy is of

paramount importance, this helps me a lot. I made example how quickly a project can be done and finalized the deal. I am lucky of getting a hard working & dedicated group of people.

3.5 Problems at work

It's been always enjoying work at Pace Energy Limited since I joined. The amiable environment of work is the most wonderful aspect; peoples are very helpful, understanding & dedicated to work. Minor issues alone with other organization I faced to coordinate with production & technical professionals. Sometimes they required time longer than I can proceed. Another problem is to go through the task force meeting the MD & Chairman for approval. It somehow makes limitation for prompt decision making.

6.6 Competencies and Skills Acquired on the Job

My placement at Pace Energy Limited has helped me develop myself beyond the classroom lectures. I got the chance to see the financial reporting system, technical specifications, sales report generation, and offer generation system for companies in Bangladesh, which is quite different from what we had learned before in terms of formats and terms.

The internship has helped me to become more specific & disciplined due to the nine to six schedules everyday though I stayed late night to learn more about renewable energy business. I always found it difficult to cope with prior to this experience. Furthermore, I learned to prioritize my work as well as juggle different assignments or multitask during the days when there is heavy workload. This also helped me on track so that I do not lose focus, as I tend to go astray at times. Sometimes, prioritizing work can also mean saying “no” to other options. In addition, it also helped me to meet deadlines. I tend to be quite fidgety and hyper this experience has also helped me to reduce this. Apart from these, the experience has further developed some of the qualities that I already had such as team building, leading team, working under pressure or stress tolerance, attention to details checking own work for mistakes, initiative to learn more.

Chapter-4

Learning's

4.1 Things I have learned About Pace Energy Limited

Ways in Which the Supervisor Assisted Me in Learning About renewable energy. On my first day of work, as the Head of Business, Chairman Mr. Rakibul Hasan briefed me about the history of Pace Energy Limited. How this organization got involved with renewable energy. Pace Energy limited earns most of its revenue from solar cell sales and installing the system. Having learned that, he briefed me about the organization's mission and it is professional work environment. He also mentioned that integrity and the willingness to help others are highly valued at Pace Energy Limited. My supervisor and the others provided me with information about the activities and divisions of Pace Energy Limited, which has helped me to understand the organization better. Based on the knowledge I had gained, I have done a large portion of the report.

4.2 Major Learning's

- **Preparing long term business agreements**
- **Understanding the organization & implementation of Porter's Five Forces model**
- **SOWT Analysis of Project or market**
- **Implementation of Service Quality**
- **Setting Customer Complain management**
- **Strategic group mapping**
- **Preparing reports & analyzing insights**

4.3 Opportunities for Learning & Cooperation

At this point in time, the number of interns at Pace Energy Limited is very few and they are dispersed in two departments. As a result, the teamwork I had to do involved working with my supervisor. This was evident during the screening of resumes and various phases of the making of the sales report and project schedules. In addition, there were also some sorting and filing work done. I feel that it would have been ideal if I could have teamed up with another intern for the reconciliation of project schedule, daily sales records and other entries, and also for updating the inventory. This would have helped to do the job faster and also maintain the accuracy. During my first few days, I noticed interns (who finished their internship shortly after I joined) in another department would finish the tasks faster without forgoing correctness, by simply working together. Nevertheless the work environment is such that all employees are there for one another and always ready to help if required.

Chapter-5

Findings & Observations

The Findings & Observations of my internship was working on the overall management & it allowed me to use my creativity on the following:

Report & Statement:

I felt really glad when I got to work on preparing Monthly Statement for Distributor operation & Sales Report Preparing. Now all the distributors receive statements on the due date of month. It increases the accountability of the organization.

Web Site Design: I have contributed my ideas and views on the design the layout for website designing.

Software Implementation: I have played to manage MD & chairman to operate the whole operation through software rather manual. It enables quick coordination among sales, Accounts & Distribution department.

Setting Key Performance Indicators for each department:

Performance evaluation of Pace Energy was based on personal judgment of managers. Now after the setting standards for performance indicator every employee will get benefit of better performance from the next appraisal. This will enable management to establish pay to performance system over time.

BIN Card for Distribution: It helps to manage inventory more efficiently and allows management to go for lean.

