

**An Investigation of Fitness of the Non-Technical Skills of Information Technology Graduates
Produced by State Universities in Sri Lanka with the Industry Requirements:
A Study of**

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Abstract

This exploratory research is targeted to find the fitness of only non-technical or soft skills, but not the technical or hard skills of the target group because, a recent survey conducted by the world bank states “Sri Lanka’s workforce lacks critical job-specific skills that are in high demand, threatening the country’s sustained economic growth”^[9]. The same report further includes “When deciding the employability of the graduates there are several skills that one needs to pay their attention such as Communication skills, Problem Solving, Team working, Planning and Organizing, Self-management and Technological Skills”^[9]. Also the top management in IT industry emphasizes this issue of lack of soft skills especially among the IT graduates those who are passed out from government universities than from private and other institutes in Sri Lanka. Keeping these two matters in mind the problem statement of this research is composed. Therefore initially the research boundary was limited to IT graduates those who are passed out from government universities and also those graduates selected as those who have joined the industry during last two years as, after two years of working experience most of them get upgraded based on their environment. Based on the research requirement at the stage of preparation ten most wanted soft skills are selected for the study with reference to Johnson 2011^[10] and key performance indicators of IT industry.

Ten IT firms were selected from more than three hundred Information Technology and Business Process Outsourcing companies in Sri Lanka using convenient random sampling method. Two parties were selected to collect required data from those IT firms. Those two parties are IT graduates newly recruited to the IT industry from state Universities in Sri Lanka with the sample size of two hundred and seventy eight and forty superiors or managers of those IT graduates by using random and snow ball sampling technique.

This study stands on a methodology developed by the researcher and utilized in the data harvesting, computational analysis and graphical illustration of these revealing structures. The data for this study was harvested using a purposively designed survey instrument. The

deliberation and calculation went into its construction, deployment and subsequent analysis of the response data. The harvested data was then subjected to several differing analysis process. The first phase emphasize of a descriptive analysis and quantitative techniques. The collected data was analyses in separate two different tables, one table responses by graduates and other responds by managers. Then it was compared both responds to identify the industry requirements and graduates existing level.

Likert mean was used as the score and the standard deviation was used to check the existing level of soft skills of graduates and managers estimate regarding the level of the soft skills of their newly recruited graduates from the state universities in Sri Lanka. After analyzing the collected data the several important conclusions were made from the outcomes of the study and several recommendations were made at the end of this research while several further researchable areas are being identified.

a) Background of the study

This research is designed to investigate the Fitness of the Non-Technical Skills of IT Graduates Produced by State Universities in Sri Lanka with the Industry Requirements. Non-technical skills or soft skills are personal attributes that enable someone to interact effectively and harmoniously with other people. While technical skills are still essential in the job market, employers increasingly require their workers to have soft skills such as positive work attitude and the ability to solve problems innovatively. On the other hand soft skills are personal attributes that enable someone to interact effectively and harmoniously with other people. Every organization follows a process to evaluate employees by conducting a performance evaluation or appraisal (PA). Some organizations are conducting this annually and some do this twice a year. PA is divided in to two areas called Performance objectives and Key Performances. Under Performance objectives the technical skills are evaluated and Key Performance is used to evaluate the non-technical skills. By referring to the KPI indicators in different IT firms and by referring to the literature survey previously done by researchers regarding the soft skills of IT professionals the following list of soft skills were selected as most important soft skills of newly passed out IT graduates from state universities for this study. These skills include Integrity , Leadership & Management , Communication presentation skills, Interpersonal Skills, Time Management, Stress Management, Problem Solving , Attitudinal flexibility, Written Communication and Entrepreneurship/ Customer Focus. In the available literature industry reports the experts have mentioned that the level of

soft skills of IT graduates from State Universities are not up to the expected level. This study attempts to identify required non-technical skills to IT industry to emphasize their technical skills and existing level of required nontechnical skills of the IT graduates produced by the state universities. Further, the study focuses to identify methods and techniques to fill the gap. For this purpose there were ten IT companies selected based on the convenience to access. Out of these ten IT firms five are large scale companies and five are medium scale companies.

b) Research Problem

There are complaints, criticism, bad image and bad publicity to IT graduates passed out from the state universities from industry; they are not qualified with the soft skills when they are joining the industry though they are highly qualified with their technical skills. This creates a barrier to newly passed out students to find a good place for their training as well as good place to start their career and finally they have a small chance to demand their technical abilities and knowledge. This research problem involves identifying whether there is a truth behind this complaint and criticism and what the scale of that complaint is and how the state universities overcome this problem, what are the suggestions made from industry and experts of the industry.

