

IDENTIFICATION OF MECHANISM TO IMPROVE THE WORK EFFICIENCY:**A CASE OF INFORMATION TECHNOLOGY (IT) LECTURERS AT SRI LANKA INSTITUTE OF ADVANCED TECHNOLOGICAL EDUCATION (SLIATE) IN SRI LANKA****K.Kohilan, Senior Lecturer****Department of Information Technology
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Advanced Technological Institute. Jaffna, Sri Lanka****ABSTRACT**

The Sri Lanka Institute of Advanced Technological Education is a leading institute in Sri Lanka for providing technological education to the nation. This institute nowadays is known as an alternative higher education to the universities of Sri Lanka. Eleven (11) Advanced Technological Institutes (ATIs) and eight (08) ATI sections are functioning under hub of SLIATE. In those nineteen institutes, eighteen institutes conducting Higher National Diploma in Information Technology (HNDIT) to students who successfully completed Advanced Level examination for any stream in Sri Lanka. The last three decades, industry of IT changes very rapidly. In every fractions of a second, more innovations or inventions come in or go out. To satisfy the needs of this industry is very challenging task. The growth of IT is affecting all the fields in the world.

The present study is made an attempt to identify the mechanism of SLIATE and IT lecturers to improve the work efficiency along with rapidly changing IT industry. To achieve the aforesaid objective data is gathered from fifty-five IT lecturers of SLIATE working at different Advanced Technological Institutes those are located in several part of Sri Lanka. Due to small population and avoidance of sampling errors, census was taken in data gathering. It is found that most of the respondents are dissatisfied by the facilities available at ATIs, training and development opportunities, motivations and Salary provided by SLIATE. All those factors massively influences on the efficiency of lecturing and effectiveness of learning in this higher educational sector.

Keyword: Effective learning, mechanism, Work efficiency

1 Introduction

In SLIATE system, there are fifty lecturers conducting various IT related subjects in Higher National Diploma in Information Technology (HNDIT) courses or Non IT courses. These courses are conducting at different ATIs located in different district of Sri Lanka. Rapid technological development affects all the sectors in the world. As a result, everyone should move to the next level of advanced life style. This dynamic lifestyle influences a lot in SLIATE system also. All the lecturers are interested to have sophisticated equipment and work automations. This definitely promotes SLIATE into next level. There are more possibilities that it helps to increase work efficiency of IT staff as well as student learning quality. SLIATE treats all lecturers equally even in heterogeneous fields. As a result, it makes IT staff like others but they cannot understand the reality of differences. In fact, only the IT industry comparatively among all other industries is changing rapidly and influencing each part on it. People have to aware about this dynamic industry. Every fraction of second new things comes in and old things go out here.

Efficiency of IT lecturers is very complicated concept depends on several factors. Evaluation of efficiency is also complex process, which carried out in several levels.

Purpose of this project is to aware the stakeholders of SLIATE how affecting IT staff by dynamic IT industry and how much contribution needed from staff side and how much of contribution needed from SLIATE side for achieving to improve efficiency of lecturing. As a result, effectiveness of learning will be achieved and provide qualified live outputs to the society, country, or even to the world.

For this study, a questionnaire is sent to IT lecturers in SLIATE and collected their responses via email. Some of them requested hardcopy questionnaires and responded on it. The collected data is entered in MS Excel and analyzed with some statistical functions. To avoid Sampling errors, all members of the population is included in this study.

In the research, most part of the work will be carried out based on the field of statistics. However, domain of the contents is related the field information Technology. That is why the both skills are required to carry out the study.

One of us has experience and knowledge in Statistics as well as other one has experience and knowledge in IT. For formulating questionnaire, two parties skill such as contents related to the field of information technology and the way of collecting data through the field of statistics are required. In addition to that, data analysis and interpretation also requires same knowledge and skill for doing the research properly.

