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DEVELOPMENT OF STRATEGIES TO MINIMIZE THE STUDENT DROPOUT FROM THE ALTERNATIVE HIGHER EDUCATION SECTOR OF SRI LANKA – A CASE STUDY

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ABSTRACT

The principal objective of this study was to identify the reasons for the student dropout of Sri Lanka Institute of Advanced Technological Education (SLIATE) with a view of developing strategies to minimize the student dropout rate. A stakeholder survey was conducted to identify the reasons for the student dropout rate. Primary data was collected from students and academic staff randomly. The sample size was 10 students and 5 staff from each programme of each institute. Descriptive statistics and Friedman test performed to identify the reasons for student dropout. Analysis of Variance was performed to identify the effect of resource availability, teaching quality and infrastructure facilities on the student dropout rate. Correlation analysis was performed to identify the relation between reasons for student dropout and other factors. Strategies to improve the performance of the institute were developed by performing PESTEL analysis and SWOT analysis. A TOWS matrix was developed using the SWOT analysis. The main reasons for student dropout were to join other vocational training programmes and students were selected for the national universities. The female dropout rate was (65%) higher than the male dropout rate (35%). The student dropout rate was not affected by the quality of teaching and resource

availability. There is a significant positive correlation between resource availability and infrastructure availability at 0.01 probability level. Introducing new programmes and revising the existing curricula to match the industry's needs, upgrading SLIATE into a degree awarding institute and signing MOU with UGC recommended to select the students for recruitment after selecting students for universities are some of the strategies to minimize student dropout and to improve the performances of the institute.

Key words: Academic performance, dropout rate, strategic management

INTRODUCTION

Sri Lanka Institute of Advanced Technological Education (SLIATE) was established in 1995 and the main purposes of establishing SLIATE were to reform and restructure the entire technical and vocational education system in relation to the changing needs of economic development, to meet manpower requirements of national development strategies (Annual Report, 2018). It is a government higher educational institutes provide free education for the advanced level qualified students.

SLIATE is one of the leading higher educational institutions in Sri Lanka which provide alternative higher

educational opportunities for the advanced level qualified students who were not selected to the state universities due to limited capacities in state universities. At present, it manages and supervises 19 regional institutes. (Annual Report, 2018). Institute offers Higher National Diploma (HND) programmes and 16 HND programmes.

Dropout of a student can be explained as a person who leaves school, college, or university before completing a qualification, or a person who lives in an unusual way. In North Carolina a dropout is defined as “any student who leaves the school for any reason before graduation or completion of the programme” (Bonneau et al., 2015). Student dropout rate is one of the factors that could use to identify the performance of a higher educational institutes. There may be many reasons for student dropout such as financial issues of the students, non-availability of job opportunities for the programmes, out dated syllabuses, ragging incidences and so on. Private sector institutes are using strategic management concepts and theories to identify the performance of the institute and to make corrective measures to achieve vision and mission of the institutes. But most of government institutes are less concern on strategic management and strategic movements. Hence, such institutes become inefficient and ineffective and finally government will not achieve the expected targets for the investments.

Significance of the study

In Sri Lanka only 6% of the students who sit the Advanced Level examination are admitted to the universities (Fulbright Sri Lanka, 2022). Hence, alternative higher educational pathway paves the way for higher education for the students who become qualified for higher education but not become selected for the university. However, education system in Sri Lanka is not practical today as skill and attitude

development not considered as priority in the current education system (Next Travel Sri Lanka, 2021).

Education system of a country should be revised as per the requirement of global technological development and industrial requirement of the country. The main weaknesses to the current education system as represented by the research studies and intellectual board discussions are curricula is not match to the requirement of national goals, lacking of required skill for the job market and so on (NIE, 2018). The present status of the higher education system may affect on student dropout as the requirement of the young generation is not address through the current education system. According to a previous research of Bandara et al., (2022) and Annual report of SLIATE 2021, found that student dropout rate of SLIATE is 48% which is considerably higher than expected dropout rate. Student dropout in different level means wasting of government investment on education. As SLIATE is the only alternative higher education institute govern under the Ministry of Education, it is important to find the reasons for such dropouts to develop strategies to take corrective actions for such issues. It will definitely direct the institute to achieve the vision of the institute and contribute to the sustainable development of the country.

Research objectives

The primary objective of this study was to determine the reasons for student dropout of SLIATE with a view of developing strategies to improve the performance of the institute.

Specific objectives were;

1. To identify reasons for the student dropout rate.
2. To develop strategies to improve the performance of the Institute

Research problems

What is the student and staff perception on major reasons for student dropout rate?

