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An in-depth SWOT Analysis of Siemens Energy Bangladesh Limited

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Abstract: This paper tries to explore the SWOT analysis of Siemens Energy Bangladesh Limited (SEBL) in detailed. SEBL is a brand name in the energy sector of Bangladesh. Through this SWOT analysis, the company's internal strength, efficient work style, efficient supply chain, operational strength, technology expertise, and strong brand have been identified and also the weaknesses of the company have also been identified. In addition, the paper also analyzes the opportunities and threats of the firm. The findings obtained the result of the SWOT analysis, which play an important role in getting an idea about the important strategic planning of SEBL. Besides, this report gives an idea of how to keep the company in the leading position in this energy sector by making full use of the strengths and opportunities and minimizing the weaknesses and threats. A comprehensive SWOT analysis of Siemens Energy Bangladesh Limited has revealed its strengths, such as well-established infrastructure, efficient supply chain , Strong Brand Reputation in the industry, as well as weaknesses, increased transportation cost impacting their operations sometimes. Opportunities arise in terms of expanding market share in the global market, expanding the electricity market in Bangladesh and taking over there, a global shift towards Renewable energy. While threats include strict government policies and environmental regulations in Bangladesh can impacting their operations, economic fluctuation and currency devaluation can adversely impact company's business stability. To navigate this landscape successfully, Siemens Energy Bangladesh limited should diversify its energy portfolio, prioritize innovation and renewable energy, and address potential threats through robust risk management. By doing so, the company can position itself for growth and sustainability in the ever-evolving Bangladeshi energy market.

Introduction

SEBL, a subsidiary of the global industrial conglomerate Siemens Energy, has been a prominent player in the energy sector of Bangladesh. Through this in-depth SWOT analysis, we can understand how internal and external forces affect SEBL in the era of rapid globalization. SWOT analysis methods are useful means of analyzing an organization's

strengths, weaknesses, opportunities, and threats. It also makes it easier to find out the company's current position and future success. This Paper will help to find out the company's core strengths and weaknesses, while the opportunities and threats will help it survive in the market.

Literature Review

Team, M.S. (2020) has comes to a conclusion that some of the internal strengths of Siemens AG is that it keeps its market leadership through innovation, pioneer on technology driven services, strong global recognition in the energy sector, joined venture with many renowned brand, as a result of which it has become famous in the world as a strong brand. But it is also noticeable that they have some weaknesses. Mentionable weaknesses among those are dependency on third parties.. Some opportunities, such as chances of expanding share on energy market, increase the demand for electricity and additional supporting services can be opportunity for this company. Talking about the threat, it is possible to tackle market fluctuation and government unfavorable regulations for the strong position of their business operations. Since SEBL is a sister concern of Siemens Energy AG, these aspects are likely to emerge in this case.

Objectives of the Study

The primary objectives of conducting an in-depth SWOT analysis of SEBL are as follows:

1. To evaluate the internal strength of SEBL which keeps the company ahead in market competition?
2. To examine the organizational weaknesses that hinders the company's growth.
3. To find out the opportunities for SEBL which helps to develop and expand the business.
4. To evaluate the threats such as market dynamics and government regulatory changes that pose risks to the organization's operations and strategy.

Methodology of the Study

In this paper, we outline a comprehensive methodology for conducting an In- depth SWOT analysis of SEBL, encompassing quantitative primary data. This study was done by collecting data from 20 employees of the company through a structured questionnaire in quantitative format. Most of the data has been collected from top-level management and few of them are from mid-level management of the company. In this analysis, we first performed Descriptive Statistical Analysis to get initial understanding of data, we have used sample mean to get the central tendency and sample standard deviation for getting Data variation. We confirmed the validity of the data in quantitative format through the hypothesis one tailed t test to get findings. Findings have been judged based on “P” Value.

Scope of the Study

The scope of this paper is to explore the internal and external factors of SEBL through SWOT analysis for measuring the strengths, weaknesses, opportunities, and threats of the company. As a result, the company can be well reviewed. Additionally, we can have a scope to get an idea about the company profile, their services and products. In particular, SWOT analysis can give us an idea about the current position and operation, future prospects of SEBL.