2 Literature Review

In Sri Lanka, SLIATE is a government institute for Advanced Technological Education, which is now considering as an alternative higher educational institution to Universities. It offers Higher National Diplomas those are equivalent to first two years of a degree program. For Bachelor of Information Technology (BIT), SLIATE passed outs have to study further one year in a University, which offers BIT. People who are working here as lectures have same qualification of university lecturers. When comparing us with university lecturers, their contact hours, their study leaves for improving the qualifications (M.Phil. & Ph.D) salaries and other allowances such as, research allowances, academic allowances, and medical facilities, are highly deviated. Academic allowances and medical facilities are not provided us yet. Working hours for lecturers in SLIATE are still more. Twenty-three, twenty-one, and nineteen hours are assigned to conduct lectures by assistant lecturers, lecturers and senior lecturers respectively. Even though they all are getting lower salary. This is actually main issue for turnover of lecturers from SLIATE to other institutes. This issue affects IT lecturers also like all other lecturers in this system. SLIATE is not take any effort to find out issues related to staff turnover and efficiency of existing lectures for a long period. Present administration allows us to study about our lecturers' related issues generally. Some of us have been working on it generally. We specially requested the head office to grant a permission to study IT lecturers, their job satisfaction and related issues in SLIATE.

After getting the permission to this study, we both involved to identify the issues those are very much affecting in teaching and learning activities in IT departments specially. We mainly focus IT related issues in addition to salary anomalies. Our objective is to find the solution for those issues. It definitely helps to IT departments of SLIATE to improve their services to students who are studying IT. Finally, we conclude that it is essential to enhancing teaching and learning standard to the next level for the nation of the country.

2.1 Efficiency measures of IT lecturers

They include various facilities and services provided to lecturers for improving their skill, efficiency, health, economic betterment and social status.

Efficiency measures are in addition to regular salary and other economic benefits, skill development training, resources especially electronic devices and software available to lecturers and departments.

The specialty of IT lecturers is to provide up-to-date IT related skills for bringing as IT professionals to students those who are capable to handle middle or executive level jobs in any part of the world not restricted into Sri Lanka. The exact logic behind it, is training, facilities especially latest electronic equipment and software essential for IT related work, generation of dynamic skill, efficiency, healthy, loyal. When providing those training and facilities, it is possible to have satisfied IT lecturer force to the Institution. The purpose of providing such facilities is to make their work life better and to raise their standard of living.

3 Significant of the study

Efficiency is a necessity for all staff in all places for all time. However, in real, it is difficult to get hundred present efficiency from a staff for all time. It is possible to get maximum efficiency when satisfying maximum needs. Lecturers have to be motivated through various measures and activities not only during the time of delivering quality lecture, all the time. This strengthens their sense of belongingness and responsibility towards the institution. For creation of satisfied IT lecturers, this study is selected to know what they have presently and what they wanted to have in future to push ATIs and SLIATE to next level.

4 Objectives of the Study

- i. To find out various Facilities provided at the ATIs.
- ii. To understand the various lecturer efficiency measure adopted at SLIATE.
- iii. To find out the levels of satisfaction among IT lecturers with respective to similar level employers in government and private educational institutions.
- iv. To understand the extent of awareness among lecturers with various statutory and non-statutory efficiency measure.
- v. To suggest remedial measures if any, to improve the IT lecturers efficiency at SLIATE.

5 Scope of the study

The present study is restricted to SLIATE in Sri Lanka and data is analyzed based on the information provided by IT lecturers of different ATIs under SLIATE.

6 Data collection and sampling

Data is collected to achieve the previously mentioned objectives from primary data sources. Most of the primary data is gathered mostly via internet from each institutes those have IT lecturers. Rest of them was taken directly. Hard and soft version of questionnaire is used in this process. All of IT lecturers from each institute are given questionnaire mostly as Micro Soft Word file and collected their responses by email attachments. Under SLIATE, There are nineteen ATIs. Eighteen ATIs have Higher National Diploma in IT courses. Our focus is mainly on those eighteen ATIs only. For the study, census was taken with fifty-five, the size of the population. If the population of IT lecturers in SLIATE is small, census was taken. Census makes no chances to occur sampling errors.

7 Data Analysis

7.1 Training and Development

In this category, fourteen sub factors were taken into subject of questioning. Each question has five options (1- never, 2- rarely, 3- sometimes, 4- often, and 5- always) of answer. Questions with Mean responses showing in the following table 1.

Table 1: Training and Development

Serial no	Training and Development related questions	Mean Response
1	Study leave for further study	1
2	Scholarship	1
3	Local training by Industry people	2
4	Local training by Academic/researchers people	3
5	Foreign training by Industry people	1
6	Foreign training by Academic/researchers people	1
7	Showcase your talent in ATI wise exhibition	2
8	Showcase your talent in SLIATE exhibition	2
9	Showcase your talent in National level common exhibition	2
10	Showcase your talent in International level common exhibition	1
11	Local Industry/Institution tours	2
12	Foreign Industry/Institution tours	1
13	Local Workshop/Seminar	3
14	Foreign Workshop/Seminar	1
Overall mean for this category		2

Source: Primary Data

The above table states that major portions of respondents rarely get training and development opportunities from the system.