What is the gender wise contribution for student dropout?

Whether the resource availability, quality of teaching and infrastructure facilities at institutes affect on dropout rate?

THEORETICAL FRAMEWORK

Strategic management can be defined as art of deciding, implementing and evaluating inter-functional functions that enable the organization to achieve its goals (Khemesh, 2019). Bruijl, 2018, emphasized that surviving in today's hypercompetitive market environment means developing a competitive strategy to create long-term value for stakeholders and developing different innovative ways to engage customers. Therefore, strategies should be developed by analysing internal and external environment of the organization. SWOT analysis, PESTAL analysis and Porter's five force analysis are key tools to analyse the internal and external environment and to develop strategies for an organization.

SWOT stands for Strengths, Weaknesses, Opportunities, and Threats. SWOT Analysis is a technique for assessing these four aspects of a business. The TOWS Matrix illustrates how the external opportunities and threats facing a corporation can be matched with the company's internal strengths and weaknesses to result in four sets of possible strategic alternatives (Weihrich, 1982). A PESTLE analysis is a framework or tool used by marketers to analyse and monitor the macro-environmental factors that have an impact on an organization.

LITERATURE REVIEW

Academic performance

Academic performance is defined in different ways and different institutes, assess academic performance in many ways. Eyman and Dilek (2020) emphasized that student success is defined as academic achievement. It concerned on engagement in educationally purposeful activities, satisfaction, acquisition of desired knowledge, skills and competencies, persistence, attainment of educational outcomes, and post-college performance. York et al., (2015) defined academic performance as combination of academic achievement, satisfaction, acquisition of skills and competencies, persistence, attainment of learning objectives, and career success.

Global challenges in higher education

Higher education is continuously subjected to changes with the globalization and digital revolution resulted in reshaping and redesigning (Stephanie, 2013). Sarker et al., (2010) have found 20 challenges face higher education globally. They are higher education governance and management, funding, accreditation, curriculum design, widening participation, student retention, student employability, quality of research, quality of teaching and learning, plagiarism, contribution to economy, tenure, construction of personal and group knowledge, group formation for teaching and learning, critical thinking and argument, integration of knowledge capital, assessment, adopting immerging technology, new generation staff, compete and collaborating globally in research and talent. Hence, higher education should be redesigned according to the global requirement.

World university ranking

World university ranking consider as performance measurement method for higher education sector in the world. There are multiple world university rankings available and most popular world university rankings are QS World University Rankings, Times Higher Education World University Rankings, Academic Ranking of World Universities (ARWU) and Webometrics ranking of world universities. These university rankings used different methods for ranking and assessing performance. Teaching, research, research citations are the major criteria used by many ranking methods (Anon., 2020).

Taylor and Braddock (2008) studied the theoretical and methodological issues of international university ranking systems and their conceptual connection with the performance. They examined the two best-known international university ranking systems—the Times Higher Education Supplement World University Rankings and the Shanghai Jiao Tong Academic Ranking of World Universities. They evaluated various criteria used by the two systems and discussed that the Jiao Tong system is a better indicator of university excellence. Based on assessments of two systems, researchers suggested how an ideal international university ranking system should be, concluding with some comments on the uses of ranking systems.

Shin and Toutkoushian (2011) were explained the main problem in university ranking and they argued that ranking universities is a challenging task because each institution has its own particular mission, focus and can offer different academic programs. Institutions are different in size and have different amounts of resources. Further, each country has its own history and higher education system which can impact the structure of their colleges and universities. Hence, university ranking methods do not always give accurate results regarding the

performance of higher educational institutes.

Situation of Sri Lanka

Out of Sri Lankan universities, only two were among 1400 universities around the world as per the Times Higher Education World University Rankings. In this method, 60% weight allocated for research and citations (Abeysekara,2020). Only the academic performance will not enhance the performance or reputation of the university. Hence, Sri Lanka need to reconsider this situation and enhance the research and citations to enhance the overall performance of higher education sector. The criteria used for the university ranking methods cannot be used to identify the performance of SLIATE as it is not providing programmes at undergraduate level and postgraduate level. Therefore, research publication is not a component of the educational programmes of SLIATE. Present study is mainly focus on reasons for student dropout without completing the higher educational opportunity.