Overview of SEBL

SEBL, which is known as a renowned brand name in the energy sector, is currently known as the market leader. Their capabilities are their core success to run their business very

smoothly. Siemens operates its service activities mainly based on technology. Siemens started its business in Bangladesh in 1956. Earlier, it was named Siemens Bangladesh Limited, which is a 100% subsidiary company of Siemens AG, located in Munich, Germany. Currently Siemens operates its business in Bangladesh in three sectors i.e., industrial, energy, and healthcare. SEBL was formed in 2019. SEBL currently has 57 employees; with its head office is located at Laila Tower, Gulshan 1, Dhaka. Globally, Siemens has been doing business with sustainability for 167 years (Andrew, 2019) and operates in more than 190 countries. There have been some key projects accomplished by SEBL since its establishment in Bangladesh such as Bangladesh Railway signal project, Ashuganj power plant, substation at Bangladesh national assembly & Chittagong port, and a lighting solution at Dhaka national stadium etc.

Products and Services of SEBL

1. **Gas Services**: SEBL provides technology and equipment for power generation, which may include gas turbines, steam turbines, and generators. Gas Services has 2 unit named as New Unit / Global Customer Operation and Service Team.
2. **Grid Technology**: SEBL ensures highest performance and sustainable grid to their customer. Building and development of a substation goes by the section of grid technology where it gets divided into two categories: i. Grid solution- Transmission industries and ii. GTSB (Grid Technology Services Business)- Providing manpower and installation of the substation.
3. **Transformation of Industries**: SEBL provide products and services for the efficient distribution of oil and gas, such as centrifugal compressor, reciprocating compressor, and steam turbine generator.

SWOT Analysis

1. SEBL has a well- established infrastructure to support its operations

Likert Scale	Frequency	Percentage
Strongly Disagree/S. DA. (1)	0	0%
Disagree/ DA. (2)	0	0%
Neutral/ N. (3)	1	5%
Agree/ A. (4)	6	30%
Strongly Agree/ S. A. (5)	13	65%
Total	20	100%
Sample Mean ($\bar{x}$)	4.6	
Sample Standard Deviation (σ)	1.17	

Sample Mean ($\bar{x}$) = (Σ xi) / n = 4.6
The calculated mean of 4.6 shows that the respondents rate more in favour of "strongly agree." This suggests that the respondent has a positive attitude towards statement (Eads, 2023).

Sample standard deviation is: $\sigma = \sqrt{[\Sigma (xi - \bar{x})^2 / (n - 1)]}$
$\approx$ 1.176

The sample standard deviation is approximately 1.176, which is relatively low. This means that the answers of the respondents are closely clustered around the mean; as a result it can be assumed that there is not much variability in the perception of the respondents about the company (Cheusheva, 2023).
(N.B: Sample mean and Sample standard deviation are using because we don't have entire peoples data sets of SEBL's employees.)
Now, let's interpret these findings and set up the hypothesis T test:
Null Hypothesis (H0): SEBL does not have a well-established structure to support its operation (sample Population mean $\leq$ 3, where 3 is the neutral point on Likert scale).

Alternative Hypothesis (H1): SEBL has a well-established structure to support its operation (sample Population mean > 3).

Now, T statistics calculation:
T= (sample mean - population mean) / (sample standard deviation / √ sample size);
T= 6.11
Based on t value table, significant level is 5% and degree of freedom is 19 (One tailed t test has taken, because our focus is on Detecting positive impression about the statement).
P value = 0.01 (Wasserstein and Lazar, 2016).
Based on the Data: P-value 0.01 <0.05 (Chosen Significant Level).
Therefore, we would typically reject Null Hypothesis (H0), because the Value of "P" is less than the chosen significant level (5%/ 0.05).
From the analysis it has been found that Siemens Energy Bangladesh Limited has a well-established structure to support its operation.

2. SEBL has globally integrated and efficient supply chain

Likert Scale	Frequency	Percentage
S. DA. (1)	0	0%
DA. (2)	0	0%
N. (3)	3	15%
A. (4)	11	55%
S. A. (5)	6	30%
Total	20	100%
Sample Mean ($\bar{x}$)	4.15	
Sample Standard Deviation (σ)	2.12	

The calculated mean of 4.15 shows that the respondents rate more in favour of "agree." This suggests that the respondent has a positive attitude towards this statement (Eads, 2023).
The sample standard deviation is approximately 2.12. This means that the answers of the respondents are moderately clustered around the mean.