7.2 Working Environment

In this category, more factors taken into subject of questioning. For this report, only general factors are taking into analysis. In this, eight questions are used to collect data. Each question has five options (1-

More than enough, 2- Enough numbers available, 3- Moderate number available, 4- Less number available, 5- Not available) of answers. Questions with Mean responses showing in the following table 2.

Table 2:General /Overall institutional System facilities

S.No	General facilities related	Mean Response
1	Furniture	3
2	Books in hardcopy	3
3	Books in softcopy	4
4	Lecture Halls	4
5	Lecturer Aids	3
6	Staff Rooms	4
7	Vehicle parks	4
8	Canteens	4
Overall mean response		3

Source: Primary Data

The above table states that general system facilities for the ATIs taken into study have moderate numbers available. It means that all have neutral facilities.

7.3 Social Recognition

In this category, eleven factors taken into subject of questioning. Each question has five options (1- Strongly Agree, 2- Somewhat Agree, 3- Neither Agree or Disagree, 4- Somewhat Disagree, 5- Strongly Disagree) of answers. Questions with Mean responses showing in the following table 3.

Table 3:Social recognition

S.No	Social recognition related questions	Mean Response
1	Staffs have enough Skill.	2
2	Staffs have good Characters.	2
3	Staffs have good Educational qualification.	1
4	Staffs have enough Involvement in Research.	2
5	Our ATI is in good Location.	3
6	ATI has good Accessibility.	3
7	ATI conducts good Courses.	2
8	The courses have good demand.	2
9	Our students have enough Job opportunities.	2
10	Diploma holders are given enough Remuneration.	2
11	They have good status.	2
Overall mean response		2

Source: Primary Data

The above table states that social recognitions for the ATIs taken into study have Somewhat Agree. It means that it has above average level.

7.4 Monetary Benefits

In this category, twelve factors taken into subject of questioning. Each question has five options (1- Strongly Agree, 2- Somewhat Agree, 3- Neither Agree or Disagree, 4- Somewhat Disagree, 5- Strongly Disagree) of answers. Questions with Mean responses showing in the following table 4.

Table 4: Monetary Benefits

S.No	Monetary Benefits related questions	Mean Response
1	I have enough Salary.	4
2	I have enough Research allowance.	2
3	I have Academic allowance.	5
4	I have Medical allowance.	5
5	I have enough Over Time / Visiting lecture Payments.	3
6	I have enough Loan facilities.	5
7	I have enough EPF contribution.	1
8	I have enough ETF contribution.	1
9	I have Pension scheme.	5
10	I can get a tax-free vehicle.	3
11	I have insurance facility.	5
12	I am paying tax to government.	2
Overall mean response		3

Source: Primary Data

The above table states that social recognitions for the ATIs taken into study have Neither Agree or Disagree. It means that it has average level.

7.5 Motivation

In this category, five factors taken into subject of questioning. Each question has five options (1- Strongly Agree, 2- Somewhat Agree, 3- Neither Agree or Disagree, 4- Somewhat Disagree, 5- Strongly Disagree) of answers. Questions with Mean responses showing in the following table 5.

Table 5:Motivation

S.No	Motivation related questions	Mean Response
1	If I do good work in academic related activities, SLIATE system appreciates me by prizing in public.	4
2	If I do good work in academic related activities, SLIATE system provides appreciation certificates.	4
3	It helps in promotion a lot.	3
4	It helps to get scholarship for further studies.	4
5	Good workers are motivated by the SLIATE system.	4
Overall mean response		4

Source: Primary Data

The above table states the factor, motivation for IT staff at ATIs taken in the study have Somewhat Disagree. It means that it has below average level.

7.6 HNDIT Course related issues

In this category, five factors taken into subject of questioning. Each question has five options (1- Strongly Agree, 2- Somewhat Agree, 3- Neither Agree or Disagree, 4- Somewhat Disagree, 5- Strongly Disagree) of answers. Questions with Mean responses showing in the following table 6.