Conceptual and theoretical aspects of the study

Strategic management is the process of creating, implementing and evaluating decisions that empower an organization to accomplish its long term objectives. It facilitates an organization to be more proactive than reactive in developing future (David, 2003). It manages the organization's resources to achieve its goals by setting objectives, analyzing the competitive environment, analyzing the internal organization, evaluating strategies, and ensuring that management rolls out the strategies (Kenton, 2020). Ansoff et al., (2019) also pointed out that strategic management activities involve establishing goals and objectives, with maintaining set of relationship between

the organization and environment which enable it to pursue its objectives. Present study also dealing with performance of higher educational institute and these strategic theories and concepts are need to be analyzed and apply for the institute to enhance the institute performance.

When the existing strategies are not effective, new strategies should be identified by analyzing internal and external environment of the business. SWOT analysis, PESTLE analysis, Porters five force analysis can be used to analyzed the organizational internal and external environment and develop new strategies. SWOT analysis used to analyze internal and external environments of the organization. SWOT compares strengths, weaknesses, opportunities and threats. Limitations of SWOT is that it is a list of factors as to micro and macro environment of an organization. There is a difficulty in using qualitatively listed factors in decision making. Hence, referring only to SWOT analysis is insufficient in strategic planning (Gürel and Merba, 2017).

Porter's Five Forces analysis is an analytical tool help to identify where power lies in a business situation (Perera, 2020). Strongest competitive forces determine the profitability of an industry and important in strategy formulation (Porter, 1997). The connections of five forces decide competition in an industry and make continuous threat to the success of an organization (Porter, 1979). Bruijl, (2018) emphasized that the five forces model was developed in 1979, and it is a question if the five forces are still relevant as the model has not changed its concept for more than 38 years. He has focused his review on the relevance of Porter's five forces today and its appropriateness when managers are considering innovations and changes. Porters five forces model was not used for the present study as buying and selling concepts are not directly applicable for an educational institute which provide free education.

PESTLE is a strategic planning tool used to evaluate the impact of political, economic, social, technological, environmental and legal environment of an organization. It helps an organization to anticipate future difficulties and to avoid or reduce their effect. TOWS concept is closely related to SWOT analysis. Wehrich (1982) explained that "Threats, Opportunities (in the environment) Weaknesses, Strengths (of the organization) should be

analyzed in this order, as a problem-solving sequence in the process of strategy formulation.

This study was to find the reasons for student dropout rate. Further, SWOT analysis and PESTLE analysis used to analyze internal and external environment of the institute. By using the above results suitable strategies can be identified to improve the performance of the institute with the aim of achieving competitive advantage in the market.

THEORY AND METHOD

Theory

The theory used in this study was "Strategic Management". As per David, (2011) strategic management is the art and science of formulating, implementing and evaluating, decisions that enable an organization to achieve its objectives. Hence, Strategy formulation, implementation and evaluation are important aspects of strategic management. Any organization should have a strategic plan and after implementation it is needed to evaluate the performance. This study is an evaluation of an educational institute with reference to the student dropout rate. Strategies should be revised by analyzing the internal and external environment of the organization.

Method

This study was conducted at SLIATE. All 19 regional centers govern under SLIATE were selected for the study. The survey conducted targeting all HND programmes offered by SLIATE namely Accountancy, Business administration, Business finance, English, Management, Tourism & Hospitality Management, Building service engineering, Quantity surveying, Engineering civil, electrical, mechanical, Information technology, Food Technology, Agriculture and consumer science and product technology. Selected regional centers for the study were Ampara, Anuradhapura, Badulla, Batticaloa, Colombo, Dehiwala, Galle, Gampaha, Jaffna, Kandy, Kegalle, Kurunegala, Mannar, Nawalapitiya, Rathnapura, Sammanthurai, Tangalle, Trincomalee, Vavuniya

Data collection

Reasons for the student dropout rate

To identify reasons for the student dropout rate and factors affecting the institute performance, a structured questionnaire was developed to conduct a survey. Primary data was collected from students and academic staff members of each institute randomly. The sample size was 10 for students and 5 for staff from each institute.

Develop strategies to improve the performance of the Institute

a. External Environmental analysis was conducted using PESTEL Analysis to identify the macro environment of the institute. Data collected relevant to following factors

- Political factors
- Economic conditions
- Sociocultural forces
- Technological factors
- Environmental factors
- Legal/regulatory conditions

- b. Internal Environmental analysis
- Data was collected on internal strengths and weaknesses of the institute and external opportunities and strengths to conduct SWOT analysis.