By doing this research try to find out the answers for the following questions.

1. What are most important Soft skills of IT graduates to the Industry?
2. What are the average existing levels of most wanted soft skills in IT graduates?
3. According to graduate's point of view, what is their suggestion about their level of most wanted soft skills for their career?
4. If they are not up to the expected level, what are the reasons for that?
5. What are the industry people's recommendations/suggestions to the universities to contribute to fill that gap between existing level and expected level?

c) Objectives of the study

- 1 To identify different skills expected by the large and medium scale IT firms in Sri Lanka, when they are recruiting IT graduates produced from state universities in Sri Lanka.
- 2 To identify the gaps between expected soft skill levels and the available soft skill levels of state university IT graduates.

- 3 To suggest possible recommendations on the research findings to the stakeholders in the universities and graduates and IT Industry to mitigate the gap between existing level and expected level of soft skills of IT graduates.

Findings of the research will be very significant for people in universities who are responsible in improving the standards of education. On the other hand these research findings will help to the industry managers to decide their new recruitments.

In addition this research will also be very significant to IT graduates produced from the state universities to improve their soft skills by themselves by making their demand to the industry.

d) Research Methodology

A questionnaire as the research tool was used to collect data as it is the best and powerful tool for acquiring data. The composition of the questionnaire is as follows.

1. Part A - to be filled By the Managers
2. Part B - to be filled By the Newly Recruited IT Graduates in the Industry.
 - a. Information on Higher Education
 - b. Details of the employment
 - c. General Information

To collect data, ten IT firms were selected based on convenient random sampling technique which is convenient to access and to collect data to the researcher.

The questionnaire was administered among forty managers and 278 Graduates from the selected IT firms. It was the sample size of the study.

Lickert means standard deviation and RII (Relative Important Index) were used to analyze the data^[11].

$$RII = \frac{\sum W}{A*N} \text{-----} (1)$$

Where W is the weighting given to each soft skill by the respondents (ranging from 1 to 5), A is the highest weight (ie. 5 in this case) and N is the total number of respondents.

By calculating RII of each soft skill we try to identify whether there is a gap between expected level by the industry and the existing level of soft skills in IT graduates who newly passed out from the state universities in Sri Lanka. The conceptual Frame work can be illustrated as in the following Figure 1.