Table 6:HNDIT Course related issues

S.No	HNDIT Course related questions	Mean Response
1	It has dynamic syllabus. In every two years, Contents and titles are changed based on industry needs.	2
2	Lecturers have to study continuously to update Information Technology Knowledge.	1
3	Workshop and Training needed most of the Course Module.	2
4	It leads more burdens to lecturers in preparation course modules and participating in training.	3
5	It leads more expenditure to the lecturers in using internet, familiarizing new devices, new versions of software and identifying latest technology for satisfying student expectations.	2
Overall mean response		2

Source: Primary Data

The above table states the issues related to HNDIT Course of ATIs taken in the study have Somewhat Agree. It means that it has above average.

8 Findings of the study

- i. Training and development is in poor level. It will affect the quality of higher national diploma holders of IT. There are chances to neglect our pass outs by IT industries if it continues.
- ii. Working environment for all ATIs are in neutral level. When comparing private sector, they have more than what we have. In future, it will rise troubles to us of in-taking students.
- iii. Social recognition for SLIATE IT lecturers is quiet OK. Even though there are some rooms to improve in some areas especially in research.
- iv. Monetary benefits of SLIATE indicate average level. It may be the main reason for the higher turnover of ITlecturers from SLIATE University or other industries.
- v. Staff Motivation of SLIATE system is in below average level. It will affect the future of SLIATE.
- vi. Issues related in the course of HNDIT are more than average level.

9 Suggestions

- i. Training for IT lecturers must be provided periodically because of there is a such need in IT industry. Otherwise, students will be affected in getting current IT skills. So that, IT lecturers must be trained through industry experts or particular subject specialist when requisite rises.
- ii. Working environment must be upgraded with fully equipped things. Those things must be ensured that are useful for teaching and learning.
- iii. SLIATE system should follow some mechanism to maintain reputation and social recognition of lecturers from public. Present state is also in above average. SLIATE must be tried to get higher reputation for lectures those who are working here.
- iv. Monetary benefits indicate average level. It is not acceptable for SLIATE future. For better output from them, SLIATE system must provide enough benefits.
- v. Without motivation, system cannot expect much quality services from the staff. Therefore, motivation must be given to get better services from staff. It can be done very easily without much expenditure.
- vi. Course related issues are in higher level. It should be minimized in a proper way that training and required facilities should be provided within the time frame.

10 Conclusion

Efficiency is generally meant how a work done with minimum effort, time and resources. Even any amount of human involvement in lecturing, there may be lacking part in the quality of it due to the available resources and other factors. In the process of quality achievement, Controls playing important roles of transformation from input level to output level. Input control, process control and output control should be used in any quality of products even live products in educational system. Efficiency simply refers the minimum effort and maximum benefit. It may be followed by SLIATE.

In the competitive world, there are many private and government institutes conducting IT courses in different level like certificate, diploma, higher diploma, degree, maser degree and doctorate with modern methodology of lecturing, facilities and concepts. SLIATE is also one of the competitor of them. As far the result of the study states that provision of facilities and training to IT lecturers must be below level of satisfactory. If SLIATE products capture the global job market, aforesaid facilities and training must be increased to the required level and kept it in that level continuously.

At last, it can be conclude that the facilities provided by the SLIATE to IT lecturers are not satisfied and it is not commendable, therefore more scope is to SLIATE for further development and improvement.

11 Limitations and Scope of the future study

It focuses only efficiency and effectiveness of IT lecturers in SLIATE system. In practical, some lecturers are not included in the study, because they are teaching the application/ field oriented subjects with the help of computer or related devices and software tools. Some accountancy or commerce lecturers are lecturing the subjects such as computer based accounting (peach tree, sage, and quick book). Some of lecturers who mainly joined to the field of engineering, taking lectures for computer aided designing and computer aided manufacturing using some application software such as AutoCAD and 3Dstudio. Similar issues applicable to all other field lecturers not shown here. These type of lecturers are avoided in this study. They are using computers and labs but they are not joined to SLIATE for the field of information technology.

The period of study was from 2014 to end of 2015. In 2016, SLIATE recruited some amount of lectures including information technology to improve its academic system. Their opinion are not included in this study.

Some of IT lectures worked as Directors or Acting Directors within SLIATE system. These kind of people are also not included in the study.

Most of the data were collected via email. Therefore trustworthy of information is questionable due to technological advancement.

In next level of study, we try to minimize the limitation mention above and extends to other fields too.

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