DATA ANALYSIS

SPSS statistical software was used for the analysis of survey results to identify the student, staff perceptions on reasons for student dropout rate and factors affecting the performance of SLIATE. Data analyzed using descriptive statistics. Friedman Test used to rank the reasons for student dropout rate. Analysis of Variance performed to identify the between group - combined effect (effect of resource availability, teaching quality and infrastructure facilities on student dropout rate). Correlation analysis performed to identify the relation between reasons for student dropout and other factors. PESTEL analysis was conducted based on collected data to identify macro environment of SLIATE. SWOT analysis was conducted using the data collected on internal strength, weakness and external opportunities and threats for the institute. Based on SWOT analysis, number of possible alternative strategies were identified by developing TOWS matrix.

RESULTS AND DISCUSSION

Table 1 shows the responded information received from SPSS analysis relevant to the structured questionnaire. Total number of responded was 272. Out of total respondents 60% were from the students following the programme.

Table 1: Total respondents for the questionnaire

| Respondent Category | | | | | |
|---------------------|----------------------------------|-----------|---------|---------------|--------------------|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Director | 8 | 2.9 | 2.9 | 2.9 |
| | Academic staff | 35 | 12.9 | 12.9 | 15.8 |
| | Students following the programme | 164 | 60.3 | 60.3 | 76.1 |
| | Pass out student | 65 | 23.9 | 23.9 | 100.0 |
| | Total | 272 | 100.0 | 100.0 | |

Major reasons for student dropout

Table 2 shows the 25th percentile (Q1), the 50th percentile as the median (Q2), and the 75th percentile (Q3) and result of the Friedman ranking test relevant to the “reasons for student dropout”. Percentiles show how a given value compares to others.

According to the results, the main reasons for student dropout was to “join another vocational training programme” and “selection to the Universities”. Third reason was “selected for Teacher Training College”. The reason for this was that majority of the students of SLIATE were belonging to the middle-income level and

poverty level. Hence, students prefer programmes which have job security or a degree programme. Hence, whenever they get an opportunity for such programme, they give up the SLIATE programme as there is no direct job appointment in SLIATE programmes. Majority of the students continue their higher education up to degree level after completing the HND programme as it is their dream of the life. However, it is evident that ragging and quality of teaching are not significantly affect on student dropout rate as those were ranked as 7-8 in mean rank.

Table 2: Major reasons for student dropout

| Reasons | Percentiles | | | Friedman Test |
|--------------------------------------|------------------|---------------------------|------------------|---------------|
| | 25 th | 50 th (Median) | 75 th | Mean Rank |
| ATI is far away from home | 5.00 | 6.00 | 8.00 | 6.64 |
| To joined another vocational program | 1.00 | 1.00 | 4.00 | 2.65 |
| Due to the ragging | 6.00 | 8.00 | 9.00 | 7.55 |
| Due to the quality of teaching | 8.00 | 8.00 | 9.00 | 8.02 |
| Selected for University | 2.00 | 2.00 | 2.00 | 2.36 |
| Less resources availability | 5.50 | 6.00 | 7.00 | 6.37 |

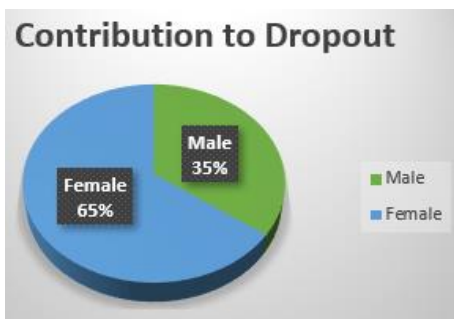
| | | | | |
|---------------------------|------|-------|-------|------|
| Got another job | 3.00 | 4.00 | 5.00 | 4.09 |
| Teacher training colleges | 2.50 | 3.00 | 4.00 | 3.50 |
| Nursing | 4.00 | 5.00 | 7.00 | 5.44 |
| Other* | 7.00 | 10.00 | 10.00 | 8.37 |

Student dropout gender-wise

Below Figure 1 shows the gender-wise student contribution to dropout of SLIATE. The highest contribution was

observed from female students. The contribution of female students for dropout was 65% whereas male students was 35%.

Figure 1: Student contribution to dropout gender wise



Resource availability

Student and staff perception on resource availability at regional education centres given in Table 3. As per the results, it was noticed that students were not highly satisfied about resources for sports, laboratories, farms and workshops available at institutes for learning and sport activities. However, students were moderately satisfied about the library facilities IT lab facilities within the

institute. Only 32% and 22% of students stated that library and IT lab facilities are low within the institutes. There are institutes which don't have permanent place for the regional centres and they are using a rental area for the institutes (Vavuniya, Nawalapitiya, Mannar). Hence, facilities at those institutes are limited. Further, SLIATE has initiated establishing new buildings at permanent places for those institutes.