Chapter- 6

Recommendations

All goals and objectives of the internship program were achieved; therefore I do not have many suggestions or recommendations for revising the program. However, I think renewable energy has great potential in Bangladesh. Though Pace Energy Ltd. Has started business at late in this sector, but yet there lot of opportunities in implementing the goal of electrifying the rest 60% of uncovered rural areas. It's obvious that by the future time the demand will be raised higher for energy saving products. Pace energy Ltd. Needs to achieve excellence in operating management through proper planning, selecting efficient manpower and maintaining superior performance without compromising quality.

Chapter- 7

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Key Words

RDF- Rural Development Foundation
BUET_ Bangladesh University of Engineering & Technology
IDCOL- Infrastructural Development Company Ltd.

Chapter- 8

Appendixes

Figure-1: Marketing Framework

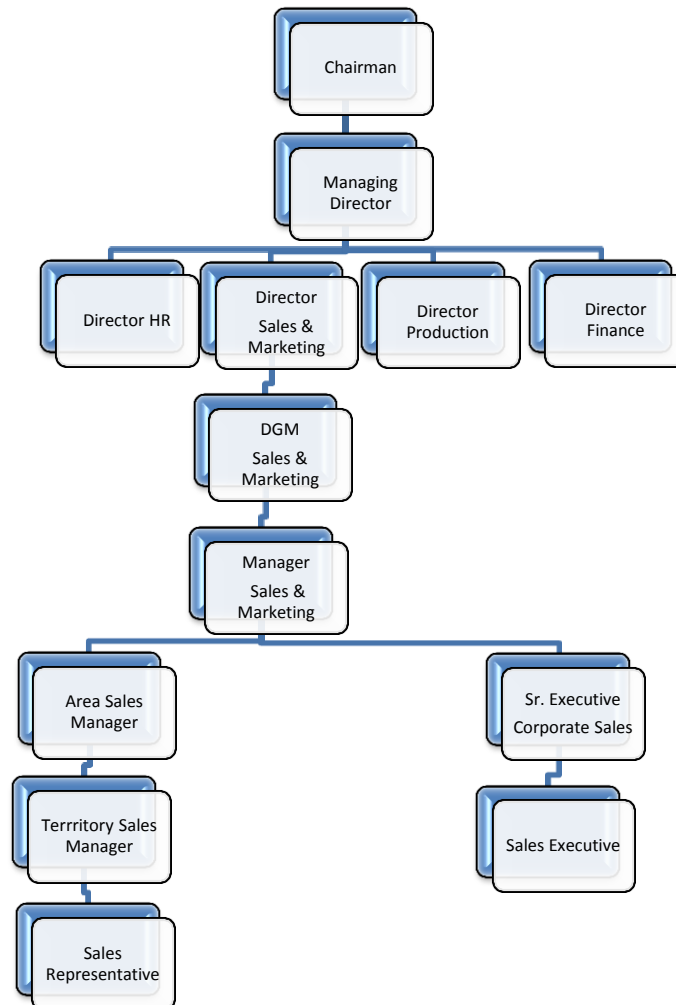


Figure-2: Organogram

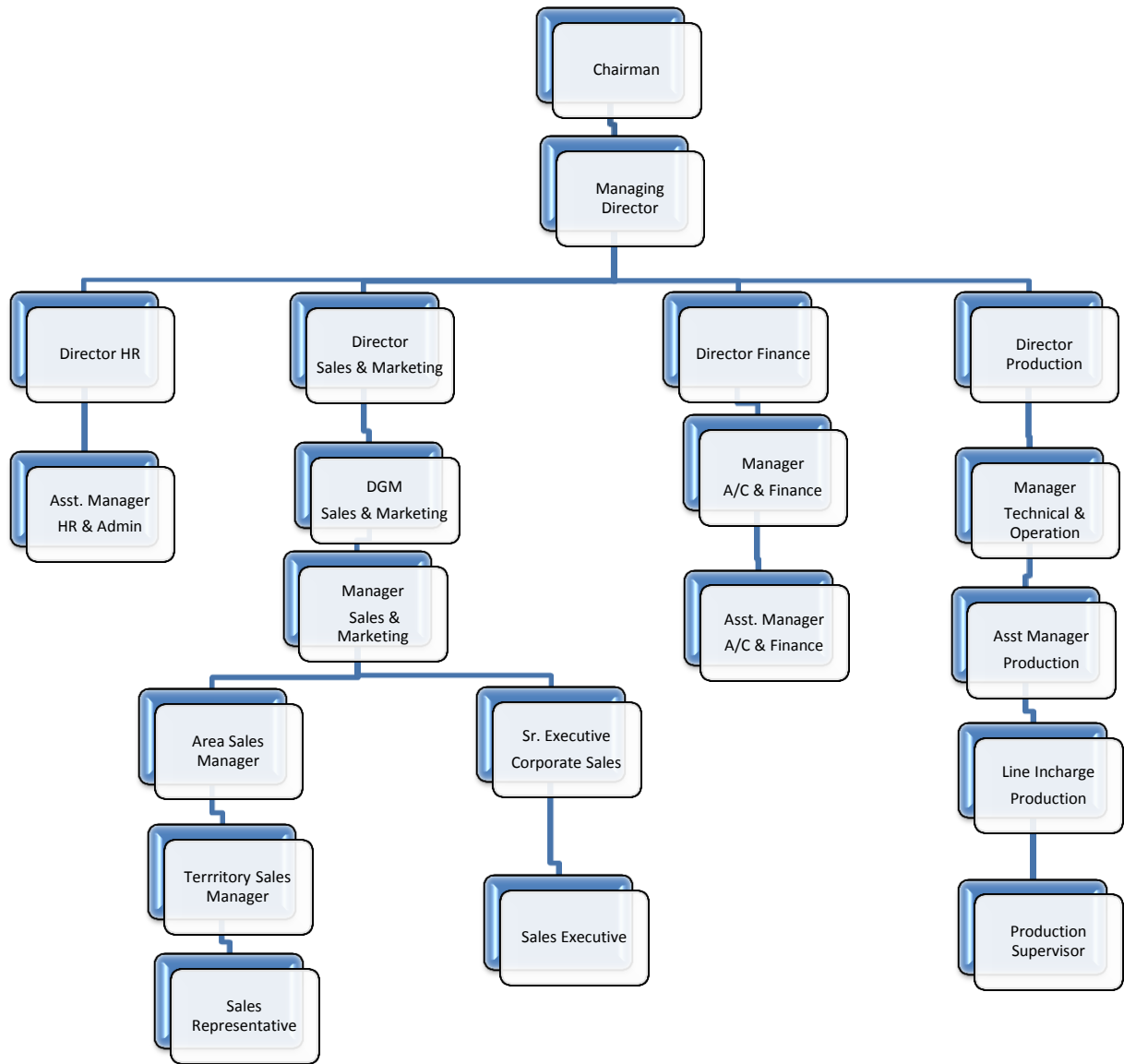


Figure-3: Solar Home System

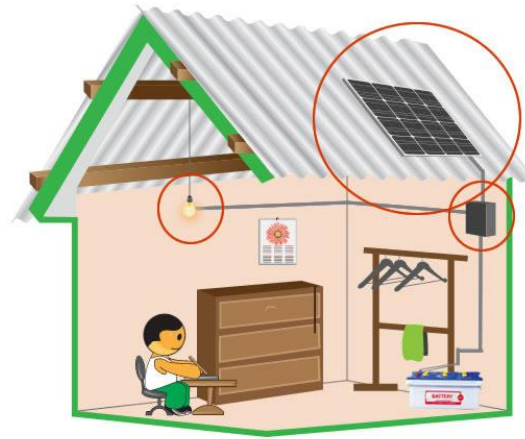


Figure-4: Solar Irrigation System

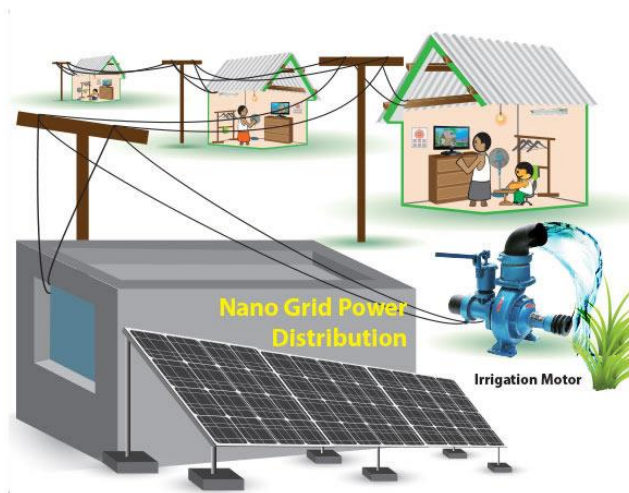


Figure-5: Solar Modules

Features:
Mono/Multi Crystalline
3BB/4BB Modules
PID free
Micro cracks free -100% EL inspected
AR coated glass for better positive tolerance
