



CORPUS PUBLISHERS

Current Trends in Engineering Science (CTES)

ISSN: 2833-356X

Volume 4 Issue 2, 2024

Article Information

Received date : January 15, 2024

Published date: February 20, 2024

*Corresponding author

Mohammad Shahidul Islam, Atlantic
International University (AIU), USA

DOI: 10.54026/CTES/1056

Keywords

SWOT; BUET; Chemical Engineering
Education; Home and Abroad;
Challenge; Success

Distributed under Creative Commons
CC-BY 4.0

Short Communication

Strength, Weakness, Opportunity and Threat (SWOT) Analysis of BUET Chemical Engineering Education in Home and Abroad

Mohammad Shahidul Islam*

Atlantic International University (AIU), USA

Abstract

Bangladesh University of Engineering & Technology (BUET)'s Chemical Engineering Department is almost 75 years old. This department has one the world's best Chemical Engineering curriculums to teach enrolled bright students of the country. As result, the students can grab the teaching materials easily to educate themselves. Despite this, the graduates face many challenges to establish themselves in home and abroad. Competitive curriculum and personal competency are the strength. Lack of quality facility and resources are the weakness. Innovative quality and devotion in profession are the opportunity. Social, cultural, environmental and economic issues are the threat of the graduates of this department in home and abroad. Some graduate can overcome these issues while the other cannot. Those who can overcome, become success. Lack of prior knowledge on many issues is the main cause of failure in working career. Proper knowledge on many issues and compatible aptitude help the graduates to overcome many challenges in order to establish themselves in home and abroad.

Introduction

BUET Chemical Engineering department started its journey 75 years ago. Since then the department has produced thousands of graduates with guidance of well-educated teaching staffs. These graduates are well established in home and abroad. In the past competition and technology development were not so intense. So, notable change was not so visible in many circumstances. Due to recent rapid development of technology, a gap is created between the knowledge giver and the knowledge receiver. This is the main cause of challenge of chemical engineering graduate of the BUET in home and abroad in recent time.

Strength, Weakness, Opportunity and Threat (SWOT) analysis is a tool to access a system by considering both prospects and constraints. Sometimes people only focus on sunny side and ignore the dark side. This is a constraint towards sustainable development. If the constraint is known, it becomes easy to overcome for the next time. But if it is unknown, the same mistake happens time and again and ultimate failure becomes rampant.

Aim of this short article is to discuss SWOT analysis of Chemical Engineering graduate of BUET. Purpose is to help future graduates to overcome difficulties they may face in order to success in their professional career.

Problem Description

In order to carry out SWOT analysis, criteria need to be well defined based on each category. Then a questionnaire survey is usually carried out over a wide range of focus group. But due to lack facility, this part is omitted and a qualitative assessment is conducted based on 22 years personal experience in home and abroad.

Methods

Qualitative analysis method is applied to carry out SWOT analysis [1,2]. Method is fixed based on criteria. For BUET graduate, criteria for strength are competitive curriculum and personal competency. Criteria for weakness are lack of quality facility and resources. Criteria for opportunity are innovative quality and devotion in profession. And criteria for threat are social, cultural, environmental and economic issues. This SWOT analysis is a good tool to access merits and demerits of graduates of Chemical Engineering department of BUET by considering both prospects and constraints.

Real Case Scenario and Discussion

Strength

Competitive curriculum and personal competency are the main strength of chemical engineering graduate of BUET. The department curriculum contains many time demanding important subjects that give the students solid background to become a good Chemical Engineer. This helps to grow the Engineers in their working career. The enrolled students undergo a strong competitive entrance examination. Compatible students get chance to enrol in the department. These students can grab the education material easily. These two criteria play a vital role to produce quality graduate by the Chemical Engineering department of BUET.

Weakness

Lack of quality facility and resources during their education are the main weakness of Chemical Engineering graduate of BUET. Due to resources constraints, the students are deprived from many essential and modern facilities during their education. As a result, the students face hardship to adopt themselves in rapid growing and changing environment in abroad.



Many graduate supervisors in abroad used to undermine the BUET graduates because they did not get chance to handle modern facilities during their education in Bangladesh. These resource persons encourage the graduate to limit their studies in theoretical fields only. As a result, sometimes the BUET graduates are compelled to confine their education despite possibility to grow in experimental fields.

Opportunity

Innovative quality and devotion in profession are the main opportunity offered by Chemical Engineering graduate of BUET. Solid educational background makes the Chemical Engineering graduate of BUET curious and innovative. These drive the graduate to come up with new ideas to solve unknown problems in home and abroad. I can re-call the very last advice given us by our respected Professor Dr. Iqbal Mahmud Sir in 2001 before our graduation. He advised us by saying, "You received such education to solve any Chemical Engineering related problem in the world. You just think, get into the problem and you will be able to solve it". I still re-call his remark when I am able to solve Chemical Engineering related complex problem in home and abroad. Devotion in profession is an ideal virtue. BUET incubates the students to acquire the virtue of devotion during entire life cycle of education. As a result of this, Chemical Engineering graduate of BUET extend their devotion and dedication in their working fields. This is another cause of success by many Chemical Engineering graduate of BUET in home and abroad.

Threat

Lack of proper knowledge on social, cultural, environmental and economic issues are the main cause of threat faced by Chemical Engineering graduate of BUET in home and abroad. Due to hard engagement during study, BUET graduate gets less time to be socialized in social, cultural, environmental and economic issues. The effect becomes

very intense when they come to overseas countries to take up higher education. Overseas students are much more familiar on these issues. As a result, they often undermine Bangladeshi students because of lack of their knowledge on these issues. I personally became un-successful on two occasions in abroad because of lack of knowledge on social, cultural, environmental and economic issues. So, it is good to be familiar with these issues during undergraduate education to avoid complexity afterwards.

Conclusion

Success in working career is very important for any graduate life. Chemical Engineering graduate of BUET is not away from it. It is good to know the sunny part and dark part of a process to take up opportunity and avoid threat. SWOT analysis on Chemical Engineering graduate of BUET identified prospects and constraints. It is good to maintain and increase strength, eliminate weakness, incubate opportunity and face threat to develop sustainably in Chemical Engineering profession in home and abroad. We should never give up and should hope for the best to grow exponentially towards our career as Chemical Engineer!

References

1. Islam MS, Sangaran S (2022) Sustainable Treatment of Emerging Organic Pollutants (Eops), Endocrine Disruption Chemicals (Edcs) from Water & Waste Water and Role of AIU Online Based Distance Learning Education System to Achieve UNESCO 2030 Goals Towards Sustainable Development. *European Journal of Applied Sciences* 10(4): 556-569.
2. Maleka VM, Islam MS (2023) Exploring the Efficacy and Feasibility of Wind Energy as A Panacea for Eskom's Sustainable Generation with Energy Security and Energy Poverty. *European Journal of Applied Sciences* 11(2): 131-142.