Table 3: Student & staff perception on resource availability at centres

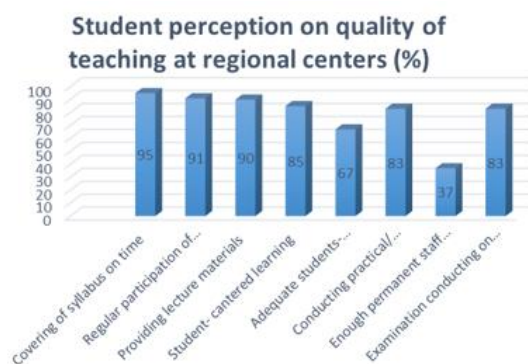
| Resources | Low (%) | Adequate (%) | High (%) |
|------------|---------|--------------|----------|
| Sports | 72 | 23 | 5 |
| Laboratory | 66 | 28 | 6 |
| Library | 32 | 51 | 17 |
| IT lab | 22 | 56 | 22 |
| Farm | 74 | 21 | 5 |
| Workshop | 56 | 38 | 6 |

Quality of teaching

When consider the quality of teaching at institute level and programme level, majority of students were satisfied (>80%) about covering syllabus, regular participation of academic staff for academic activities, providing lecture materials, Student centred learning, conducting practical, tutorial appropriately and conducting examination on time (Figure 3). On the other hand students were dissatisfied about lack of enough permanent staff members for academic activities and results releasing on time. In addition, 67% of students agreed that there were adequate students: lecture ratio and 33% of students mention that there were no enough students: lecture

ratio. This is true when consider certain programmes as HNDTHM, HNDPM. Almost all the programmes depend on visiting lecturers to conduct the academic programmes to certain extent. Students were dissatisfied about the visiting staff members and they were requested enough permanent academic staff for all programmes. Some regional centres in remote areas lack adequate academic staff to conduct lectures. Students and academic staff were not satisfied about results releasing on time. About 56% of students and staff mention that results were not released on time while 44% of them mentioned that results received on time.

Figure 3: Quality of teaching



Infrastructure facilities available at regional centres

Table 4 displays the student and staff perception on infrastructure facilities available at regional centres. Students and staff members were highly satisfied about security service (85% adequate or high) and garbage disposal systems (80% adequate or high) of regional centres. However, students and staff members were unsatisfied regarding multimedia facilities (55% inadequate or not available), lab equipment (66% inadequate or not available), cafeteria and

resting places/ common room (67% inadequate or not available) facilities. Further, students and staff members moderately satisfied about (adequate or high) enough spaced at lecture hall (52%), number of books/ references materials (54%), drinking water (61%) and sanitary condition (58%).

Table 4: Mean responses for infrastructure & other facilities

| Facilities | Not available (%) | Inadequate (%) | Adequate (%) | High (%) |
|-----------------------------------|-------------------|----------------|--------------|----------|
| Enough space in the lecture halls | 9 | 39 | 40 | 12 |
| Multimedia facilities | 6 | 49 | 42 | 3 |
| Lab equipment | 22 | 44 | 32 | 2 |
| No of books in the library | 9 | 37 | 48 | 6 |
| Drinking water quality | 9 | 30 | 45 | 16 |
| Sanitary conditions | 15 | 27 | 44 | 14 |
| Garbage disposal | 3 | 17 | 63 | 17 |
| Security service | 2 | 13 | 62 | 23 |
| Cafeteria | 11 | 53 | 32 | 4 |
| Reading place/ resting area | 31 | 36 | 33 | 0 |

Overall perception on resource availability, teaching quality and infrastructure facilities

Table 5 shows the mean stakeholder perception on resource availability, teaching quality and infrastructure facilities. Students and staff members are moderately satisfied about infrastructure facilities available at the institutes which denote by 25.61 mean value. With reference to the quality of teaching, mean

value is 10.12 which indicate that stakeholders were highly satisfy about the teaching quality at institute level. The mean value for resource availability is 9.3 which means students and staff moderately satisfy about the resource availability at institute level to conduct the programmes. Above results review that resource availability, teaching quality and infrastructure facilities are not affect on student dropout as students and staff were not dissatisfied about above factors.