As a result of which it can be assumed that there is not so much variability in the perception of the respondents about the company (Cheusheva, 2023).
Now interpret these findings to set a hypothesis.
Null hypothesis: SEBL does not have globally integrated and efficient supply chain. (Sample mean < or = 3)
Alternative hypothesis: SEBL has globally integrated and efficient supply chain (Sample mean > 3)
T value = 2.42
At 5% significant level with degree of freedom 19
P value= 0.01 (Wasserstein and Lazar, 2016).
Based on the Data: : P-value 0.01 <0.05 (Chosen Significant Level).
Therefore, we would typically reject Null Hypothesis (H0), because the Value of "P" is less than the chosen significant level (5%/ 0.05).
From the analysis it has been found that Siemens Energy Bangladesh Limited has Globally Integrated and efficient supply chain.

3. SEBL enjoys a strong brand recognition and reputation in the industry

The calculated mean of 4.95 shows that the respondents rate more in favour of "strongly agree." This suggests that the respondent has a positive attitude towards this statement (Eads, 2023).

Likert Scale	Frequency	Percentage
S. DA. (1)	0	0%
DA. (2)	0	0%
N. (3)	0	0%
A. (4)	1	5%
S. A. (5)	19	95%
S. DA. (1)	20	100%
Sample Mean ($\bar{x}$)	4.95	
Sample Standard Deviation (σ)	0.115	

The sample standard deviation is approximately 0.115, which is relatively low. This means that the answers of the respondents are closely clustered around the mean the com (Cheusheva, 2023).

Now interpret these findings to set a hypothesis.

Null hypothesis: SEBL does not enjoys a strong brand recognition and reputation in the industry (Sample mean < or = 3)

Alternative hypothesis: SEBL enjoys a strong brand recognition and reputation in the industry (Sample mean > 3)

T value = 76

At 5% significant level with degree of freedom 19

P value= 0.00001 (Wasserstein and Lazar, 2016).

Based on the Data: P-value 0.00001 <0.05 (Chosen Significant Level).

Therefore, we would typically reject Null Hypothesis (H0), because the Value of "P" is less than the chosen significant level (5%/ 0.05).

From the analysis it has been found that SEBL enjoys a strong brand recognition and reputation in the industry.

4. <u>SEBL sometimes faces challenges with increased logistics transportation costs impacting their operations</u>

Likert Scale	Frequency	Percentage
S. DA. (1)	1	5%
DA. (2)	1	5%
N. (3)	6	30%
A. (4)	12	60%
S. A. (5)	0	0%
Total	20	100%
Mean	3.45	
Standard Deviation	0.12	

The calculated mean of 3.45 shows that the respondents rate more in favour of "agree." This suggests that the respondent has a positive attitude towards this statement (Eads, 2023).

The sample standard deviation is approximately 0.12, which is relatively low. This means that the answers of the respondents are closely clustered around the mean.

As a result of which it can be assumed that there is not much variability in the perception of the respondents about the company (Cheusheva, 2023).

Now interpret these findings to set a hypothesis.

Null hypothesis: SEBL does not faces challenges with increased transportation costs impacting their operations (Sample mean < or = 3)

Alternative hypothesis: SEBL sometimes faces challenges with increased transportation costs impacting their operations (Sample mean > 3)

T value = 17
At 5% significant level with degree of freedom 19
P value= 0.00001 (Wasserstein and Lazar, 2016).
Based on the Data P-value 0.00001 <0.05 (Chosen Significant Level).
Therefore, we would typically reject Null Hypothesis (H0), because the Value of "P" is less than the chosen significant level (5%/ 0.05).
From the analysis it has been found that SEBL sometimes faces challenges with increased transportation costs impacting their operations.

5. SEBL has significant potential to expand its market share in the global energy sector

The calculated mean of 4.2 shows that the respondents rate more in favour of "Agree." This suggests that the respondent has a positive attitude towards this statement (Eads, 2023).

Likert Scale	Frequency	Percentage
S. DA. (1)	0	0%
DA. (2)	0	0%
N. (3)	1	5%
A. (4)	14	70%
S. A. (5)	5	25%
Total	20	100%
Sample Mean ($\bar{x}$)	4.2	
Sample Standard Deviation (σ)	2.59	

The sample standard deviation is approximately 2.59. This means that the answers of the respondents are moderate clustered around the mean, as a result of which it can be assumed that there is not much variability in the perception of the respondents about the company (Cheusheva, 2023).