Zero negative tolerance
RoHS and CE certified
Linear degradation as per Industry standard
Best suited for Grid Tied applications
Certifications:
IEC 61215: 2005 Ed 2.0
IEC 61730-1: 2013 Ed 1.2/IEC 61730-1: 2007
IEC 61730-2: 2012 Ed 1.1/IEC 61730-2: 2007
IEC 61701: 2012 salt mist corrosion test



Figure-6: CFL & LED



List: Major Clients

A. Corporate Clients

Sl	Name of Client's
1	Rural Development Foundation
2	Military Engineering Services
3	Standard Bank Ltd.
4	Al Arafa Islami Bank Ltd.
5	Various Developer Companies
6	Grameen Shakti
7	TMSS
8	Patakuri Society
9	Srijoni
10	Saif Power Tech
11	Bengal Solar
12	Association for Village Advancement (AVA)
13	Hamko Solar
14	Uddipon Energy Ltd.
15	Southern renewable Energy Ltd.
16	Sun Rim Energy Ltd.
17	Padakkep
18	JSF Technologies Ltd.

B. Distributors & Dealers

Sl	Name of Distributors & Dealers
1	Anando Store
2	Arif Enterprise
3	Ajmeer Electric
4	Amanat Shah Electric
5	Apon Electric
6	Arsad Jubair
7	Asma International
8	Biddut Bitan Bara
9	Bipul Traders
10	Biddut Bitan Khulna
11	Biddut Bitan

Sl	Name of Distributors & Dealers
12	Biddut Ghor
13	B L Electric
Sl	Name of Distributors & Dealers
14	Chan electric
15	Chowdhury Electric
16	Dipa Nipa Electric
17	Dulal Electric
18	Doha Electric
19	Elahi Electric
20	Ericson Electric
21	Four Star Traders
22	Hafizur Vi
23	Hazi Machinery & Electric
24	Hira Electric
25	Helal Electric
26	Islamia Electric