Table 5: Mean satisfaction on resource, teaching quality and infrastructure facilities

| Factor | Minimum | Maximum | Mean | Std. Deviation |
|---------------------------|---------|---------|---------|----------------|
| Infrastructure Facilities | 10.00 | 56.00 | 25.6148 | 5.18142 |
| Quality of teaching | 8.00 | 28.00 | 10.1822 | 1.86138 |
| Resource availability | 6.00 | 18.00 | 9.3333 | 2.37651 |

Analysis of Variance

According to the analysis of variance, there is a significant effect between infrastructure facilities and student dropout. However, there is no such significant effect with “reasons for student

dropout” and rest of the factors (Table 6). It indicates that student dropout rate is not affected by quality of teaching and resource availability but there is a significant combined effect with

infrastructure facilities and student dropout rate.

Table 6: Mean comparisons of Reasons for student dropout and other factors

| Between group - combined effect | Sum of Squares | df | Mean Square | F | Sig. |
|---------------------------------------------------|----------------|----|-------------|-------|------|
| Reasons for dropout and Infrastructure facilities | 164.610 | 22 | 7.482 | 3.742 | .000 |
| Reasons for dropout and Quality of teaching | 25.199 | 7 | 3.600 | 1.187 | .317 |
| Reasons for dropout and Resource availability | 24.342 | 9 | 2.705 | 1.045 | .411 |

Correlation analysis

There is a significant positive correlation between resource availability and infrastructure availability at 0.01 probability level (Table 5). When infrastructure facilities are at optimum level, if facilitate use of other resources.

However, there is no other significant correlation between other factors. Furthermore, there is no significant correlation between reasons for student dropout with infrastructure facilities, resource availability and teaching quality. Hence, there is no significant effect of above factors on student dropout rate.

Table 5: Results of correlation analysis

| Correlations | | Quality of teaching | Resource availability | Reasons for dropout |
|-----------------------|---------------------|---------------------|-----------------------|---------------------|
| Infrastructure | Pearson Correlation | -.121 | .463** | .164 |
| | Sig. (2-tailed) | .057 | .000 | .085 |
| Quality of teaching | Pearson Correlation | | -.115 | -.009 |
| | Sig. (2-tailed) | | .101 | .925 |
| Resource availability | Pearson Correlation | | | .054 |
| | Sig. (2-tailed) | | | .591 |

Development of strategies to improve the performance of the Institute

competitive standing (Rastogi & Trivedi, 2016).

PESTEL Analysis

PESTEL Analysis focuses on principal components of strategic significance in the macro-environment: PESTLE is an analytical tool that identifies how various factors may affect an organization and its

Political factors:

Some of the politicians approve more funding facilities for SLIATE and vice versa is very common.

Due to political influences and demand in certain areas, new ATIs have been

established and construction activities of such institutes are going on.

Political influences are high for recruitment of staff for the Institute.

Present government want to increase student intake to enhance higher education opportunities for the qualified students.

Economic conditions

Unemployment rate of HND students is effect on institute persistent. Therefore, employability rate is identified for all the HND programmes and curriculum revisions conduct to ensure the higher employability rate. Further, income level of the student family affect on successful completion of the programmes. Some student give-up the course when poverty of the family increase. Institute provide Mahapola scholarships to 1500 students. Therefore, general economic condition of the country affect on institute functions. Majority of the students are coming from middle income level or those who are in poverty level. Some students give up programmes when they found a job opportunity. SLIATE is offering part time programmes of certain HND programmes to address this issue. Salary scale for SLIATE academic and non-academic staff are very lower than for other higher educational Institute in Sri Lanka. Especially it is very difficult to recruit academic staff for HND Engineering programmes.

Sociocultural forces

Societal values, attitudes, cultural influences, and lifestyles make impact on demand for particular programme. In certain areas of the country there are less demand for certain programmes such as "Tourism and Hospitality management". Reason is parents are reluctant to send their daughters for hotel training due to cultural issues. There is high demand for HND in English programme due to recruitment of those students as teachers to

government schools. Therefore, 90% of the students registered for HND in English programme are female students. Behaviours of the students is controlled by the sociocultural factors of the ATI located.

Technological factors

Technological factors directly effect on institutions functions. According to the changing technology, syllabuses of the HND programmes are revised. Technological improvements used for the administration works of institutes. For example, student online registration, online result releasing, selection of students to award Mahapola scholarships, student management system, LMS, library automation system..etc. Some of the programmes are technological programmes where it needs rapid changes in technology. For example, Engineering and information technology programmes. Therefore, training programmes required for academic staff and students.