Now interpret these findings to set a hypothesis.
Null hypothesis: SEBL has no significant potential to expand its market share in the global energy sector. (Sample mean < or = 3)
Alternative hypothesis: SEBL has significant potential to expand its market share in the global energy sector. (Sample mean > 3)
T value = 2.07
At 5% significant level with degree of freedom 19
P value= 0.0261 (Wasserstein and Lazar, 2016).
Based on the Data: P-value 0.0261 <0.05 (Chosen Significant Level).
Therefore, we would typically reject Null Hypothesis (H0), because the Value of "P" is less than the chosen significant level (5%/ 0.05).
From the analysis it has been found that SEBL has significant potential to expand its market share in the global energy sector.

6. The increasing demand for electricity and related services in Bangladesh presents a favorable growth opportunity for the company

Likert Scale	Frequency	Percentage
S. DA. (1)	0	0%
DA. (2)	0	0%
N. (3)	0	0%

Likert Scale	Frequency	Percentage
A. (4)	17	85%
S. A. (5)	3	15%
Total	20	100%
Sample Mean (x̄)	4.15	
Sample Standard Deviation (σ)	0.12	

The calculated mean of 4.15 shows that the respondents rate more in favour of "agree." This suggests that the respondent has a positive attitude towards this statement (Eads, 2023).
The sample standard deviation is approximately 0.12. This means that the answers of the respondents are clustered around the mean.

as a result of which it can be assumed that there is not much variability in the perception of the respondents about the company (Cheusheva, 2023).
Now interpret these findings to set a hypothesis.
Null hypothesis: The increasing demand for electricity and related services in Bangladesh doesnot presents a favorable growth opportunity for the company. (Sample mean < or = 3)
Alternative hypothesis: The increasing demand for electricity and related services in Bangladesh presents a favorable growth opportunity for the company. (Sample mean > 3)
T value = 43
At 5% significant level with degree of freedom 19
P value= 0.00001 (Wasserstein and Lazar, 2016).
Based on the Data: P-value 0.00001 <0.05 (Chosen Significant Level).
Therefore, we would typically reject Null Hypothesis (H0), because the Value of "P" is less than the chosen significant level (5%/ 0.05).
From the analysis it has been found that the increasing demand for electricity and related services in Bangladesh presents a favourable growth opportunity for the company.

7. <u>The expanding renewable energy technology market offers SEBL the chances to diversify its energy solution</u>

Likert Scale	Frequency	Percentage
S. DA. (1)	0	0%
DA. (2)	0	0%
N. (3)	2	10%
A. (4)	15	75%
S. A. (5)	3	15%
Total	20	100%
Sample Mean (x̄)	4.05	
Sample Standard Deviation (σ)	0.14	

The calculated mean of 4.05 shows that the respondents rate more in favour of "agree." This suggests that the respondent has a positive attitude towards this statement (Eads, 2023).

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The sample standard deviation is approximately 0.1462. This means that the answers of the respondents are clustered around the mean.

As a result of which it can be assumed that there is not much variability in the perception of the respondents about the company (Cheusheva, 2023).
Now interpret these findings to set a hypothesis.

Null hypothesis: The expanding renewable energy technology market will not offer SEBL the chances to diversify its energy solution. (Sample mean < or = 3)
Alternative hypothesis: The expanding renewable energy technology market offers SEBL the chances to diversify its energy solution. (Sample mean > 3)
T value = 33.5
At 5% significant level with degree of freedom 19
P value= 0.00001 (Wasserstein and Lazar, 2016).
Based on the Data P-value 0.00001 <0.05 (Chosen Significant Level).
Therefore, we would typically reject Null Hypothesis (H0), because the Value of "P" is less than the chosen significant level (5%/ 0.05).
From the analysis it has been found that the expanding renewable energy technology market offers SEBL the chances to diversify its energy solution.

8. Strict government policies and environmental regulations in Bangladesh pose a significant challenge to SEBL's Operation

Likert Scale	Frequency	Percentage
S. DA. (1)	0	0%
DA. (2)	2	10%
N. (3)	5	25%
A. (4)	9	45%
S. A. (5)	4	20%
Total	20	100%
Sample Mean ($\bar{x}$)	3.75	
Sample Standard Deviation (σ)	1.39	

The calculated mean of 3.75 shows that the respondents rate more in favour of "agree." This suggests that the respondent has a positive attitude towards this statement (Eads, 2023)
The sample standard deviation is approximately 1.39. This means that the answers of the respondents are moderate clustered around mean.