27	Ipra Electric Distributor
28	Ipra Electric Dealer
29	Jalal Electric
30	Japan Electric
31	Jahingir Electric
32	Jamuna Electric Corner
33	Jewel Light House
34	Jamuna Electric
35	Khair Electric
36	Linda Electric
37	Liton Electric
38	Lucent Power
39	Lucent Enterprise
40	Life Time Enterprise
41	Lutfor Rahman
42	Mahin Bearing
43	Maa Electric
44	Mayar Doya Electric
45	Mahin Electric Jamalpur
46	Mahim Electric
47	Mahi International
48	Max Power
49	M K C Company
50	Monir Electric

Sl	Name of Distributors & Dealers
51	Mohammadi Electric Zone
52	Maisha Enterprise
53	Muktar Electric
Sl	Name of Distributors & Dealers
54	Nakshi Electric & Lighting Zone
55	Natore Electric
56	Naseeb Electric
57	New Lucent Power (Harun)
58	New SR Electric
59	New TACHNO TRADE
60	Odrib Electric
61	Panna Electric
62	Patwory Biddut Bitan
63	Proyojon Electric
64	Poly Traders
65	Rob Store
66	Raju Industries (Bogra)
67	Rajdhani Biddut Bitan
68	Ratan Store
69	Rony Hard ware
70	Shipon Electric
71	Shahidul Islam
72	Sumaiya Electric
73	S R Traders
74	Sarkar Electric
75	Shah Electric
76	S Electric
77	Sujon Biddut Bitan
78	Shamim Electric
79	Sumi Electric
80	Sultania Electric
81	Samina Hardware Store
82	SL Electric
83	SL Traders
84	Shaha Electric
85	S K Electric
86	SS.Biddut Bitan
87	Sohel Rana Jibon
88	SK.Hassan Eleetric
89	Salauddin Vi

Sl	Name of Distributors & Dealers
90	Tapoti Electric
91	Uttara Electric
92	Zaman Traders