Environmental factors

Environmental factors not directly affect on functions of ATIs. HNDDT Agriculture programme is affected due to flooding and drought conditions as the practical component of the programme based on yala and maha seasons and conducting practical classes become a challenge in such situations. Environment of certain institutes affect on student's behaviour. For example, ATI Colombo located in Mattakkuliya and the environment is not much support for educational activities. Some students addict for drugs due to bad surrounding environment.

Legal/regulatory conditions

All the legal, regulatory conditions which applicable for a government institutes are applicable to the SLIATE such as labour law, establishment code,

financial regulations and other policies. Institute is governing by a governing council and secretary of the education ministry is the chairman of the governing council. In addition, audit & management committee also monitor the financial progress of the institute.

When compare the overall environmental analysis with rival institutes, Economic condition is the most powerful factor affect in competing with other institutes. Other factors are same as for the rival institutes but financial issues and other economic factors of the country greatly affect on the performance of the institute.

SWOT Analysis

Strengths

1. Government ownership and support received from Ministry of Education and Governing council
2. Availability of highly qualified and dedicated academic staff with a positive relationship with students and guide students in co-curricular and extracurricular activities.
3. Locations: Head office at Colombo and 19 institutes Island wide
4. Presence in the higher educational sector over two decades
5. Wide range of diploma programmes
6. An institution which offers free education and welfare facilities for the needy students
7. Providing Mahapola scholarships for selected needy students
8. Higher demand for the institute from A/L qualified student
9. Majority of academic staff involve in research activities
10. Some of the demand programmes (HNDA, HND English and HNDIT) offered as part time programmes in addition to the full time programmes to

enable employers to uplift the career pathway while working in their job.

11. Accreditation of HNDT Agric., HNDFT, HNDIT, HNDE civil, HNDE electrical and HNDE mechanical programmes with NVQ 6 qualification.

12. HNDA is a unique programme offered by 16 regional institutes which is considered as an alternative qualification for a general degree of commers offered by state universities in recruitment as per the circular.

Weakness

1. Insufficient number of teaching staff is a serious factor specially for remote institutes
2. Insufficient number of non-academic staffs largely affect on smooth functioning of the institutes
3. Poor structure of visiting lecturer payments restricts attraction of qualified visiting lecturers
4. Lecturer to student ratio is 1: 125 which is too much lower the for higher education institute.
5. There is no foreign training exposure for the academic staff and for executive administrative staff.
6. Hostel facilities only available at few institutes
7. Lack of residential facilities in majority of institutes for staff.
8. There is no permanent place for the head office and less facilities available in the present location.
9. High student dropout rate
10. Less knowledge of students in IT and English proficiency
11. Inadequate infrastructure facilities in ATIs
12. Less job security for the diploma holders
13. Higher staff turnover due to poor salary structure

Opportunities

1. Increasing demand for diploma courses based on the emerging local and global trends in technological education.
2. Limited enrolment capacity for other state universities
3. MOUs with other recognized universities, foreign universities and professional bodies to provide top up degrees and accreditation for further studies
4. Availability of foreign funding projects.
5. Demand from foreign students
6. Availability of training and internship opportunities
7. Scope to increase the level of employability of diploma holders

Threats

1. Competition from other local and international higher educational institutes with more resources
2. Lack of public awareness about ATIs and its diploma programmes
3. Rapidly changing industrial requirement

4. Growing demand for external degree programmes, short term certificates and foundation courses
5. Insufficient job opportunities for ATI programmes in government institutes
6. Attractive offers made to academic staff by other institutions
7. State universities have started to offer diploma programmes

Based on the SWOT analysis, TOWS matrix developed to identify the strategies to improve the performance of the institute, specially to reduce dropout rate of the SLIATE. Table 5 shows the TOWS matrix and it contain the developed strategies in following categories.

S O strategies: based on strength and opportunities

W O strategies: based on weakness and opportunities

ST strategies: based on strength and Threats

WT strategies: based on weakness and threats

Table 3: TOWS Metrix

| TOWS Metric of SLIATE | Strength | Weakness |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | <ol style="list-style-type: none"> 1. Government ownership and support 2. Availability of highly qualified and dedicated academic staff 3. Locations 4. Wide range of diploma programmes 5. Institution which offers free education and welfare facilities for the needy students 6. Credit level of programmes exceed diploma level and certain programmes are similar to degree programmes | <ol style="list-style-type: none"> 1. High student dropout ratio 2. Poor recognition for SLIATE with higher education sector 3. Less job security 4. No proper accreditation system or body to provide SLQF level 5. Less resources in certain institutes |