As a result of which it can be assumed that there is not much variability in the perception of the respondents about the company (Cheusheva, 2023).
Now interpret these findings to set a hypothesis.

Null hypothesis: strict government policies and environmental regulations in Bangladesh do not pose a significant challenge to SEBL's Operation. (Sample mean < or = 3)
Alternative hypothesis: strict government policies and environmental regulations in Bangladesh pose a significant challenge to SEBL's Operation. (Sample mean > 3)
T value = 2.41
At 5% significant level with degree of freedom 19
P value= 0.01 (Wasserstein and Lazar, 2016).

Based on the Data P-value 0.01 <0.05 (Chosen Significant Level).
Therefore, we would typically reject Null Hypothesis (H0), because the Value of "P" is less than the chosen significant level (5%/ 0.05).

From the analysis it has been found that strict government policies and environmental regulation in Bangladesh pose significant challenges to SEBL's Operation.

9. Economic fluctuations and currency devaluation in the region can adversely impact a company's business stability

Likert Scale	Frequency	Percentage
S. DA. (1)	2	10%
DA. (2)	1	5%
N. (3)	3	15%
A. (4)	11	55%
S. A. (5)	3	15%
Total	20	100%
Sample Mean ($\bar{x}$)	3.6	
Sample Standard Deviation (σ)	1.49	

The calculated mean of 3.6 shows that the respondents rate more in favour of "agree." This suggests that the respondent has a positive attitude towards this statement

The sample standard deviation is approximately 1.49. This means that the answers of the respondents are moderate clustered around the clustered around the mean, as a result of which it can be assumed that there is not much variability in the perception of the respondents about the company (Cheusheva, 2023).

Now interpret these findings to set a hypothesis.

Null hypothesis: Economic fluctuations and currency devaluation in the region cannot adversely impact company's business stability. (Sample mean < or = 3)

Alternative hypothesis: Economic fluctuations and currency devaluation in the region can adversely impact company's business stability. (Sample mean > 3)

T value = 1.80

At 5% significant level with degree of freedom 19

P value= 0.04 (Wasserstein and Lazar, 2016).

Based on the Data: P-value 0.04 <0.05 (Chosen Significant Level).

Therefore, we would typically reject Null Hypothesis (H0), because the Value of "P" is less than the chosen significant level (5%/ 0.05).

From the analysis it has been found that the economic fluctuations and currency devaluation in the region can adversely impact company's business stability.

Findings

Siemens Energy Bangladesh Limited (SEBL) has a well- established structure to support its operation. It has a globally integrated and efficient supply chain, also enjoys strong brand recognition in energy sector. SEBL sometimes faces challenges with increased Logistics transportation costs impacting their operations. But it has significant potential to expands its market share into global market share and the increasing market demand for electricity and related services in Bangladesh presents a favorable growth opportunity for this company. Moreover, the expanding renewable technology Market can offers this company to grab a chance to diversify its energy solution. Strict government policies and environmental regulations in Bangladesh pose a significant challenge to SEBL. Additionally, Economic fluctuation and currency devaluation in this region can impact adversely to SEBL's business stability.

Recommendations

A SWOT analysis of SEBL shows that this company has a strong brand reputation in the energy sector. SEBL's strengths and opportunities are capitalized, and its weaknesses and threats should be mitigated. These recommendations can be followed to maintain the market-leading position. For minimizing potential weakness, this company has to consider optimizing logistics, exploring bulk transportation options, and negotiating contracts with

transport providers to mitigate impact of increased Logistics transportation cost on SEBL. By making full use of the potential opportunities of SEBL, they can be ahead in the market, such as the opportunity to expand the global market, occupy the Bangladesh energy sector as it expands, etc. These will give the company a competitive edge. To minimize threats, the company's business plans should be arranged keeping in mind government regulations, and the company's brand recognition can be increased manifold by arranging the business model accordingly so that the company does not face problems in economic fluctuations. All of these recommendations can bring the company's ultimate goal, which is wealth maximization.

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