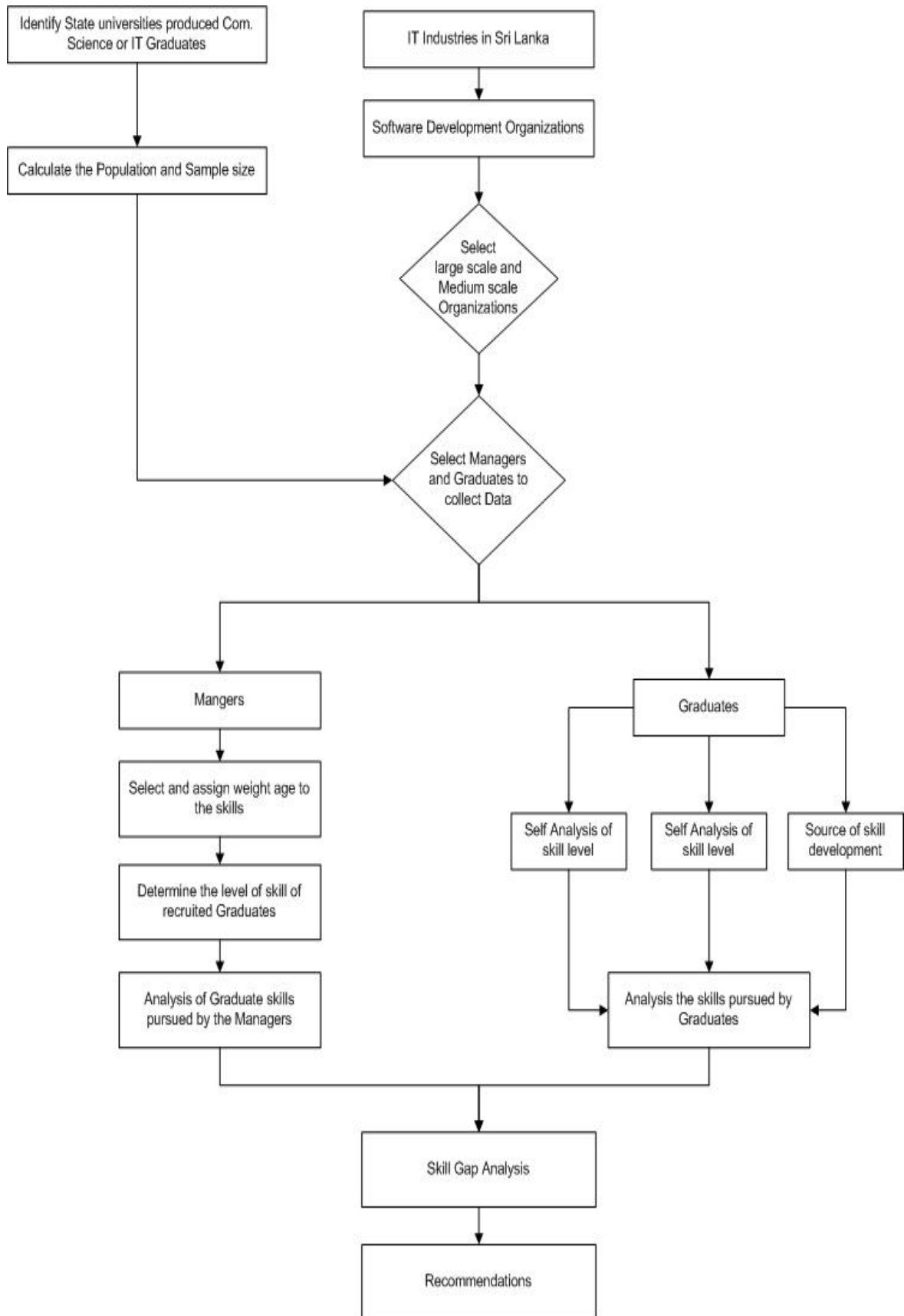


Figure 1. Conceptual framework

e) Key Findings

The RII for each soft skill type was computed with respect to the managers and graduates. According to the managers respond the order of the importance of soft skills were Integrity, Leadership & Management, Interpersonal Skills, Problem Solving, Communication presentation skills, Stress Management, Time Management, Entrepreneurship/ Customer Focus – Entrepreneurship, Written Communication and Attitudinal flexibility. According to the graduates respond the order of the importance of soft skills were Integrity, Leadership & Management, Problem Solving, Communication presentation skills, Interpersonal Skills, Time Management, Stress Management, Written Communication, Entrepreneurship/ Customer Focus – Entrepreneurship and Attitudinal flexibility. The following table summaries the RII of expected level by the Industry and existing level of state university graduates.

Table 1: Comparison of RII

Soft Skills	RII (Expected level by the Managers)	RII (existing Level of the Graduates)
Integrity	22.76	0.90
Leadership & Management	17.63	0.72
Communication presentation skills	13.92	0.53
Interpersonal Skills	15.96	0.50
Time Management	9.48	0.44
Stress Management	13.33	0.42
Problem Solving	15.77	0.56
Attitudinal flexibility	8.00	0.24
Written Communication	8.13	0.27
Entrepreneurship/ Customer Focus - Entrepreneurship	8.75	0.27

The above analysis shows that state university graduates are lacking the most important soft skills expected level of the industry. For instance, the expected level of the most important soft skill Integrity is (22.76) but the existing level of this soft skill in graduates is (0.9). There is a huge gap between expected level and the existing level of the state university graduates.

f) Conclusion and Recommendations

According to the analyses and the literature findings, the possible causes for the problems can be summarized as below:

- There is a clear gap between expected soft skills by the industry vs existing soft skills in IT graduates passed out from state universities in Sri Lanka.
- Not having a systematic plan to incorporate useful soft skills components into academic programs.

- Greater attention is being paid to the development of hard skills but less attention to developing soft skills of undergraduates.
- Neither a compulsory nor an elective course is offered to train and impart knowledge in soft skills by the state universities.

This indicates that state university programs are not adequately geared to improve the essential soft skills which the potential employers are looking for. It is obvious that lack of proficiency in these important soft skills affects the employability of fresh graduates as well as the career progression of those who are already employed. It is very important to take necessary step towards improving the employability of undergraduates as well as graduates also should concern about their level of soft skills and take necessary actions to improve or develop their level of soft skills when they are expecting a good job. Currently some state universities established under CGU career guidance until which are currently engaged in conducting soft skill programs for their undergraduates.

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