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Opportunities</p> <ol style="list-style-type: none"> 1. Increasing demand for diploma courses based on the emerging local and global trends in technological education. 2. Limited enrolment capacity for other state universities 3. MOUs with other recognized universities, foreign universities and professional bodies to provide top up degrees and accreditation for further studies 4. Availability of training and internship opportunities | <p>S O strategies</p> <p>MOU with UGC to select student for recruitment after selecting students for universities and providing top up degree opportunities from state or private universities for SLIATE students.</p> <p>Upgrading SLIATE to a degree awarding institute</p> | <p>W O strategies</p> <p>Providing further educational pathways from local and foreign universities and professional bodies so that student dropout rate will be reduced.</p> <p>Revising curricula according to industrial need.</p> <p>Introducing new programme which have high market demand.</p> <p>Providing human and physical resources for required institutes.</p> |
| <p>Threats</p> <ol style="list-style-type: none"> 1. Competition from other local and international higher educational institutes with more resources 2. Lack of public awareness about ATI and its diploma programmes 3. Rapidly changing industrial requirement 4. Insufficient job opportunities for ATI programmes in government institutes | <p>ST strategies</p> <p>Improve the skill and competency of students to match to the industry</p> <p>Developing programmes to enhance entrepreneurs and industrial requirement</p> <p>Introducing part time and full-time certificate courses which can earn profit to the institute and increase the</p> | <p>WT strategies</p> <p>Improve the quality of education to meet the industrial requirement.</p> <p>MOU with industries to enhance job opportunities for the students.</p> <p>Use of propaganda for image building</p> <p>Developing a quality assurance and accreditation system (Ex. SLQF).</p> |

Kulshrestha and Puri (2017), explained te strategies develop through TOWS matrix as below.

SO strategy - maxi-maxi strategy. This situation which strengths in the environment and opportunities within dominates. With this strategy, it is possible to have strong expansion and diversified development.

WO strategy - mini-maxi strategy. This situation has more weaknesses but its environment provides more opportunities.

This type of strategy should include the use of these opportunities while reducing or correcting weaknesses of the organization.

ST strategy - maxi-mini strategy. The unfavourable environmental condition makes difficulties in growth and development of the organization due to occurrence of threats. This strategy uses internal strengths to overcome threats from environment.

WT strategy - mini-mini strategy. This situation is lacking of any development opportunities. It operates in aggressive environments, and its potential for change is small. There are no significant strengths, which could tolerate threats. This strategy is a kind of pessimistic version of the shut down or in optimistic situation - to attempt for survival with hopes of renewal.

Above developed four strategies would help to enhance the performance of the institutes.

CONCLUSIONS

Based on the results of this study, the following conclusions are made:

1. Main reasons for student dropout were to joint to another vocational training programme, selection for the university entrance and selection for Teacher training colleges.

2. The female dropout rate was (65%) higher than male dropout rate (35%).

3. Students were satisfied about quality of teaching at institute level and programme level (>80%). Specially covering syllabus, regular participation of academic staff for academic activities, providing lecture materials, Student-centered learning, conducting practical, tutorial appropriately and conducting examination on time. Students were dissatisfied about lack of enough permanent staff members for academic activities and results releasing on time. Hence, it is important to recruit permanent academic staff and maintain student: lecture ratio 25: 1 and release exam results in minimum time period facilitate students.

4. Students and staff members were moderately satisfied about infrastructure facilities, highly satisfy about the teaching quality and moderately satisfy about the resource availability at institute level. Hence, resource availability, teaching

quality and infrastructure facilities are not affect on student dropout.

5. There is no significant correlation between reasons for student dropout with infrastructure facilities, resource availability and teaching quality. Hence, there is no effect of infrastructure facilities, resource availability and teaching quality on student dropout.

6. Following strategies were developed and recommend to improve the performance of the Institute.

a) Introducing new programme which have high market demand.

b) Revising the existing curricula to match to the industry needs.

c) Upgrading SLIATE into a degree providing institute by amending the act.

d) Introducing part time and full-time certificate courses which can earn profit to the institute.

e) MOU with UGC to select student for recruitment after selecting students for universities

f) Developing programmes to enhance entrepreneurs

g) Improve the quality of education to meet the industrial requirement.

h) MOU with industries to enhance job opportunities for the students.

i) Introducing quality assurance and accreditation system to the SLIATE

Limitations

This study was conducted in 2020-2021, when all the educational institutes closed to avoid spreading of Covid19. This survey was conducted through online mode which restricted the receiving responses. Further, there might be impact due to psychological condition of the respondents during the answering to the questionnaire through online mode.

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